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APPENDIX 2 – DESCRIPTION OF RESERVOIR MANAGEMENT LOGIC IN ACF STELLA MODEL

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INTRODUCTION

In April 2008 the Corps of Engineers, Mobile District released "*Description of a Proposed Action for Modifying the Interim Operations Plan at Jim Woodruff Dam*" which redefined how the reservoir system on the Apalachicola-Chattahoochee-Flint (ACF) basin will be operated. This reservoir system operations approach is referred to as the Revised Interim Operations Plan (RIOP). The proposed action is a modification of the Interim Operations Plan (IOP) adopted several years earlier in response to having to deal with several species listed under the Federal Endangered Species Act. According to the document, the RIOP provides the definition for temporary discretionary operations within the limits and rule curves established by the existing Water Control Plan which was proposed in 1989, although never formally adopted.

The drought plan incorporated into the proposed action would require a temporary waiver from the existing Water Control Plan to provide for minimum releases less than 5,000 cubic feet per second (cfs) from Jim Woodruff Dam when prescribed triggers are met and would also include provisions to allow temporary storage above the winter pool rule curve at the Walter F. George and West Point projects if the opportunity presents itself and/or to begin spring refill operations at an earlier date in order to provide additional conservation storage for future needs. Operations under the proposed action will be implemented and continued until such time as additional formal consultation may again be initiated and completed, either in association with the proposed update and revision of water control plans for the ACF system, or sooner if conditions change or additional information is developed to justify a possible revision to operations.

Table A2-1 summarizes operations under the RIOP. From Table A1-1 it can be seen that there are three factors which define reservoir releases from the ACF system under the RIOP: 1) month of the year, 2) composite storage zone, and 3) basin inflow. Although these factors define releases from Jim Woodruff Dam, the dam's reservoir does not have ample storage capacity to support these releases. Instead, water must be released from the upstream major storage reservoirs (Lake Lanier, West Point Lake, and W. F. George Lake) to support releases called for in the RIOP.

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Table A2 - 1. REVISED INTERIM OPERATING PLAN (RIOP) CRITERIA

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

In the RIOP, Composite Storage Zone refers to the combining of the volume of reservoir storage of Lake Sidney Lanier, West Point Lake, and Walter F. George Lake into a single value. Each of the individual storage reservoirs consists of four Zones. These Zones are determined by the operational guide curves for each project.

The composite storage utilizes the same "Four Zones" approach as is used for managing Lake Lanier, West Point Lake and W.F. George Lake. The volume of storage in each zone is simply defined as the sum of the storage for all three reservoirs; i.e., Zone 1 of the composite storage represents the combined storage available in Zone 1 for each of the three storage reservoirs.

Basin Inflow (BI) refers to the calculation of the 7-day inflow from the drainage basin above Jim Woodruff Dam. It is important to recognize that basin inflow is a calculated value, not a measured value. Basin inflow is calculated by: 1) measuring the outflow from a storage reservoir (Lake Lanier, West Point Lake, W.F. George Lake (Lake Eufaula)), 2) measuring the elevation at the reservoir and 3) then calculating basin inflow by converting the elevation change to a volume change and subtracting outflow from the volume change at the reservoir. The reason for this approach is that it is far less expensive and complicated to calculate basin inflow in this manner rather than gage every possible inflow source into and consumption source from each reservoir. Therefore, what is called basin inflow actually measures basin inflow minus consumptive depletions. It should be recognized that basin inflow is actually "net basin inflow" because, inherent in the calculation approach is the inclusion of consumptive depletions by municipal and industrial, agricultural and thermal water users in the sub-basin as well as by evaporative losses from the reservoirs.

Another provision of the RIOP not included in Table A2-1 is ramping rates. Ramping rates are the vertical drops in river stages (water surface elevations) that occur over a given period. The fall rates or ramping rates are expressed in units of feet per day (ft/day), and are measured at the Chattahoochee gage as the difference between the daily average river stage of consecutive calendar days. Rise rates (*e.g.*, today's average river stage is higher than yesterday's) are not addressed in the RIOP. The proposed action does not change the maximum fall rate schedule

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prescribed by the current IOP other than to suspend it when composite storage is in Zone 4 and the drought contingency operation described below is implemented. Unless otherwise noted, fall rates under the drought contingency operation would be managed to match the fall rate of the basin inflow.

In the RIOP operations in the model operations are driven by outflow from Jim Woodruff Dam which results in the necessary releases to meet minimum flow requirements for the Apalachicola River defined in Table A2-1. The IOP is also defined by outflow at Jim Woodruff Dam whereas outflow to the Apalachicola River is defined by flow at the Blountstown gage on the Apalachicola River. Once this release is provided in the model then it is necessary for the major storage reservoirs in the basin to make releases to support the required release since the storage capacity in Jim Woodruff Dam is so low. The releases by the reservoir system is based on the logic of having W.F. George Dam make releases to support Woodruff releases, having West Point Dam make releases to offset the releases from George and then having Buford Dam make releases to support those made by West Point. In the model the releases from Lanier, West Point and George must be balanced which is a subjective process since there is no clear, precise definition of what constitutes balancing of the reservoirs. In the STELLA modeling, balancing of the reservoirs is defined as having the storage reservoirs in the same action zone.

Another source of discrepancy between model results and real-world operations is the use of the flood storage pool. A reservoir is divided into essentially three separate pools: 1) the inactive storage pool, 2) the conservation storage pool and 3) the flood storage pool. The flood pool is supposed to be used to dampen the effects of floods and every day operations are intended to be made from the conservation pool. In theory, when water is in the flood pool the water is to be evacuated within the operational constraints of the reservoir and the flood pool is not to be used for routine storage and this is how the reservoirs are operated in the model. As figures A2-1, A2-2 and A2-3 demonstrate, this is not how the ACF reservoirs are operated. George and West Point reservoirs were operated in the flood pool on a regular basis between 2007 and 2010 and much of this time was during a drought. And there is no documentation or operational rules defining how the flood storage pools are used in the real world, so the Corps operations cannot be represented in the model.

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Figure A2 - 1. ELEVATIONS AT LAKE LANIER: 2007 - 2010

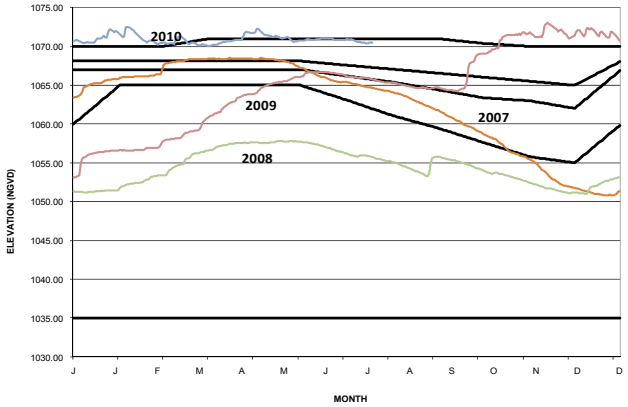

Figure A2 - 2. ELEVATIONS AT WEST POINT LAKE: 2007 – 2010

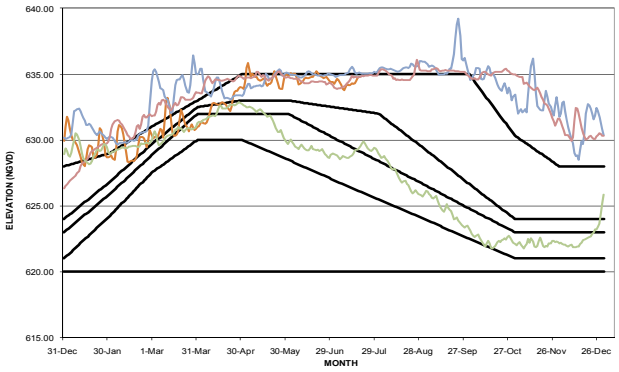

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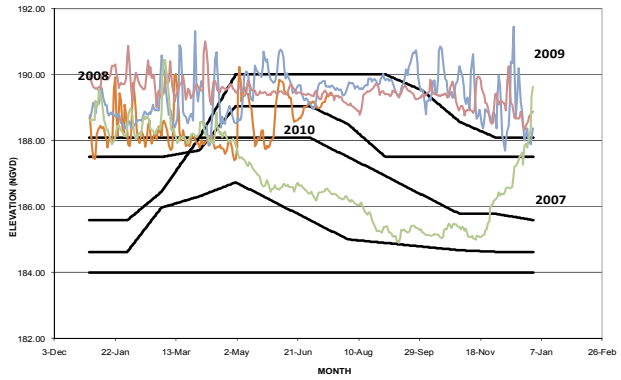
Figure A2 - 3. ELEVATIONS AT W.F. GEORGE LAKE: 2007 – 2010



STELLA REPRESENTATION OF THE RIOP

Inherent to the logic used to operate the RIOP in STELLA is the fact that Lake Seminole is essentially a run-of-the-river reservoir which must be refilled to meet its release requirements. The basic driver for the reservoir releases to the Apalachicola River for the RIOP in the ACF STELLA model is the release from Jim Woodruff (*Jim Woodruff Release cfsd*). The equation which defines this release in the model is:

Jim Woodruff Release = IF JW_Prelim_Release_cfsd > 30000 THEN MIN (JW_Prelim_Release_cfsd, JWAvailAfter_Withdrawals)

ELSE IF JW_Prelim_Release_cfsd - JW_OUTFLOW_DELAY > 0 THEN MIN (JW_Prelim_Release_cfsd, JWAvailAfter_Withdrawals)

ELSE IF JW_OUTFLOW_DELAY - JW_Prelim_Release_cfsd > CHATT_FLOW_STAGE_RELATIONSHIP * RampRate THEN MIN (JW_OUTFLOW_DELAY - CHATT_FLOW_STAGE_RELATIONSHIP * RampRate, JWAvailAfter_Withdrawals)

ELSE MIN (JW_Prelim_Release_cfsd, JWAvailAfter_Withdrawals)

This equation is designed to account for the ramping rates requirements which are part of the IOP and RIOP operations. The IOP prescribes maximum fall rates for the releases from Woodruff Dam (Table A1-2). Fall rate, also called down-ramping rate, is the vertical drop in river stage (water surface elevation) that occurs over a given period. IOP fall rates are expressed in units of feet per day (ft/day), and are measured at the Chattahoochee gage as the difference between the daily average river stages of consecutive calendar days. Rise rates (*e.g.,* today's average river stage is higher than yesterday's are not addressed in the IOP, only fall rates.

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Maximum fall rates under the IOP vary according to the flow released from Woodruff. Lower flows are assigned more gradual fall rates, and higher flows are assigned more rapid fall rates. The intent of the IOP maximum fall rate schedule is to limit the potential for stranding aquatic

Table A2 - 2. IOP Maximum Fall Rate for Discharges from Jim Woodruff Dam

Release Range (cfs)	Maximum Fall Rate (ft/day)
> 30,000	Fall rate not limited
> 20,000 and < 30,000	1.0 to 2.0
>16,000 and < 20,000	0.5 to 1.0
> 8,000 and < 16,000	0.25 to 0.5
< 8,000	0.25 or less

Source: U.S. Fish and Wildlife Service, 2006

organisms, including listed species and host fish for listed mussels, in areas that become exposed or become disconnected from the main channel during periods of declining flow.

In the real world, managing fall rates to conform to the RIOP is a difficult undertaking at Woodruff Dam when flow rates exceed the release capacity of the powerhouse, which is about 16,000 cfs. Releases of greater than 16,000 cfs require the use of spillway gates in addition to the turbines, and require an operator to open or close the gates using a rail-mounted crane on the crest of the dam. The water discharge openings of the gates are not fully adjustable and inclement weather, floating debris from the reservoir, and other factors often complicate the procedure of opening and closing the gates. Fall rates are relatively more manageable when releases are less than 16,000 cfs and controlled by the powerhouse, but this control is not yet a precise operation. Neither turbine nor gate operations provide for precise flow measurement. For these reasons, a lower and an upper maximum fall rate is given in for each release range specified in Table A2-2 and the Corps has indicated that when conditions allow, they will generally operate towards the more gradual (lower) rate in each range, consistent with safety requirements, flood control purposes, and equipment capabilities (USFWS 2006).

In the equation for ***Jim Woodruff Release*** above, the variable *JW_OUTFLOW_DELAY* is the outflow for the previous day and the variable *JW_Prelim_Release_cfsd* is calculated by the equation below.

JW_Prelim_Release_cfsd **=** MIN (MAX (JW RuleCurve, JW_RIOP__Op_Final), JWRelLimit)

JW Rule Curve is the releases necessary to lower Lake Seminole to the top of its conservation pool. *JW RIOP Op Final* is the flow called for by the Revised Interim Operating Plan released by the Corps of Engineers. An analysis of the representation of this plan will be provided in a later section of this report. The icon *JWRelLimit* is intended insure that no more water is released from the reservoir than is available in the reservoir

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In the equation for *Jim Woodruff Release*, the variable *JWAvailAfter* accounts for the water available in the reservoir and ensures that the reservoir does not release more water than is available. *RampRate* is the maximum fall rate (ft/day) allowed for in Table 1 and is measured at Chattahoochee gage. The variable *CHATT_FLOW_STAGE_RELATIONSHIP* translates the allowable drop in gage height to cfs based on the rating curve for the Chattahoochee gage.

As noted above, a key component of reservoir operations is the releases made to provide the federal navigation project. In the model there is a capacity to turn off navigation releases for any or all months and to define the relationship between navigation channel depth and flow at the Chattahoochee gage. Navigation releases integrated into the release rules for the RIOP in this model through variables called Nav flow 9-foot, Nav flow 8-foot and Nav flow 7-foot as well as associated variables which allow for the amount of augmentation to be provided through the model to be limited.

The initial determination of the level of support to be provided by navigation is determined by the variable WFG Seminole support which is defined by the equation below:

WFG Seminole Support = MAX (0, JW_RIOP__Op_Final - JW_Local_Inflow) + MAX (0,(JWRuleVol_cfsd - LakeSeminole_cfsd)/3) .

In this equation, JW LOCAL INFLOW is the sum of inflow from the Flint and below WF George Dam minus consumptive losses and evaporative losses in those reaches of the river. Local inflow is defined in our model as "net local inflow" (e.g. inflow minus consumptive losses) because in the real world measuring of local inflow what is used is net local inflow, not gross local inflow.

In this equation, **JW RULE** is the volume of water in Lake Seminole at the rule curve at the top of the conservation pool and **LAKE SEMINOLE CFSD** is the volume of Lake Seminole. Therefore in this equation a release is made from WF George to support flow needs in the Apalachicola River if the water called for by the RIOP is greater than the local inflow which would be entering from the Flint and Chattahoochee River below WFG. If WFG is at the top of its conservation pool water will be released from WEG to lower the pool to its rule curve. In addition, a release is made from WF George to restore Lake Seminole to the top of its conservation pool if necessary. This need is divided by 3 to spread out the releases needed to refill Lake Seminole. The critical element in this equation is JW RIOP Final and the derivation of this factor is described below. In the model there is a switch which allows the user either to default to the RIOP operations or to choose a modified RIOP which includes a navigation release. The general logic we used was to compare local inflow to the RIOP minus the chosen augmentation limit and then to release the flow necessary to meet the navigation if that is exceeded. So if the navigation channel was to be provided a 19,000 cfs flow and the augmentation limit was 3,000 cfs then if local inflow was greater than 16,000 (19,000 - 3,000) then the model will release 19,000 to support the 9-foot channel.

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JW RIOP OP FINAL = IF MonthNumber >=3 AND MonthNumber<= 5 THEN RIOP_MARCH_TO_MAY ELSE IF MonthNumber >= 6 AND MonthNumber<=11 THEN RIOP_JUNE_TO_NOVEMBER ELSE RIOP_DEC_JAN_FEB.

RIOP_MARCH_TO_MAY =

IF RIOP_SWITCH = 0 THEN

IF Composite_Zone <= 2 THEN

IF JW_Basin_inflow_7_day >= 34000 THEN 25000

ELSE IF JW_Basin_inflow_7_day > MIN (16,000, (Nav_Flow_9_foot- Nav_9_ft_Aug_threshold)) THEN MAX (16,000 + 0.5 * MAX (0, JW_Basin_inflow_7_day - (JW_Basin_inflow_7_day - 16000)) , Nav_Flow_9_foot + 0.5 * MAX (0, (JW_Basin_inflow_7_day - Nav_Flow_9_foot)))

ELSE IF JW_Basin_inflow_7_day > (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day > (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 3 THEN

IF JW_Basin_inflow_7_day >= 39000 THEN 25000

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot - Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot + 0.5 * (JW_Basin_inflow_7_day - Nav_Flow_9_foot)

ELSE IF JW_Basin_inflow_7_day > (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day > (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE IF JW_Basin_inflow_7_day >= 11000 THEN 11000 + 0.5 * (JW_Basin_inflow_7_day - 11000)

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF RIOP_SWITCH = 1 THEN IF Composite_Zone <= 2 THEN

IF JW_Basin_inflow_7_day >= 34000 THEN 25000

ELSE IF JW_Basin_inflow_7_day >= 16000 THEN (16000 + 0.5 * (JW_Basin_inflow_7_day - 16000))

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ELSE IF JW_Basin_inflow_7_day >=5050 THEN JW_Basin_inflow_7_day

ELSE IF JW_Basin_inflow_7_day < 5000 THEN 5050

ELSE IF Composite_Zone = 3

THEN IF JW_Basin_inflow_7_day >= 39000 THEN 25000

ELSE IF JW_Basin_inflow_7_day >= 11000 THEN 11000 + 0.5 * (JW_Basin_inflow_7_day - 11000)

ELSE MAX (JW_Basin_inflow_7_day, 5050)

ELSE 5050

ELSE 5050

ELSE 5050

ELSE 5050

RIOP_JUNE_TO_NOVEMBER = IF RIOP_SWITCH = 1 THEN

IF Composite_Zone <= 3 THEN

IF JW_Basin_inflow_7_day >= 24000 THEN 16000

ELSE IF JW_Basin_inflow_7_day >= 8000 THEN 8000 + 0.5 * (JW_Basin_inflow_7_day - 8000)

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 4 THEN 5050

ELSE 4550

ELSE IF RIOP_SWITCH=0 THEN IF Composite_Zone <= 3 THEN

IF JW_Basin_inflow_7_day >= 24000 THEN MAX (Nav_Flow_9_foot, 16000)

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot - Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_7__foot- Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 4 THEN 5050

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ELSE 4550

ELSE 5050

RIOP_DEC_JAN_FEB = IF RIOP_SWITCH = 1 THEN 5050

ELSE IF Composite_Zone > 3 THEN IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot-Nav_9_ft_Aug_threshold)

THEN Nav_Flow_9_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE IF Composite_Zone < 5 THEN 5050

ELSE 4550

ELSE 5050

WP AND LANIER NAVIGATION SUPPORT

The logic used in the model is for West Point and Lanier to support the releases made by WF George. This release is based on the action zone of the reservoirs using the logic that if one reservoir is in an action zone which means it has greater storage (e.g. Zone 1 versus Zone 2), then the pool which has more water will support the release and the pool with less water will not. If the two pools are in the same action zone then their contribution is rationed based on the ration of the volume of water in storage at the two reservoirs.

The West Point navigation release is defined by the following equations.

WP WFG SUPPORT = IF WPZone > WFGZone THEN 0

ELSE IF WFGZone = WPZone THEN

WFG_Sem_Sup * WP_WFG_Storage_Ratio

ELSE IF WPZone < WFGZone THEN JW_RIOP__Op_Final ELSE 0

WP_WFG_Storage_Ratio = (West_Point_Res_cfsd - WPBotConsVol)/(1000 + (West_Point_Res_cfsd - WPBotConsVol) + (WFGeorge_Res_cfsd - WFGBotConsVol))

This equation simply compares the volume of water in West Point's conservation pool with the volume of water in West Point's and WF George's conservation pools. A sum of 1000 is added to the denominator of this equation to avoid having a 0 in the denominator in the event that the conservation pool of West Point and WF George are emptied.

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Lake Lanier's navigation release is defined by the following equations.

.***LANIER WP SUPPORT =*** IF WPZone > LanierZone THEN WP_WFG_Sup

ELSE IF WPZone=LanierZone AND LanierZone < 4 THEN LANIER_WP_STORAGE_RATIO * WP_WFG_Sup

ELSE IF LanierZone = 4 AND SUM_WP_WFG_CONS_STORAGE < 5000 THEN JW_RIOP__Op_Final

ELSE MAX (0, (Local_Inflow_Lan/Basin_Inflow_to_JW) * JW_RIOP__Op_Final)

LANIER_WP_STORAGE_RATIO = (LakeLanier_cfsd - LanBotConsVol) / ((LakeLanier_cfsd - LanBotConsVol) + (West_Point_Res_cfsd - WPBotConsVol))

Lanier is coded differently than West Point to account for the fact that it is the largest reservoir and the the reservoir which is highest up in the basin. Therefore if the storage at WP and WFG are drawn down to a volume less than 5,000 cfsd then Lanier will make the release necessary to meet the minimum RIOP requirements.

JW Rule Curve

The next key variable in defining the preliminary release is JW Rule. JW Rule curve defines the quantity of water that must be released in order to keep the reservoir below the rule curve (top of conservation pool). The calculations includes smoothing functions that prevent the model from dumping large amounts of water in a single day when rule curves changes suddenly or when water is stored up over the weekend. This calculation is based on the final inflow to the reservoir after routing of upstream releases, and ensures that the reservoir is not overfilled. The icon JWRuleCurve is defined by the following equation:

JW Rule Curve = IF (LakeSeminole_cfsd>JWRuleVol_cfsd) THEN

MAX((LakeSeminole_cfsd - JWRuleVol_cfsd)/5 +J W_Inflow-NetWithWFGJW,0)

ELSE 0

In this equation, Lake Seminole cfsd is the volume of water in Lake Seminole. JW Rule Vol is the volume of water which corresponds to the elevation at the top of the conservation pool. The rule elevation at Lake Seminole is the estimated rule elevation based on structural head limitations between tail water elevation and reservoir elevation. The values used for the rule curve elevation in the STELLA model are shown in Table A2-3 and these are the same values are used in the ResSim model.

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Table A2 - 3. RULE CURVE ELEVATIONS FOR LAKE SEMINOLE IN THE ACF STELLA MODEL

JW OUTFLOW	RULE CURVE
5,000	76.70
6,900	77.03
8,800	77.20
10,700	77.25
12,600	77.40
14,500	77.60
16,400	78.00

JW Release Limit

The final variable in calculating the preliminary release is JW Release Limit. This variable accounts for the maximum amount of water that can be released from the conservation pool and prevents the reservoir from releasing more water than is available to be released.

HYDROPOWER RELEASES

Hydropower releases are accounted for in the ACF STELLA model in the following manner. Peakings hours are set by month for each of the major reservoirs. For Lake Lanier the hydropower hours are defined by the following equation:

BU Peak hours = IF Rule_Curve_Zone_Operations =1 THEN BUPeakHrsRC ELSE IF LanierZone<2 THEN BUPeakHrsWCP ELSE IF LanierZone=2 THEN 2 ELSE IF LanierZone=3 THEN 2 ELSE 0

The operations are set to rule curve operations and BU Peak Hours WCP is set at a default of 2 hours. For WP the hydropower hours are defined by the following equation:

WP Peak Hours = IF Rule_Curve_Zone_Operations=1 THEN WPPeakHrsRC ELSE IF WPZone>=4 THEN 0 ELSE IF WPZone=1 THEN WPPeakHrsWCP ELSE 2

When WP is in Zone 1 the release is 4 hours in April through August and two hours for the remainder of the year. For WFG operations the hydropower hours are defined by the following equation:

WFG Peak Hours = IF DayofWeek>= 6 THEN IF WFGZone=1 THEN 2 ELSE IF WFGZone = 4 THEN 1 ELSE 0 ELSE IF Rule_Curve_Zone_Operations=1 THEN WFGPeakHrsRC ELSE IF WFGZone >=4 THEN 0 ELSE IF WFGZone=1 THEN WFGPeakHrsWCP ELSE 2

When WFG is in Zone 1 the release is 4 hours in April through August and two hours for the remainder of the year.

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APPENDIX 3 – MODEL CODING USED TO INCLUDE NAVIGATION RELEASES INTO THE RIOP

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MODEL CODING USED TO INCLUDE NAVIGATION RELEASES INTO THE RIOP

RIOP RELEASE = IF MonthNumber >=3 AND MonthNumber<= 5 THEN RIOP_MARCH_TO_MAY

ELSE IF MonthNumber >= 6 AND MonthNumber<=11 THEN RIOP_JUNE_TO_NOVEMBER

ELSE RIOP_DEC_JAN_FEB

Where:

RIOP_MARCH_TO_MAY = IF Composite_Zone <= 2 THEN IF JW_Basin_inflow_7_day >= 34000 THEN 25000

ELSE IF JW_Basin_inflow_7_day > (Nav_Flow_9_foot- Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot + 0.5 * (JW_Basin_inflow_7_day - Nav_Flow_9_foot)

ELSE IF JW_Basin_inflow_7_day > (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day > (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 3 THEN IF RIOP_SWITCH = 1 THEN

IF JW_Basin_inflow_7_day >= 39000 THEN 25000

ELSE IF JW_Basin_inflow_7_day >= 11000 THEN 11000 + 0.5 * (JW_Basin_inflow_7_day - 11000)

ELSE MAX (JW_Basin_inflow_7_day, 5050)

ELSE IF JW_Basin_inflow_7_day >= 39000 THEN 25000

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot - Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot + 0.5 * (JW_Basin_inflow_7_day - Nav_Flow_9_foot)

ELSE IF JW_Basin_inflow_7_day > (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot ELSE IF JW_Basin_inflow_7_day > (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE IF JW_Basin_inflow_7_day >= 11000 THEN 11000 + 0.5 * (JW_Basin_inflow_7_day - 11000)

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 4 THEN 5050 ELSE 4550

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RIOP_JUNE_TO_NOVEMBER = IF RIOP_SWITCH = 1 THEN IF Composite_Zone <= 3 THEN

IF JW_Basin_inflow_7_day >= 24000 THEN 16000

ELSE IF JW_Basin_inflow_7_day >= 8000 THEN 8000 + 0.5 * (JW_Basin_inflow_7_day - 8000)

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 4 THEN 5050

ELSE 4550

ELSE IF Composite_Zone <= 3 THEN

IF JW_Basin_inflow_7_day >= 24000 THEN MAX (Nav_Flow_9_foot, 16000)

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot - Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_7__foot- Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE MAX (5050, JW_Basin_inflow_7_day)

ELSE IF Composite_Zone = 4 THEN 5050 ELSE 4550

RIOP_DEC_JAN_FEB = IF RIOP_SWITCH = 1 THEN 5050

ELSE IF Composite_Zone > 3 THEN IF JW_Basin_inflow_7_day >= (Nav_Flow_9_foot- Nav_9_ft_Aug_threshold) THEN Nav_Flow_9_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_flow_8_foot - Nav_8_foot_Aug_Threshold) THEN Nav_flow_8_foot

ELSE IF JW_Basin_inflow_7_day >= (Nav_Flow_7__foot - Nav_7_foot_Aug_Threshold) THEN Nav_Flow_7__foot

ELSE IF Composite_Zone < 5 THEN 5050 ELSE 4550 ELSE 5050

Houston, Billy

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LIST OF FIGURES AND TABLES

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Houston, Billy

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Howard, John

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COMMENTS TO THE CORPS 1-14-2013

1. Suggest USACE review its own daily Woodruff discharge data since 1957. It doesn't look good.

2. The daily min discharge rate of 5000cfs has occurred over 40 months of the last 15 years.

3. This compares to just 6 months over the previous 40 years. This looks like a long-term issue.

4. Yearly Woodruff discharges in the last 15 years have fallen 40% below the previous 40 years.

5. Drought season minimum flows in the Flint/Chat basin are frequently less than 1500cfs.

6. These arbitrary 5000cfs flows provide Florida with a surplus when the ACF is in full drought.

7. This surplus is supplied entirely by overdrafts from the Chattahoochee lakes. Hardly fair.

8. Due to relative basin sizes a 14% surplus at Woodruff becomes a 95% overdraft from Lanier.

9. This might be OK for one year but over several consecutive years it's a recipe for disaster.

10. USACE must take aggressive action to avoid the possibility of a complete system breakdown.

11. When the Chattahoochee lakes are fully replenished, min flows **must** be lowered to 3000cfs.

12. This should be done on a month to month trial basis to assess possible damage- likely none.

13. These lower flow rates will help keep the upper lakes well stocked for possible emergency use.

Howard, John

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MOBILE - WE HAVE A PROBLEM

Howard, John

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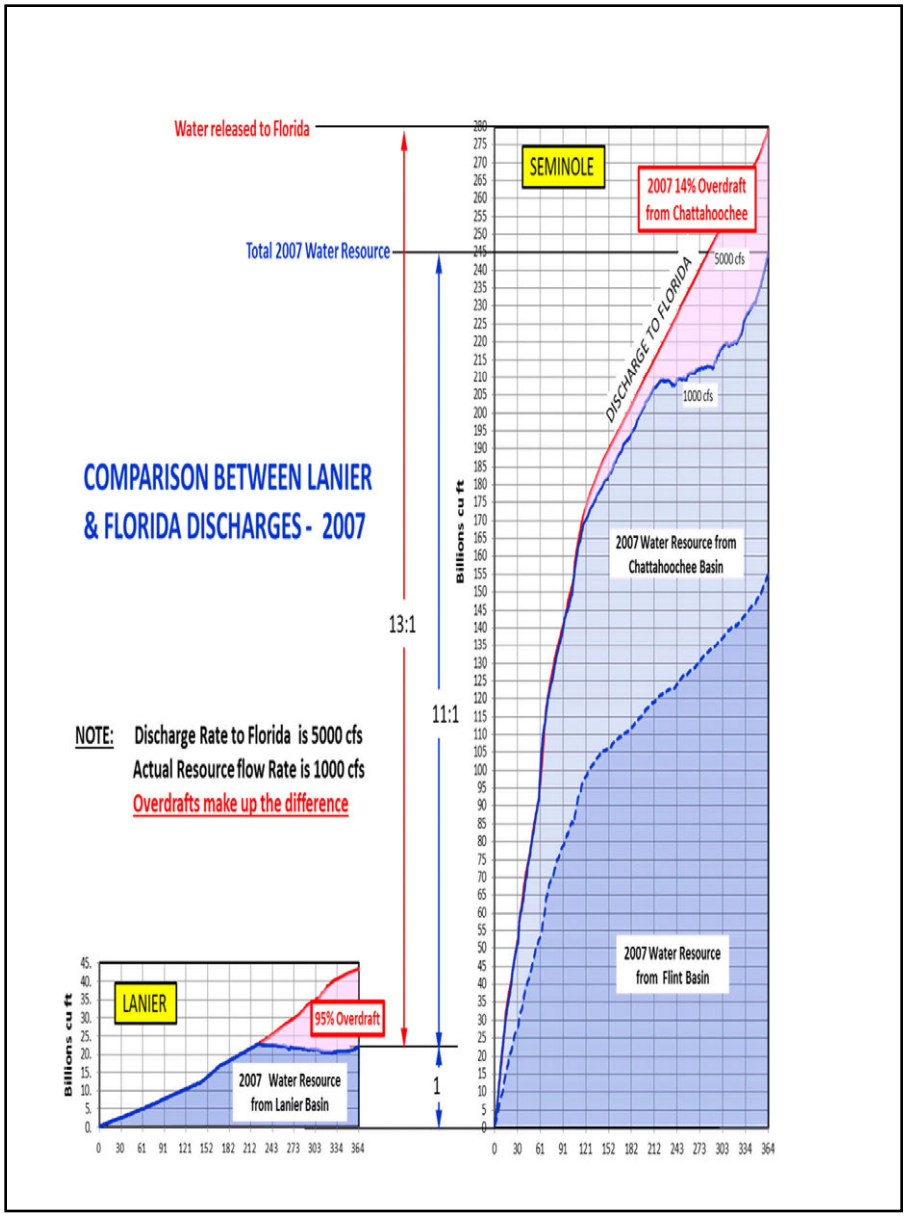

Howard, John

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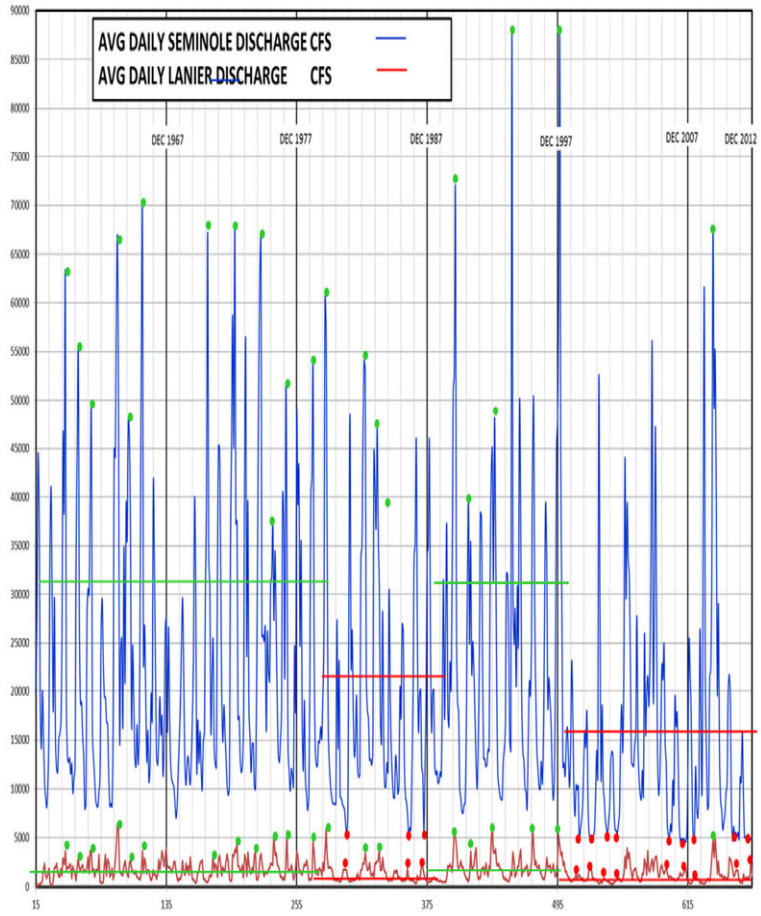
DATA SHOWING THE SEVERITY OF THIS PROBLEM
AND WHY PROMPT ACTION IS ESSENTIAL

Howard, John

Page 5 of 7

GRAPH SOWING LONG-TERM VARIATIONS IN THE ACF WATER RESOURCE



Howard, John

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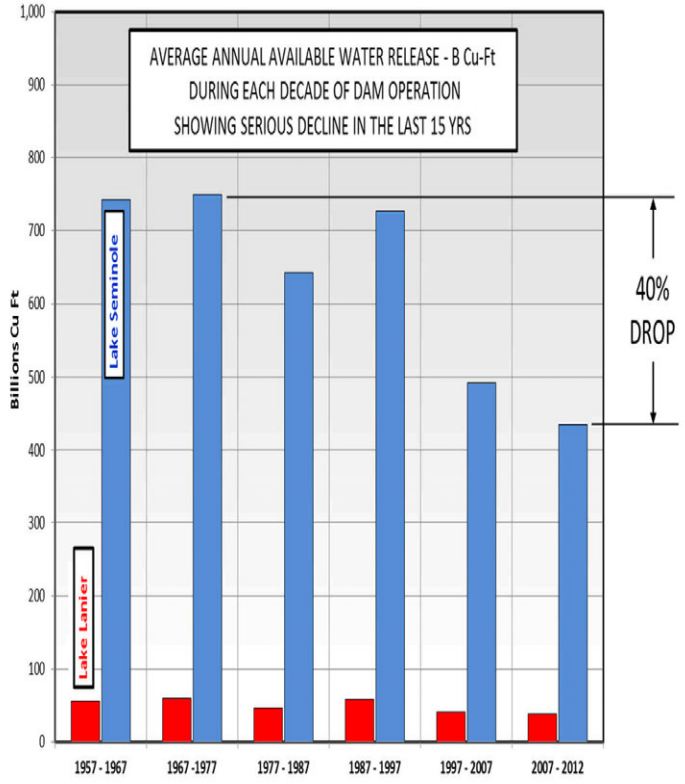
AN OMINOUS LONG TERM DROUGHT PICTURE

(Which should be obvious to the USACE because it's their data)



Howard, John

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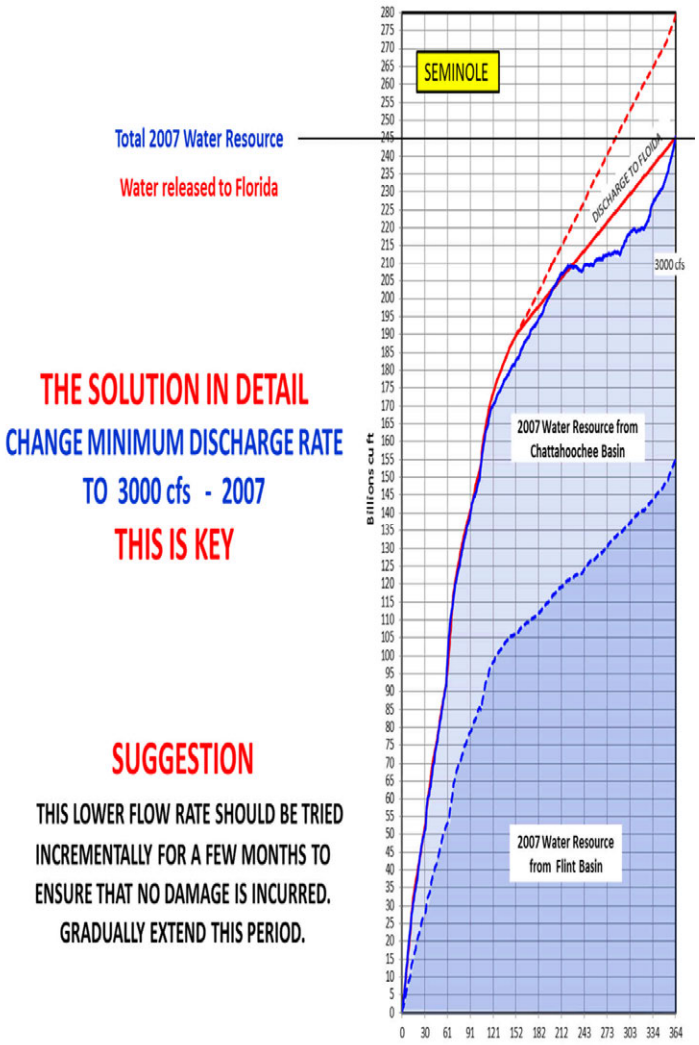

Hudson, Reggie

Page 1 of 1

From: rhudson8925@charter.net
Sent: Sunday, October 14, 2012 6:57 PM
To: ACF-WCM
Subject: Summer Pool Lake west Point

I have lived next to West Point Lake for 22 years. In this 22 years I have questioned why water is released from the lake the way it is. I know all the different reasons I have heard. I do not understand why the USACE can not set Summer Pool on West Point Lake at 636' and Winter pool at 629'. One of the reason is all the argument to save the muscle's in Florida means that millions of muscle's in West Point Lake die each year when the water level is dropped. The banks are covered with dead muscle's. With the technology we have now I can not understand why this can not happen.
Reggie Hudson
LaGrange, Ga.

1

Huerta, James

Page 1 of 2

4/3/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

1) **There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!**

2) **WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.**

3) **In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.**

Huerta, James

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2.

4) **The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.**

5) **Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.**

6) **USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!**

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely, James D. Huerta

Humayun, Jennifer

Page 1 of 1

1/13/2013

COMMENTER: Jennifer Humayun
2315 Bourgogne Drive
Tallahassee, FL 32308

ORGANIZATION:

COMMENTS: Requesting increased water flow from Woodruff dam and sustainable water management plan for health and economy of River and Bay.

Huntley, William

Page 1 of 1

1/14/2013

COMMENTER: William Huntley
6305 Holland Dr
Cumming, GA 30041

ORGANIZATION:

COMMENTS: - The 5,000 cfs minimum flow required at the state line is not representative of the true lowest historical flows in the ACF and is not sustainable.

- Lanier was never designed to support ALL downstream demands and can't be expected to because the dams originally proposed on the Flint River were never built.

- The Corps' current operating rules require more water to be released from Lanier than is necessary and do not allow as much to be stored as is possible. These draw the lake down more than necessary and make it less likely to refill to full pool under contemporary climatic conditions.

- The Endangered Species Act does not require the Corps to augment Apalachicola River flows above run-of-river levels and the practice should not be required because it depletes Lanier unnecessarily.

- Regular navigation is no longer feasible on the ACF and the Corps should notýtry to support it in view of the other demands on Lanier as a resource of last resort.

Illegible, Illegible

Page 1 of 2

1/14/13

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

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Illegible, Illegible

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6) USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Jackson, Bryan

From: Jackson, Bryan <bryan.jackson@oldham.kyschools.us>
Sent: Wednesday, December 12, 2012 3:38 PM
To: ACF-WCM
Subject: Save Apalachicola Bay!

Please save Apalachicola Bay! This beautiful and pristine river ecosystem needs more freshwater from the north. The bay is dying. The town of Apalachicola--filled with wonderful people who rely on the bay for their livelihoods--will die with it if nothing is done. Please take action on this now and let the waters flow!

Sincerely,

Bryan F. Jackson
English Department
South Oldham High School
Crestwood, Kentucky 40014

Jackson, Danny

Typed version of Comment 2012-0048 (copy of original handwritten letter follows on next page):

I'm writing to voice my opinion of the West Point Lake lake level. It looks pitiful. I fish in two different bass clubs and we fish at eight different lakes within a two hour drive. None of these lakes even comes close to looking as bad as West Point Lake. You can't even hardly put your boat in at West Point Lake. Most of the floating docks aren't even in the water. The Corp should give everyone their yearly parking pass money back since you can't use it at most ramps. The Corp has nice facilities but what good is that if you can't even launch your boat. I look at Highland Marina and Southern Harbor Marina and they are mostly just sitting in the mud. I know it's got to be killing their business. The Corp always claims it's the drought causing the problem. Every time we get rain the Corp just pulls it out. Like I said earlier, no other lake around here looks as pitiful as West Point Lake. I'll be honest with you. I wish Georgia Power or Alabama Power ran the lake instead of the Corp of Engineers. I don't see it getting any better.

Danny Jackson

Jackson, Danny

Page 2 of 3

I'm Writing to Voice my Opinion of the West Point Lake Lake level. It looks pitiful. I Fish in two different Bass Clubs and We Fish At Eight Different Lakes within A Two Hour Drive. None of these Lakes even Comes Close to looking As Bad As West Point Lake. You can't even Hardly Put your Boat in At West Point Lake. Most of the Floating Docks Aren't even in the water. The Corp Should give everyone their yearly parking pass money Back since You can't use it At Most Ramps. The Corp has nice Facilities But what good is that IF you can't even launch your Boat. I look At Highland Marina And Southern Harbor Marina And they Are Mostly Just Sitting in the Mud. I know it's got to Be Killing Their Business. The Corp Always Claims It's the Drought Causing the problem. Every time we get Rain the Corp Just pulls it out. Like I said Earlier, NO Other Lake Around Here looks As pitiful As West Point Lake. I'll Be Honest with you. I Wish Georgia Power Or Alabama Power Ran the Lake instead of the Corp of Engineers. I Don't see it getting Any Better.

Danny Jackson

Jackson, Danny

Page 3 of 3

Danny Jackson
3228 County Road 222
Lanett, Al. 36863

ATLANTA GA 303
09 NOV 2012 PM 7 L

Justice FOREVER

Tetra Tech
Att. ACF-WCM
61 Saint Joseph St. Suite 550
Mobile, Alabama 36602-3521

36602352125

Jarzen, Jim

Page 1 of 1

12/14/2012

COMMENTER: Jim Jarzen
111 Woodchase
LaGrange, GA 30240

ORGANIZATION:

COMMENTS: Since moving to LaGrange and purchasing a house that has a dock on West Point Lake I become more and more confused by the management of the lake levels. I was not even able to utilized the lake in 2012 due to low lake levels. I have lived here since 2004 and every year its the same old story, drain the lake in fall only to struggle all year to get it back up to usable levels. During the summer I have to watch lake levels closely to be sure my watercraft does not get stranded in the mud. The lake needs to be maintained at the same level year round. I paid a premium to live on a lake that is nothing more than a mud flat.

Jennings, Laura

Page 1 of 1

LaGrange
Troup County
Bureau of Tourism

November 12, 2012

Tetra Tech, Inc.
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, Alabama 36602-3521

RE: **Scoping Comments for Water Control Manual**

To Whom It May Concern:

I just got off the phone today with a tournament organizer for FLW. FLW wants to host a regional tournament on West Point Lake in mid-September to early October 2014. Such a tournament would have a significant economic impact on our community. However, the FLW leadership is reluctant to plan any tournament on West Point Lake because of its notoriously low level.

West Point Lake has the opportunity, because of its super location near so many metropolitan areas, to be the venue for many water sport tournaments and events. However, the low lake levels are hurting our ability to attract tourists and events. The tourism industry in our county accounts for 1,100 jobs, according to the state of Georgia. With West Point Lake being our number one tourism attraction, these jobs are at jeopardy if the lake level is not improved.

Please know that Troup County's tourism industry is financially dependent on the level of West Point Lake.

Sincerely,

Laura Jennings

Laura R. Jennings
Tourism Director

111 Bull Street / P.O. Box 636 LaGrange, Georgia 30241 *Phone:* 706.884.8671 *Fax:* 706.882.8012
www.lagrangechamber.com

Johnson, Colette

Page 1 of 1

1/14/2013

COMMENTER: Colette Johnson
109 Tryon Drive
Tallahassee, FL 32312

ORGANIZATION:

COMMENTS: Humans upstream can reduce their water use. Apalachicola River and Bay ecosystems can't. It's as simple as that.

Thank you for considering my comments,

Colette Johnson

Johnson, Gregg

Page 1 of 1

11/21/2012

COMMENTER: Gregg Johnson
7830 Kings Point Drive
Cumming, GA 30041

ORGANIZATION:

COMMENTS: Good way to keep the public informed as to what is happening currently on the status of water flows an decisions.

Joy, Lauren

Page 1 of 1

From: Lauren Joy <ljoy@selcga.org>
Sent: Wednesday, December 05, 2012 4:15 PM
To: 'brian.a.zettle@usace.army.mil'
Cc: Gil Rogers; Laura Hartt <lhartt@ucriverkeeper.org> (lhartt@ucriverkeeper.org); 'Dan Tonsmeire' (dan@apalachicolariverkeeper.org); gordon@flintriverkeeper.org; April Ingle (ingle@garivers.org); 'Jenny Hoffner' (JHoffner@americanrivers.org); chris@garivers.org; Cindy Lowry (alriversdirector@gmail.com); Mitch Reid (araprograms@gmail.com)
Subject: ACF WCM - Request for an extension of scoping comment deadline

Mr. Zettle,

The Southern Environmental Law Center submits this request on behalf of the Tri-State Conservation Coalition, the Chattahoochee Riverkeeper, Flint Riverkeeper, Apalachicola Riverkeper, American Rivers, Alabama Rivers Alliance, and the Georgia River Network. The Chattahoochee Riverkeeper, Flint Riverkeeper, and Apalachicola Riverkeeper are also members of the Apalachicola-Chattahoochee-Flint (ACF) Stakeholders group.

We appreciate the opportunity to comment on the ACF Water Control Manual re-scoping and would benefit from additional time to submit comments. Given the complexity of the issues at stake and new questions raised at Fish and Wildlife Service meetings held on November 29-30, the TSCC and affiliated groups would like to request an additional 30 days to submit scoping comments for the ACF Water Control Manual updates.

We remain committed to being involved in the NEPA process for the ACF Water Control Manual updates and plan to submit scoping comments as soon as possible to assist the Corps in determining the issues to be addressed in the Draft Environmental Impact Statement.

Thank you for considering this request and please feel free to contact me at (404) 521-9900.

Sincerely,
Lauren Joy
Southern Environmental Law Center

1

Kebart, Karen

Page 1 of 1

1/12/2013

COMMENTER: Karen Kebart
124 N. Franklin Blvd.
Tallahassee, FL 32301

ORGANIZATION:

COMMENTS: Please comply with the following 1. An assessment and consideration of the freshwater needs that will sustain the health of the Apalachicola River and Bay. 2 Increased water release from Woodruff Dam at appropriate timing and duration to sustain Apalachicola River and Bay 3. An ACF basin wide sustainable water management plan that protects the Apalachicola River and Bay and equitably shares the water of this basin.

Keelin, James

Page 1 of 1

1/14/2013

COMMENTER: James Keelin
1155 Edgewater Drive NW
Atlanta, GA 30328

ORGANIZATION:

COMMENTS: Water in Lake Lanier should primarily be used for water supply for the Atlanta Metropolitan Area. The reason is the drainage area of Lake Lanier is small and only 6% of the ACF Basin. Metro Atlanta had a population in 2010 of 5,475,213 people and is the 9th largest metro area in the USA. Atlanta's airport is the busiest in the world.

Keeth, Joey

Page 1 of 2

11/7/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

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Keeth, Joey

Page 2 of 2

4) **The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.**

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Joey Keeth
852 Beaver Rd. - POBox515
LaGrange, GA. 30241

Kincaid, Susan

Page 1 of 1

1/14/2013

COMMENTER: Susan Kincaid
2113 Lake Point Dr.
Knoxville, TN 37922

ORGANIZATION:

COMMENTS: Please include all measures needed to ensure the health of the Apalachicola River and Bay, including water releases from the Woodruff Dam and a plan for sustainability.

Kirkpatrick, Katie

Page 1 of 2

GEORGIA WATER ALLIANCE

Tetra Tech
Attn: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, Alabama 36602-3521

RE: Comments on Revised Scope
ACF Water Control Manual

To Whom It May Concern:

The Georgia Water Alliance is a broad coalition of stakeholders representing business, local government, water service providers, utilities and agribusiness interests. The Georgia Water Alliance (Alliance) was formed in 2006 to provide a unified voice during the development and implementation of Georgia's Comprehensive Statewide Water Management Plan (State Water Plan). We fully support the Georgia legislature's water policy statement that *"Georgia manages water resources in a sustainable manner to support the state's economy, to protect public health and natural systems, and to enhance the quality of life for all citizens."*

The Georgia Water Alliance strongly supports the proposal of the U. S. Army Corps of Engineers to revise the scope of the Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin to include municipal and industrial water supply from the Buford Dam/Lake Lanier Project. This revised scope would also pertain to the Environmental Impact Statement (EIS) being prepared in conjunction with the updating of the manual.

We agree that both the current and future levels of water supply and wastewater returns at Lake Lanier and the Chattahoochee River in metropolitan Atlanta should be considered and evaluated in the EIS. The current and future levels should also be included in the updated Water Control Manual.

Further, on May 16, 2000, then Governor Roy Barnes wrote to Honorable Joseph W. Westphal, Assistant Secretary of the Army for Civil Works, requesting that the Corps of Engineers allow municipal and industrial water supply withdrawals of 297 mgd from Lake Lanier and requesting releases of sufficient water from Buford Dam to support 408 mgd of water supply withdrawals downstream of the dam. Governor Barnes also provided projections of treated wastewater discharges (return flow) to the lake and river. We suggest the Corps of Engineers and its consultant work closely with the Georgia Environmental Protection Division and the Metropolitan North Georgia Water Planning District to refine the projections provided by Governor Barnes. This coordination is particularly important in updating the Lake Lanier return flow projections.

Please direct inquiries about the Georgia Water Alliance, c/o Ms. Katie Kirkpatrick, Vice President – Environmental Policy, Metro Atlanta Chamber of Commerce, 235 Andrew Young International Boulevard, NW, Atlanta, GA 30303 or kkirkpatrick@macoc.com.

Kirkpatrick, Katie

Page 2 of 2

GEORGIA WATER ALLIANCE

The positive impacts of return flows on Lake Lanier and the Chattahoochee River are significant and must be factored into the EIS and Water Control Manual. The local governments of metropolitan Atlanta will increase the amount of treated wastewater discharged to the lake and river as part of the overall plan to improve management of water resources in the Atlanta area.

We also agree that the scope of the EIS and the Water Control Manual should include the entire ACF Basin. We believe that the current and future water quantity impacts to the ACF Basin resulting from water use in metropolitan Atlanta are moderate and acceptable. The documentation and evaluation of these impacts should be part of the EIS. We also recognize that there are many users of water outside of metropolitan Atlanta in the ACF Basin. We believe the river system can be managed to meet all reasonable water supply needs. The future water withdrawals and wastewater returns of these users, including agriculture, should be evaluated in the EIS.

The economic benefit of water supply to metropolitan Atlanta and Georgia is substantial. The attachment to Governor Barnes' May 16, 2000 letter contained an analysis of the net economic benefit, consistent with protecting the Nation's economy. This economic analysis was based on conservatively high values for using Lake Lanier's water for hydropower and navigation and conservatively low values for using Lanier's water for water supply. Even with this conservative methodology, water supply was shown to be much more valuable than hydropower and navigation. We are confident that if the Corps of Engineers updated this economic analysis, the value of Lake Lanier's water for water supply would again be shown to be far greater than the value for the other designated uses.

Water supply is essential to the economy and quality of life in metropolitan Atlanta and Georgia. The Georgia Water Alliance looks forward to completion of the draft EIS and draft Water Control Manual and will provide input to those draft documents at the appropriate times.

Sincerely,

American Council of Engineering Companies of Georgia
Council for Quality Growth
Georgia Association of Manufacturers
Georgia Association of Water Professionals
Georgia Construction Aggregate Association
Georgia Industry Environmental Coalition
Greater Hall County Chamber of Commerce
Metro Atlanta Chamber
Regional Business Coalition

Please direct inquiries about the Georgia Water Alliance, c/o Ms. Katie Kirkpatrick, Vice President – Environmental Policy, Metro Atlanta Chamber of Commerce, 235 Andrew Young International Boulevard, NW, Atlanta, GA 30303 or kkirkpatrick@macoc.com.

Knox, Gary

Page 1 of 2

1/11/13

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

1) There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!

2) WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.

3) In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.

Knox, Gary

Page 2 of 2

2.

4) The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.

5) Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.

6) USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Gary Knox

Knox, J.

Page 1 of 7

November 2, 2012

Tetra Tech, Inc.
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, Alabama 36602-3521

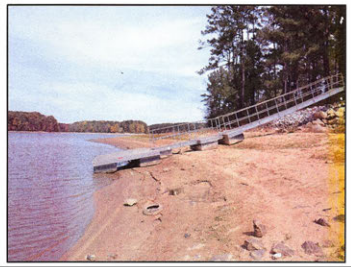
RE: Scoping Comments for the Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin (ACF) in Alabama, Florida and Georgia.

To The U.S. Army Corps of Engineers, Mobile District:

This letter comes from a small business owner in LaGrange, GA and recreational lake enthusiast. In conjunction with the reopening of the public scoping for the proposed update of the Master Water Control Manual, I submit the following comments/request to help revise the Environmental Impact Statement ("EIS") for the Water Control Manual ("WCM").

In the public notice announcing the reopening of the public scoping you state that the "Corps is updating the water control plans and manuals for the ACF Basin in order to improve operations for authorized purposes". As stated in the Corps own Master Plan for the lake, "the lake was developed as a demonstration project for the purpose of providing a wider variety of recreational facilities and opportunities for the public than normally provided at Corps Lakes." The Master Plan further states that "as stewards of these lands in the public domain, the Corps of Engineers will continue to provide access and encourage use of the project to the fullest extent possible." With all due respect, the Corps is doing a lousy job. As I write this, the reported lake level was 623.16 feet MSL. That's 8.84 feet below the initial recreational impact level, 6.84 feet below the second recreational impact level and 11.84 feet below "normal summer pool". This is unacceptable!

I took the below photographs this week. How can the Corps provide access and encourage use of West Point Lake when people can't even access it?



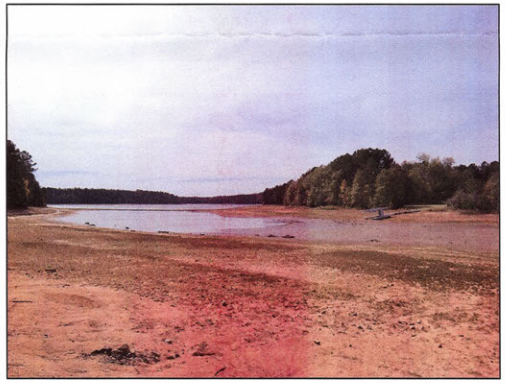
37 S Lafayette Square LaGrange, GA 30240 www.retreatwpl.com (706) 298-0918

Knox, J.

Page 2 of 7

Dry Courtesy Dock at Sunny Point Park

Closed Courtesy Dock at Sunny Point Park



Large expansive mud flats seem to be the new norm for West Point Lake. Really makes you want to go to the lake, heh?

As a small business owner, I can tell you with 100% certainty that the lake levels have a direct impact on my business as I have lost numerous potential sales due to low and unpredictable lake levels. I am in the real estate development business and have a significant amount of property bordering the Corps' West Point Lake project. The low and fluctuating lake levels have made it almost impossible for me to attract buyers who are looking for a lake side property which will give them access to a lake they can recreate and relax on. I have permitted 228 boat slips on West Point Lake (and paid all the necessary fees to the Corps to do so) and I can hardly give them away because of the inconsistent and low lake levels. Why would someone want to recreate on a lake with no water? The low lake levels are going to put me out of business!

As you go about revising the Master Control Manual, ***please*** consider the recreational use component of the authorized intended purpose of the lake when originally created.

Knox, J.

Page 3 of 7

Additionally, I kindly ask that you strongly consider the following request:

- **Increase the West Point Lake rule curve for the winter months to an elevation of 632.5 MSL from 628 MSL.** Raising the "winter pool" level by 4.5 feet would help West Point Lake keep a year-round lake and it would allow for a quicker refill in the spring and not ground as many docks in the winter rendering them unusable. If capacity is the concern, a recent study indicates that is a bogus excuse. Global Energy & Water Consulting, LLC recently completed a study funded by local stakeholders that showed that the West Point Lake reservoir can easily handle the additional storage capacity and still absorb large rainfall events without creating flooding conditions. Please see the attached study and conclusions by Global Energy & Water Consulting, LLC. The antiquated and inequitable rule curve being used by USACE is adversely impacting our lake.

- **Revise the requirement of 5,000 cubic feet per second of water at the Florida line, as is currently mandated by the Endangered Species Act.** I ask that the corps review and adjust its flow manuals so that the lake can maintain a sustainable level and become the recreation destination it was originally designated to be. West Point Lake has been consistently used as the "work horse" of the ACF basin to the detriment of any Lake-related economic development in Troup County for many years.

Bottom line, we need more water in West Point Lake. The benefits of higher and sustained lake levels are enormous. A lake with normal fluctuations and higher levels results in higher property values and more use. Higher property values increases the tax basis and more use equates to increased revenues for area businesses which means more tax and therefore more potential budget dollars for the USACE.

Please help. Help the small struggling business owner. If there is anything I can do to help the process, please do not hesitate to contact me.

Thank you for your consideration.

Sincerely,

J. Hardman Knox
Small Business Owner in Troup County, GA

cc: Senator Johnny Isakson
Dick Timmerberg, West Point Lake Coalition
James Emery, Troup County Georgia

Knox, J.

Page 4 of 7

Operational Changes to the West Point Lake Rule Curve

City of LaGrange
Troup County
West Point Lake Coalition

July 24, 2012

Global Energy & Water Consulting, LLC

Knox, J.

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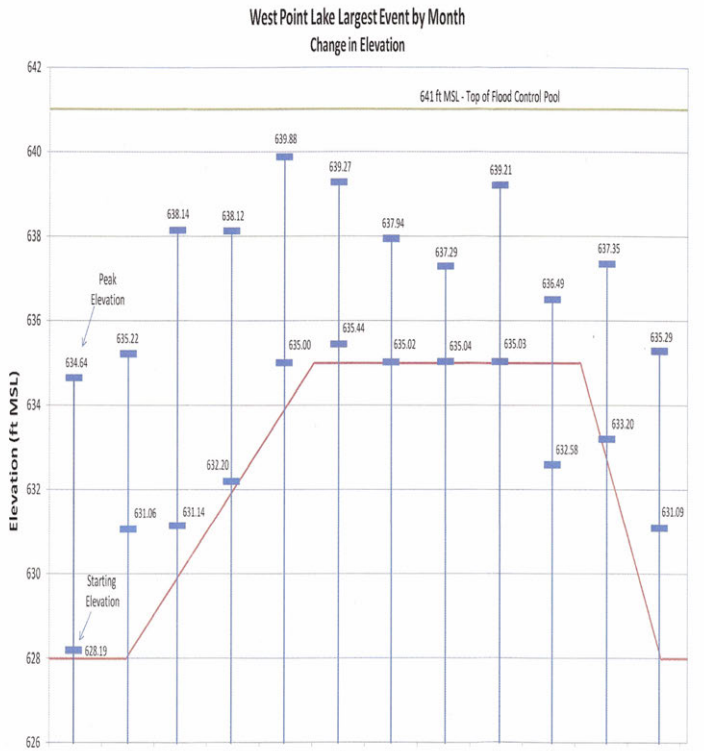

	Jan 1996	Feb 1990	Mar 1990	Apr 1979	May 2003	Jun 2003	Jul 2005	Aug 1984	Sep 2009	Oct 1989	Nov 1992	Dec 1992
Starting Elevation	628.19	631.06	631.14	632.20	635.00	635.44	635.02	635.04	635.03	632.58	633.20	631.09
Peak Elevation	634.64	635.22	638.14	638.12	639.88	639.27	637.94	637.29	639.21	636.49	637.35	635.29
Change in Storage (1000 ac-ft)	149	102	179	154	136	107	79	60	116	100	108	103
Start to Peak (Days)	8	10	4	6	3	3	4	6	8	5	7	8

Knox, J.

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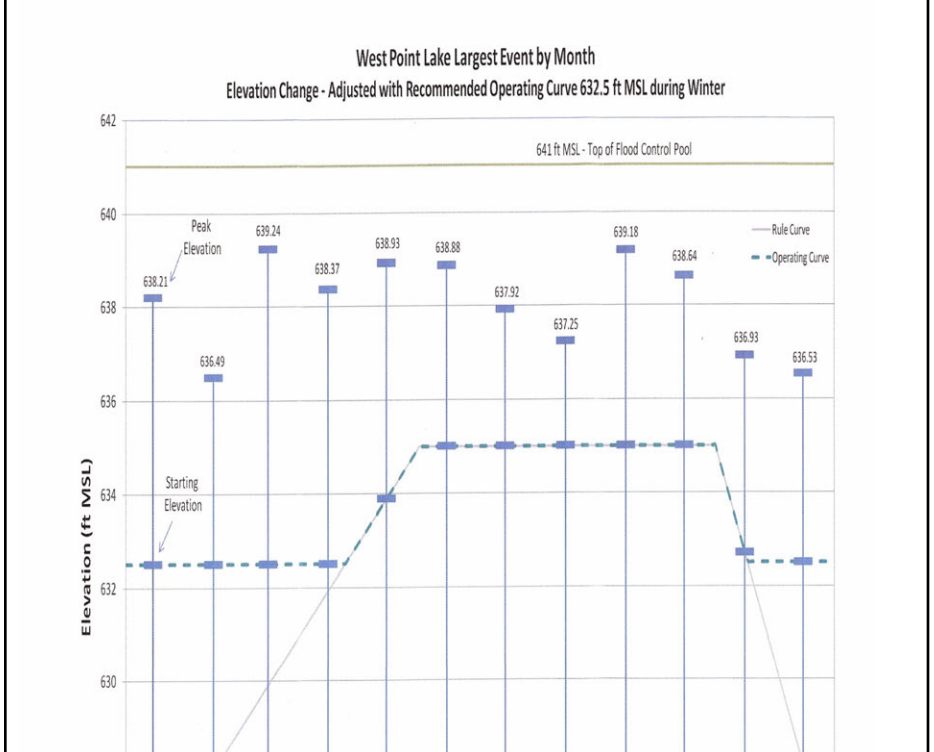

Knox, J.

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Conclusions

- It is clearly demonstrated that WPL can be operated at 632.5 ft MSL during the winter months. This operational change will benefit all users
- Maximum rain events can be mitigated by USACE best management practices
- Use spring refill to store extra water to prepare for summer when WPL tends to drop in elevation
- Keeping WPL full (635 ft MSL) June to October brings revenue into region and maintains higher levels for longer periods of time

Global Energy & Water Consulting, LLC

Knox, Patti

Page 1 of 2

1/11/13

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

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Knox, Patti

Page 2 of 2

4) **The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.**

5) **Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.**

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Patti S Knox

Koch, Kenneth

Page 1 of 1

-----Original Message-----
From: Ken Koch [mailto:ken2susie@bellsouth.net]
Sent: Monday, January 14, 2013 1:50 PM
To: ACF-WCM
Cc: Susie
Subject: New Water Rules for Lake Lanier

For 50 million years prior to the building of Buford Dam, prehistoric Sturgeon and mussels survived in the Appalachicola River. Now, somehow, they can't, without an over abundance of water from Lake Lanier. This is preposterous, as Lake Lanier supplies the drinking and business water for more than 3 million people in the Atlanta area and hundreds of thousands more in downstream communities in Ga., Al., and Fla.

Rainfall is not sufficient to guarantee Florida with nearly 5000 cfs year round, especially in the summer and fall. This puts an undue burden on Lake Lanier to supply this amount of water and still be a much needed reservoir during times of drought. The lake still needs 13 inches of RUNOFF between now and the first part of April, in order to go to full pull, and that is just very unlikely, even if we receive above normal rainfall through March and April,

Please do the right thing and cut the mandatory flow to no more than 2500 cfs during drought periods and not more than 3500 hundred cfs during normal rain periods.

Thank you,
Kenneth Koch(Cook)
Atlanta area Meteorologist
Sent from my iPhone

Kump, Judith

1/14/2013

COMMENTER: Judith Kump
730 Huntingdon Drive
Jonesboro, GA 30236

ORGANIZATION:

COMMENTS: Where Lake Lanier is now, at such low levels, the ground growth is causing more damage to the lake and when the Lake becomes so damaged, it will be beyond repair and good to no one downstream, including something on the order of a snail. What about Lake Lanier's wildlife--it is endangered by the low water levels. Make Alabama have water restrictions and build the Flint River containment for themselves.

Kunzer, Arthur

From: DIV.ACF.EIS
Subject: FW: Lake Lanier

-----Original Message-----
From: Art. Kunzer [mailto:kayart@comcast.net]
Sent: Tuesday, January 15, 2013 8:23 AM
To: ACF-WCM
Subject: Lake Lanier

As a property owner, and resident on Lake Lanier for 48 years; I ask that you please consider changing your water release policy for Lake Lanier.
I realize there are more issues involved today than when the reservoir was filled in 1957; but there seems to be no effort to provide a stable level for Lanier.
The lake provides a huge economic engine for the Hall/Forsyth/Gwinnett area, and for this reason alone (not to mention property values) I urge you to please reduce the amount of water release from Lake Lanier, and help the lake recover with the help of the current rainfall.
Also raising the full- pool level to 1073 would sure be a big help in maintaining the level of the lake.
Thank you for your consideration,

Arthur J Kunzer
3545 Strawberry Lane
Cumming, Ga 30041

Sent from my iPhone

1

Lanett, Lanett

Page 1 of 2

11/15/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

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Lanett, Lanett

Page 2 of 2

2.

4) The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.

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6) USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

11/15/12

Lang, Deborah

Page 1 of 1

1/12/2013

COMMENTER: Deborah Lang
717 west gulf beach dr
East point, FL 32328

ORGANIZATION:

COMMENTS: What ever is good for the Estuary is good for our dinner table.

Lauricella, Ellen

Page 1 of 1

1/14/2013

COMMENTER: Ellen Lauricella
827 Ashlyn Forest Drive
Tallahassee, FL 32303

ORGANIZATION:

COMMENTS: I am advocating for: 1. Increased water release from Woodruff Dam at appropriate timing and duration to sustain Apalachicola River and Bay 2. An ACF basin wide sustainable water management plan that protects the Apalachicola River and Bay and equitably shares the water of this basin.

Lease, Shannon

Page 1 of 1

1/10/2013

COMMENTER: Shannon Lease
Box 8
Apalachicola, FL 32329

ORGANIZATION: Apalachicola Riverkeeper

COMMENTS: Dear USACE:
We have received several reports from citizens over the last several days that although they have tried to submit their comments to your website,they were not successful. Upon submission, an "error 404" web message appears. Due to the inability of these citizens to express their sentiments, We hope that this technical problem will be resolved soon. In the interim, I respectfully recommend that the deadline for comment submission be extended by 2 weeks to allow citizens an opportunity to provide input. PS. I could not submit this message via your website. Thank you. Shannon Lease

Leitman, Steve

Page 1 of 27

Cannella, Michelle

From: DIV.ACF.EIS
Subject: FW: comments on Water Control Manual update
Attachments: ACF WCM comments 2.0.pdf; Causal factors for lowering Lake Lanier -August 2012 draft.pdf; FWJ August 2011.pdf

From: Childers, Jamie
Sent: Tuesday, January 08, 2013 3:37 PM
To: DIV.ACF.EIS
Subject: FW: comments on Water Control Manual update

From: leitman tds.net [mailto:leitman@tds.net]
Sent: Tuesday, January 08, 2013 11:27 AM
To: ACF-WCM
Subject: comments on Water Control Manual update

Attached are my comments on the Water Control Manual update and two references which are to be attached to my comments.

Steve Leitman

1

Leitman, Steve

Page 2 of 27

January 8, 2013

Col. Steven J. Roemhildt, District Engineer
United States Army Corps of Engineers, Mobile
c/o Tetra Tech, Incorporated
61 St. Joseph Street, Suite 550
Mobile, Alabama 36602-3521

Dear Col. Roemhildt:

These comments are being provided in response to the October 12, 2012 Federal Register Notice of Intent to reopen public scoping for 60-days for comments on the updating of the Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) basin. My comments here are less detailed as than those provided with my assistance in other documents and forums, specifically, 1) by the Tri-Rivers Waterway Development Association (TRWDA) in a report titled *An Evaluation of the Common Ground Between Environmental and Navigation Flows in the Apalachicola-Chattahoochee-Flint Basin* which was written by Stacey Graham and Charles Stover of Alabama Power and myself as a consultant to Apalachicola Riverkeeper; and, 2) the modeling approach taken by the U.S. Fish and Wildlife Service (USFWS) in their comments and presented at a November 29 – 30, 2012 meeting in Eufaula, Alabama, showing an alternative approach to managing the reservoir system which is shown to be feasible by the STELLA model and comments regarding this effort submitted by the USFWS.

In developing the Water Control Manual, an import concept which needs to be integrated into the Corps' approach to managing the ACF reservoir, is equity. By equity, I mean that in the future whenever consumptive demands are increased, the consequences of those increases in demands should be absorbed by the region where the increase occurs. For instance, if Metro Atlanta wishes to continue increasing its consumptive demands, the consequences should be borne by Metro Atlanta region, not by downstream users such as citizens in the middle reaches of the Chattahoochee River or Florida. The current method of calculating basin inflow in the RIOP does not encourage this concept; instead as demands are increased the consequences are to lower flows entering Florida at Jim Woodruff Dam. Since the consumptive demands on the basin are approaching the safe yield of the basin, such an approach as recommended by me will provide incentives and disincentives with regard to water resources management that should lead to more sustainable water management decisions in the future. Attached to these comments is a paper published by the Florida Watershed Journal in August 2011 titled *An Evaluation of the Use of Local Inflow as a Trigger in the Revised Interim Operating Plan for Managing Reservoirs in the Apalachicola-Chattahoochee-Flint Basin* which discusses the rationale and logic for this approach and one approach for addressing the problem: adaptively modifying action zone elevations to meet prescribed downstream performance measures.

The second overriding concept which I believe should be incorporated into the Water Control Manual update is recognition that in the ACF basin, there is a small volume of water stored in the federal reservoirs relative to the volume of flow in the lower river. As such, the reservoir system needs to be managed conservatively and the management of the reservoir system releases

Leitman, Steve

Page 3 of 27

should be linked to what the system can provide. The current approach in the RIOP, which bases releases on local inflow, composite reservoir storage and time of year, reflects this philosophy. This concept, however, can be approached in other ways such as providing limits to the volume of reservoir augmentation to downstream flows based on the volume of water in storage at the reservoirs. This is the management approach recommended in the report provided to both TRWDA/AR and the modeling approach provided to the USFWS. The Corps should consider implementing such an approach in the Water Control Manual update.

A third concept which should be recognized in the management of the ACF reservoir system is that drought is a specific term for a variable concept. Each drought event is different in terms of the basin affected, duration of the drought event, magnitude or intensity of the event and timing, although they are all called drought. Consequently, a one size fits all approach to responding to drought events will not work in the ACF basin. The one-size approach could be a good response in one drought event and a misguided approach in the next drought event. I have attached the draft of a paper I prepared with two of my students which we are going to submit for publication titled *An Evaluation of the Causal Factors for the Lowering of Lake Lanier during Drought Events*. This paper evaluated the causal factors for the lowering of Lake Lanier during four distinct drought events using the STELLA model. Not surprisingly, the causal factors vary significantly from drought event to drought event. The drought response in the Water Control Manual should take this concept into account and recommend a method which allows for the causal factors of a drought to be incorporated into the response to the drought event.

A fourth concept which should be taken into account is the need to define the performance measures used to evaluate alternatives. It is important in preparing the Water Control Manual for the Corps to explicitly explain the criteria or performance metrics used to compare alternatives and to ultimately decide which approach is recommended for the ACF basin by the Corps. To not do so essentially excludes the many value-based comments stakeholders will undoubtedly provide to the Corps in the process. It is through the use of performance measures that stakeholder values are integrated with technical information. In a published analysis of the failure of the ACF Compact, I concluded that one of the causal factors for the ultimate failure of the Compact was the failure of Alabama, Florida and Georgia to define mutually acceptable, basin-wide performance measures against which to evaluate alternative management scenarios. As part of the process for selecting a basin-wide reservoir management for the ACF basin, the Corps should define the performance metrics used to select the chosen alternative.

A final concept which must be addressed in the Water Control Manual update is consumptive demands. I recognize that the Corps does not have authority over the increasing of consumptive demands except to some extent at the Federal storage reservoirs. Nevertheless, the ultimate success of any water management strategy conceived in the Water Control Manual updating process is inextricably linked to the volume of water consumed. Consequently, I believe the Corps has no option other than to address the implications of increasing consumptive demands in the update. One way this can be addressed is through an approach discussed in the paper I referenced in my first comment: to have the implications of increasing demands manifest in the region where they are generated instead of visiting them on downstream users. This approach relies on adaptively adjusting the action zone levels in the reservoirs which would modify

Leitman, Steve

Page 4 of 27

composite storage volumes and thereby release triggers, not on providing specified limits for consumptive demands. Such an approach provides incentives and disincentives to encourage sustainable behavior.

I appreciate the opportunity to provide comments on the Water Control Manual update and am willing to help the Corps in any capacity necessary to make this an upgrade of water management in the ACF basin.

Sincerely,

Steve Leitman

Leitman, Steve

Page 5 of 27

AN EVALUATION OF THE CAUSAL FACTORS FOR THE LOWERING OF LAKE LANIER DURING DROUGHT EVENTS

Steve Leitman, Lauralee Buchanan, Lauren Kluczynski

August 2012

INTRODUCTION

The Apalachicola-Chattahoochee-Flint (ACF) river basin lies within three states (Florida, Georgia, and Alabama) in the southeastern United States, encompassing 19,600 square miles and terminating at the Gulf of Mexico (Figure 1). Lake Lanier, located north of Atlanta, Georgia, is the basin's largest reservoir and is managed by the U.S. Army Corps of Engineers. The two other principle storage reservoirs in the ACF, West Point (WP) and W.F. George (WFG) are also located on the Chattahoochee River and managed by the Corps. Combined these three reservoirs have over 95% of the basin's storage capacity. The waters of Lake Lanier are managed for hydropower production, flood control, downstream flow augmentation and the reservoir is a primary source of water supply to Metro Atlanta. Tourists and residents of Lake Lanier also enjoy recreational access to the lake and much of the shoreline has been developed for private housing. As a headwater reservoir Lake Lanier only impounds about 6% of the ACF basin, but the reservoir contains about 2/3 of the storage capacity of the ACF basin. Figure 2 shows that the storage pool of Lake Lanier was severely drawn down during a drought in 2007 to 2008. As elevations continued to decline, the U.S. Army Corps of Engineers (USACOE) responded to the declining elevations

by decreasing releases to Florida from the ACF reservoir system. Releases are not made directly from Lanier to the Apalachicola River. Releases to the Apalachicola River are made from W.F. George and Lanier's releases in turn are to support West Point which supports W.F. George. In their management of the reservoir system the Corps of Engineers seeks to balance storage in the three reservoirs.

Since no documentation of why this management approach to restrain the lowering of Lake Lanier was released to the public and since 2012 has proven to be another drought year where similar management responses are possible, this paper will analyze causal factors behind the lowering of Lake Lanier during droughts. Through understanding the causal factors the management response to future droughts can be based on an analysis of the factors which caused the problem instead of what is politically palatable. It should be further noted that although Lake Lanier's elevation was dramatically lowered during the drought event, the elevations were never less than 15 feet from the bottom the reservoir's conservation pool, meaning that over 36% of the reservoirs storage pool remained at all times. The water supply of Metro Atlanta was not in as great of peril as portrayed by the media during this drought event (Glennon, 2009), nor was the reservoir within three months of exhaustion during the drought as publicized by Georgia's Governor Sonny Perdue. At the rate of loss of water the reservoir experienced during the drought event, there were about 7 months of storage remaining without resorting to using water in the inactive storage zone of the reservoir for water supply purposes in the worst case situation.

The goal of this paper is to define the relative contribution of causal factors during several drought events. A decision was made to examine multiple drought events in this analysis as opposed to just one drought event because droughts are not all the same and

therefore, some variance of causal factors should occur as different drought events are examined. Drought is a specific term for a variable concept, not a specific definition of a precise event.

METHODS

A monthly STELLA computer simulation model of the Apalachicola-Chattahoochee-Flint (ACF) Basin was developed by the three states (AL, FL, and GA), the U.S. Army Corps of Engineers, and researchers from the University of Washington as part of the ACF Comprehensive Study (Leitman, 2011). This model was converted from a monthly time step model to a daily time step model by the Northwest Florida Water Management District, and this daily version of the model was then revised to represent the current operating approach for the ACF reservoir system, the Revised Interim Operating Plan (RIOP). This version of the model was used in this analysis. This model has been shown to be calibrated with the Corps of Engineers RES SIM modeling efforts (Leitman, 2011). This analysis was based on modeled data instead of historical data so that several drought events could be evaluated and consumptive demands and reservoir operations would be consistent among all droughts that were analyzed. The modeling analysis used 2007 consumptive demands, the same data set used by the Corps in its 2011 analyses of the basin using RES SIM.

The model was run for the 70-year period for which unimpaired flow data were available (1939 – 2008) and based on the output from this model run, four major drought events were selected to be used in this analysis. Figure 3 shows reservoir elevations and the periods selected for analysis. Selection was done by choosing the four worst drought

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events over the modeling period based on both minimum elevation and duration of lowering of Lake Lanier. The first drought event selected was from 1980 to 1984, the second drought occurred from 1985 to 1988, the third drought occurred from 1999 to 2003, and the last extended from 2007 - 2008 (until the end of the data set).

These four events were then reduced so that the analysis focused only on the period of time that the elevations at Lake Lanier were declining during each drought event since it was the declining of reservoir elevations, not the duration of the drought event, which prompted the management action of reducing releases to the Apalachicola River.

Possible causal factors for the lowering of Lake Lanier's storage pool include: 1) a deficit in local inflows to the reservoir so that inflow is less than required outflow, 2) water supply withdrawals for Metro Atlanta (including withdrawals from both Lake Lanier and from Buford Dam to Peachtree Creek reach on the Chattahoochee River), 3) evaporation losses from the reservoir, 4) augmenting flows to balance pool elevations in Lake Lanier with downstream reservoirs West Point and Walter F. George , 5) releases to meet minimum flow requirements for water quality at Peachtree Creek, 6) releases to meet minimum flow requirements at the Farley Nuclear Power Plant, 7) providing augmentation support to the Apalachicola River to meet minimum flow requirements of the RIOP, or 8) some combination of all of these factors.

Therefore, for each of the declining periods, the following parameters were analyzed: 1) local inflows, 2) consumptive withdrawals both above and below Buford Dam, 3) evaporation losses from Lake Lanier, 4) the balancing of reservoir elevations in the Chattahoochee River, 5) the minimum flow requirements for water quality at Peachtree Creek, 6) minimum flow requirements at the Farley Nuclear Power Plant and 7) releases

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from Jim Woodruff Dam to support the Apalachicola River minimum flow requirements under the RIOP. Local inflows, consumptive withdrawals and evaporative losses were taken from the model output data. The balancing of the reservoirs refers to operational requirements to keep the major storage reservoirs in the same action zone (Leitman, 2011). The minimum flow requirement for Peachtree Creek was set at 750 cfs and at Plant Farley (Andrews outflow) at 2,000 cfs. The amount of the release allocated to Jim Woodruff releases was calculated by subtracting releases for the Peachtree Creek minimum, balancing of the storage reservoirs and the Plant Farley minimum from the total releases from Buford Dam.

The deficit in local inflows was calculated by subtracting the average daily outflow from Buford Dam during the drought events with the local inflow to Lake Lanier during the events. Consumptive demands for the basin above Buford Dam and evaporation losses from Lake Lanier were taken directly from model output. Determining the releases to meet the minimum flow requirement for Peachtree Creek from Lake Lanier requires the determination of 1) minimum flow requirement (750 cfs), 2) local inflows entering the Chattahoochee River between Buford Dam and Peachtree Creek, and 3) consumptive withdrawals extracted from the Chattahoochee River between Buford Dam and Peachtree Creek. In determining the flow released to balance the reservoirs it must be recognized that the releases made to meet the Peachtree Creek minimum flow also contribute toward the balancing of Lanier and West Point and therefore need to be subtracted from the release attributed to balancing West Point and Lanier to avoid double-counting of these releases. The minimum requirements for Plant Farley would be based on what volume of water from the WFG release is required for meeting the 2,000 cfs minimum requirement

and backing this release up through the balancing equations and finally the release to meet Jim Woodruff outflow minimums are simply assigned to the balance of the release from Buford Dam which are not accounted for by either the PTC minimum requirement, balancing of the reservoirs or Plant Farley needs.

RESULTS

Table 1 shows the results of examining the causal factors for the lowering of Lake Lanier during the four drought events. This table shows that causal factors for lowering Lake Lanier vary from drought event to drought event. It should be noted that the category of withdrawals and evaporation includes only withdrawals from above Buford Dam and other withdrawals for Metro Atlanta below Buford Dam are included under Peachtree Creek minimum. In several of the drought events, supporting the Jim Woodruff minimum was a major factor in causing the lowering of the reservoir, but in other droughts it was not as significant a factor (its contribution ranged from 15.5% to 53.1%). Some factors such as consumptive withdrawals/reservoir evaporation from Lanier and meeting the PTC minimum flow requirement have a more consistent impact because both of these factors do not vary as much year-to -year or drought-to-drought in the model as some of the other factors (demands are constant in the model and the PTC target is always 750 cfs). Combined these two factors account for 30 to 40 percent of the decline. On the other hand, other factors such as the inflow deficit to Lake Lanier and balancing of the reservoirs show a large range of effect depending on the drought event. The only factor which never had a major effect on the lowering of Lake Lanier was meeting the minimum flow requirement at Plant Farley.

TABLE 1

CAUSAL FACTORS FOR THE LOWERING OF LAKE LANIER DURING FOUR DROUGHT EVENTS

	DROUGHT 1	DROUGHT 2a	DROUGHT 2b	DROUGHT 3	DROUGHT 4
INFLOW DEFICIT	11.2%	5.9%	3.3%	21.2%	27.4%
W/DRAW + EVAP FROM RESERVOIR	16.2%	21.0%	17.9%	14.6%	12.4%
PTC MINIMUM	21.2%	23.8%	14.7%	20.5%	26.7%
RESERVOIR BALANCING	17.9%	17.9%	11.0%	26.4%	9.4%
FARLEY MINIMUM	0.0%	0.0%	0.1%	1.9%	3.4%
JW OUTFLOW MINIMUM	33.5%	31.5%	53.1%	15.5%	20.6%

DISCUSSION

Based on the evaluation of causal factors for lowering Lake Lanier using the STELLA simulation model it can be seen that over the past 70 years there was variation among the factors causing Lake Lanier to be lowered during different drought events. This was an expected result since drought is a general name for a variable phenomenon and each drought is somewhat different. Droughts can vary by location (the major area of a given drought could be in the upper, middle or lower basin), by intensity, by duration and by timing. And all of this variability results in variability of how the drought will affect the river system in general and Lake Lanier is specific. What the finding of this analysis suggests is that a one size fits all answer to address the problem of excessively dropping reservoir elevations at Lake Lanier is not the best solution. It might work satisfactorily in

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one drought event, but not so well in another. State and Federal management agencies might be excused for not doing an analysis similar to this during the 2007-2008 because they were in the middle of a crisis. However, there is no excuse for their not doing such an analysis after drought conditions subsided since drought conditions were certain to return sooner or later. Management decisions should take advantage of the tools and information available to making those decisions.

A more rational and balanced approach to restrain the lowering of Lake Lanier during drought events would be to deal with all factors which contribute to the lowering of Lake Lanier: consumptive demands, evaporation and supporting downstream flow needs all need to part of the management response. Unfortunately, this has not been the case. And, in spite of the problems at the current levels of consumption for water supply, the Metro Atlanta Water Supply and Conservation Plan forecasts significant increases in water supply withdrawals over the next 20 to 30 years (Figure 4). It should be noted that the 2007 demand data used by the Corps of Engineers estimates Metro Atlanta's demands at about 527 MGD, so the permitted supply value used in this figure is far greater than that used in the modeling exercise and it is forecasted to be about twice the value used in the modeling exercise by 2035.

On June 25, 2012 the Corps of Engineers, Office of Chief Counsel, released an opinion on Authority to Provide for Municipal and Industrial Water Supply from the Buford Dam/Lake Lanier Project, Georgia. This opinion concluded that "the Corps of Engineers has the legal authority to accommodate the State of Georgia's request to withdraw 297 MGD from Lake Lanier, if return flows of 107 MGD are provided, and to make releases from Buford Dam to ensure minimum flows of 1381 cfs downstream at Atlanta, enabling

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downstream withdrawals of 408 MGD, by the year 2030" (U.S. Army Corps of Engineers, 2012).

In total, it appears the State of Georgia has established a dilemma for itself by wishing to both protect reservoir elevations at Lake Lanier and to allow for increased withdrawals from the Chattahoochee basin to provide the forecasted future water supply demands for Metro Atlanta. And, this dilemma is expanded by their strategy to build water supply reservoirs, such as the Glades project, on tributary streams feeding into the Chattahoochee River. Such projects would both increase evaporation losses and reduce local inflow into Lake Lanier during drought events and thereby may exacerbate the lowering of Lake Lanier. As Table 1 shows, analysis of causal factors for lowering of Lake Lanier during four drought events shows that over 1/3 of lowering can be attributed to consumptive withdrawals/evaporation losses at Lake Lanier and meeting the PTC minimum flow requirement. Do Georgia policy makers really expect to lessen the problem by increasing two of the contributing factors and then simply reducing releases for other users of the water?

Furthermore, the problems discussed above are based on the assumption that historical flow patterns predict future flow patterns. In the specter of climate change and some recent research on historical climate, this may be an optimistic assumption. A recent analysis of tree-ring data for the southeastern United States concluded that the latter half of the 20th century was a relatively wet period and droughts of extended duration occurred more frequently between 1696 and 1820. (Pederson, 2012) Their results indicate that the era in which local and state water supply decisions were developed and the period of instrumental data upon which it is based are amongst the wettest since at least 1665. This

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suggests the ACF Basin could be following the example of the Colorado Basin in dividing up its waters based on unrealistic expectations.

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FIGURE 1

THE APALACHICOLA-CHATTAHOOCHEE-FLINT RIVER BASIN

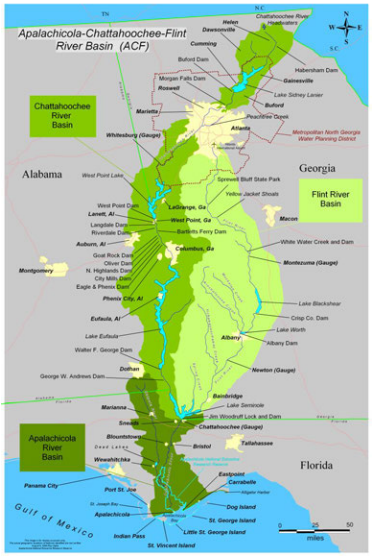

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FIGURE 2

OBSERVED RESERVOIR ELEVATIONS AT LAKE LANIER DURING RECENT DROUGHT

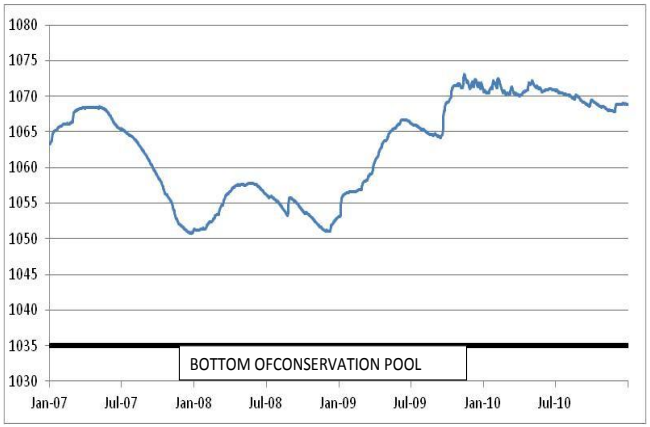

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FIGURE 3

MODELED RESERVOIR ELEVATIONS AT LAKE LANIER USED FOR ANALYSIS OF CAUSAL FACTORS

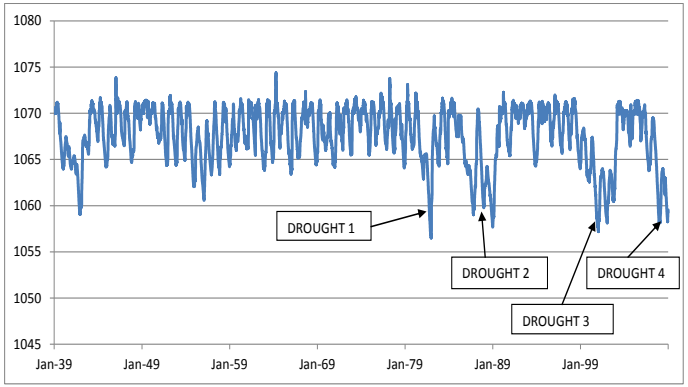

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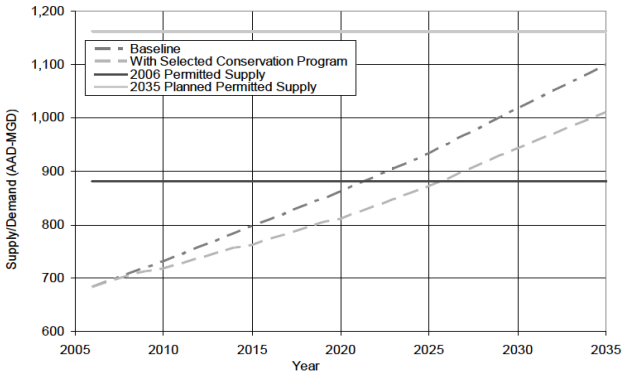
FIGURE 4

FORECASTED WATER DEMANDS AND SUPPLIES FOR THE METRO ATLANTA WATER DISTRICT

FIGURE ES-2
Metro Water District Water Demand and Supply



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An Evaluation of the Use of Local Inflow as a Trigger in the Revised Interim Operating Plan for Managing Reservoirs in the Apalachicola-Chattahoochee-Flint Basin.

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August 2011

INTRODUCTION

In April 2008, the Corps of Engineers, Mobile District proposed replacing the Interim Operating Plan (IOP) for the Apalachicola-Chattahoochee-Flint (ACF) reservoir system, with a Revised Interim Operations Plan (RIOP). Copies of the IOP and RIOP can be found in the Biological Opinions for these Plans at http://www.fws.gov/southeast/drought/. The IOP and the RIOP were prepared to protect several species of mussels and the Atlantic sturgeon which are listed under the federal Endangered Species Act. The IOP replaced the Water Control Plan which was proposed in 1989 and used by the Corps of Engineers since that time, although it was never formally adopted. This paper focuses on the use of flow triggers in the RIOP. These triggers identify the conditions at which reductions or increases in releases from the reservoir system to the Apalachicola River are made.

DISCUSSION

The factors which define reservoir releases under the RIOP are 1) month of the year, 2) a composite storage zone, and 3) basin inflow. Although the RIOP defines releases only from Jim Woodruff Dam, the reservoir does not have ample storage capacity to support the releases called for in the RIOP. Therefore the RIOP is a management plan for the entire ACF basin, not just Jim Woodruff Dam. Figure 1 shows the location of the ACF basin and its major reservoirs.

a. Composite Storage Trigger

Reservoir pools are divided into three general pools: the flood pool, the conservation pool and the inactive storage pool. The flood pool is used to temporarily hold flood waters. The conservation storage pool is the active management pool. The inactive storage pool is the area below the conservation pool whose waters cannot be managed due to physical constraints on the reservoir and dam design.

In the ACF basin the conservation pool is further divided into four zones: called action zones. These action zones were first defined in the 1989 proposed Water Control Plan. Little supporting documentation explaining how these action zone elevations were determined exists. Since the Water Control Plan was never formally adopted, the specific elevations used to define composite storage should not be considered as administratively fixed.

In the RIOP, composite storage uses the same "four zones" approach as is used for managing the storage reservoirs. The volume of storage in each zone is simply defined as the sum of the

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storage for all three major federal storage reservoirs (Lake Lanier, West Point and W.F. George). Figure 2 shows the division of composite zone storage volume for the ACF basin in 2010.

b. Basin Inflow Trigger

Basin Inflow (BI) refers to the calculation of the 7-day inflow from the drainage basin above Jim Woodruff Dam. BI is a calculated value, not a measured value represented as average daily values (cfs/day). BI for a given reach of the river above a dam is calculated by: 1) measuring the outflow from the storage reservoirs, 2) measuring the change in elevation at the storage reservoirs 3) converting elevation change to volume and 4) calculating BI by subtracting outflow from the volume change at the reservoir. The reason for this approach is that it is far less expensive and complicated to calculate BI than to gauge and monitor inflow sources, consumption and evaporation from each reservoir.

Therefore, BI is actually "net BI" since it represents BI minus depletions from the system by human influences including municipal and industrial, agricultural and thermal water users and net evaporative losses from the reservoirs.

ANALYSIS

It is understandable that BI would be calculated in the manner used by the Corps of Engineers because of reduced cost in defining BI, the ease, and speed of estimating it in this manner and availability of data currently to measure BI. However, using net basin-inflow as the trigger mechanism for defining releases to the Apalachicola River results in a situation where increases in consumptive demands can increase the number of times and the length of time that the RIOP triggers are tripped. This in turn can result in a lowering of flows prescribed to be released by the RIOP.

In short, the RIOP contains no incentive for upstream water consumers to conserve or to restrain their consumptive withdrawals of water since downstream users bear the burden of their increases in consumptive demands through decreased flows. Hence, as designed, the RIOP has an inherent bias toward upstream interests by reacting to increasing demands by lowering flows entering the Apalachicola River. To create a more equitable distribution of water, the RIOP should respond to increased demands in Georgia by lowering reservoir elevations in Georgia. This would make the RIOP more equitable by distributing the burden of increasing demands to users in the same state as those causing the demands.

To understand how changing levels of consumptive demands affect the RIOP, the RIOP was simulated in an existing STELLA model to evaluate the basin under three consumptive demand scenarios:

- No demands,
- Current demands,
- Current demands increased by 25%.

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Table 1 summarizes the results of this modeling exercise relative to the RIOP release rule categories. In this table each column contains the same number of incidents or days where releases were defined by the various rules of the RIOP. Only the number of days within each release rule category changes.

TABLE 1

NUMBER OF TIMES RIOP RELEASE CATEGORIES ARE TRIGGERED USING NO DEMANDS, CURRENT DEMANDS AND CURRENTS DEMANDS x 1.25

MONTH	COMPOSITE STORAGE ZONE	BASIN INFLOW (cfs)	NUMBER OF DAYS BASIN INFLOW IS IN RELEASE TRIGGER CATEGORY		
			NO DEMANDS	CURRENT DEMANDS	+ 25% DEMANDS
MARCH - MAY	ZONE 1 OR 2	BI >= 34000	2,258	2,142	2,119
		34000 > BI >= 16000	2,987	2,654	2,578
		16000 > BI >= 5000	887	788	761
		BI < 5000	0	0	0
	ZONE 3	BI >= 39000	2	51	50
		39000 > BI >= 11000	94	378	398
		11000 > BI >= 5000	188	238	194
		5000 > BI	8	24	22
JUNE - NOV	ZONES 1, 2 ,3	BI >= 24000	1,292	1,118	1,083
		24000 > BI >= 8000	9,116	8,199	7,930
		8000 > BI >= 5000	2,081	2,532	2,512
		5000 > BI	321	874	873
DEC, JAN, FEB	ZONES 1, 2 ,3	BI >= 5000	6,306	6,303	6,295
		BI < 5000	6	8	7
	ZONE 4		16	253	733
	DROUGHT ZONE		0	0	6

From this table the following observations can be made:

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- Although the number of days in each category increases and decreases under various release rules with different amounts of consumptive withdrawals, the number of days tends to decrease when release rules call for greater releases from Jim Woodruff Dam (e.g. March-May, Zone 1-2, BI>34,000) and increase when release rules calls for lesser releases (e.g., Zone 4) as withdrawals are increased.
- When the composite storage was in Zone 4, the release changed the greatest number of times as current consumptive demands were increased by 25%.

When the composite storage is in Zone 4, the RIOP calls for a release which can be less than or equal to BI, but greater than 5,000 cfs. Historically this requirement has translated into a flat line 5,000 cfs flow being provided for a sustained period of time and with increasing demands, it is demonstrated that this situation will only get worse. As Table 1 shows, if demands increase by 25%, then, using RIOP definitions, Zone 4 releases will increase from 253 releases to 733 in the 70-year modeling time period. As the ecological responses of the Apalachicola River and estuary from the 2006 to 2008 drought showed, at the current level of demand the releases provided by the RIOP when composite storage is in Zone 4 can be problematic. With such an increase in the number of times that extreme low releases is forecasted for a 25% increase in demands, the resultant effects can only be interpreted to be unacceptable from the perspective of downstream interests.

It is anticipated that in future drought events, there will be situations where composite storage will be in Zone 4. The question remains: What is an acceptable number of times for this to occur? Is the current number of occurrences acceptable in terms of ecosystem impacts? Can the ecosystem tolerate an increased number of events? Or should the number of occurrences be reduced? Defining what is acceptable should include the number of times this would occur, the timing of when it occurs, the frequency of occurrences, and the duration of these occurrences. To definitively answer these questions, it will probably be necessary to do an ecological flow study for the Apalachicola River.

The inequity of using the current method of defining BI as a trigger mechanism is further demonstrated by comparing the droughts of the mid-1950s to the 2006-2008 drought. There was a larger cumulative rainfall deficit in the ACF basin above Jim Woodruff Dam during the 2006-2008 drought than during the 1954-1956 drought, about 6 ¾ inches over a 31 month period. During the drought in the 1950's, river flows did not drop below 5,000 cfs and flows were below 5,200 cfs between 1954 and 1957 six times even at a time while Lake Lanier was initially being filled. Figure 3 shows the flow at the Chattahoochee gauge on Apalachicola for 2006 and 2007. From this figure it can be seen that during the recent drought event, the RIOP resulted in extreme low flows in the Apalachicola River for about half a year and that the Corps' interpretation of the Zone 4 RIOP releases is to provide a flat-lined 5,000 cfs release as was noted above.
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One possible way to remedy this inequity is to define what would be to agree on an acceptable number, frequency, timing and duration of incidents for the RIOP releases to be in composite storage Zone 4. Once this is defined, composite storage volumes could then be changed and used to trigger the recommended number of Zone 4 events that would be acceptable to sustaining the riverine and estuarine ecosystems. Existing simulation models can be used to demonstrate

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the results so that the desired relationship between composite storage, month and BI is achieved with changing levels of consumptive withdrawals. Thereby, as demands change over time, composite storage values in the RIOP can be adaptively modified to synchronize the RIOP to the desired number of times the system is in composite Zone 4 and releases to the Apalachicola River are maintained.

CONCLUSIONS

In reviewing the RIOP, it was found that there is an inequity inherent in how the RIOP responds to increases in consumptive demands over time. As upstream demands in Georgia increase, the RIOP responds by decreasing the calculated BI and subsequently decreasing downstream releases from Jim Woodruff Dam. A more equitable response would be for reservoir elevations in Georgia to decline as consumptive withdrawals within Georgia increase and for downstream releases to remain similar. Taking this approach however must be balanced with the fact that about 2/3 of the basin's storage capacity is lat Lake Lanier which is located in upper reaches of the Chattahoochee basin and impounds only about 6% of the watershed.

This inequity is caused by the manner in which one of the triggers in the RIOP, BI, is determined. Because of the complexity and expense of measuring BI, the solution to this inequity, is not necessarily to change the calculation methodology and measure gross BI. One means of achieving more equity would be to modify another trigger: composite reservoir zone designation. The composite zone trigger could be modified so that if upstream demands increase, upstream reservoirs would be drawn down further and downstream flow would in general be as if the increases in consumptive demands never occurred, especially during droughts. The intended result would be to provide an incentive for upstream users to minimize depletions from the system through conventional and/or innovative conservation techniques. This approach, obviously, cannot indefinitely sustain current conditions because it is axiomatic that infinite demands cannot sustainably be placed on a finite system. But it is possible that this approach could amplify recognition that without demand limits on the basin the RIOP will ultimately not be able to sustain lake levels or adequate downstream releases.

Determining how to modify the composite reservoir zone elevations can be done using existing ACF basin simulation models. The challenge to this approach would be in defining the acceptable level of occurrences of composite Zone 4 releases over time. This would probably require an ecological flow study to determine an acceptable level of impact to the riverine and estuarine ecosystems.

Another way of achieving more equity would be to add depletions back to the BI to reduce the time the trigger is achieved. Although this could accomplish the same results as those recommended in this paper, it would require real-time monitoring and response to demand changes and would be far more expensive than using current practices to accomplish what are essentially the same results. In addition, with this approach there would be the problem of implementing demand restrictions to protect flows instead of providing incentives to have Georgia manage its own demands.

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There are no physical impediments to implementing the first approach and there should be no significant administrative impediments because the zone elevations were first defined in the 1989 Water Control Plan that was never formally adopted. However, the top and bottom of the conservation pool for each of the reservoirs are defined in the project's authorizing documents and cannot be so easily modified. The approach discussed above does not call for changing either the rule curve or the bottom of the conservation pool.

ACKNOWLEDGEMENTS

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FIGURE 1

Apalachicola-Chattahoochee-Flint Basin

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FIGURE 2

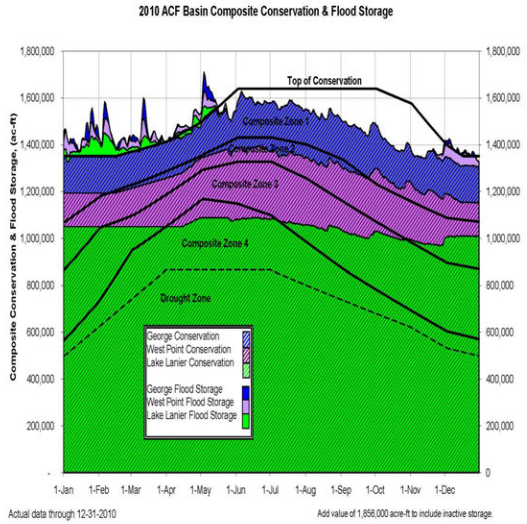

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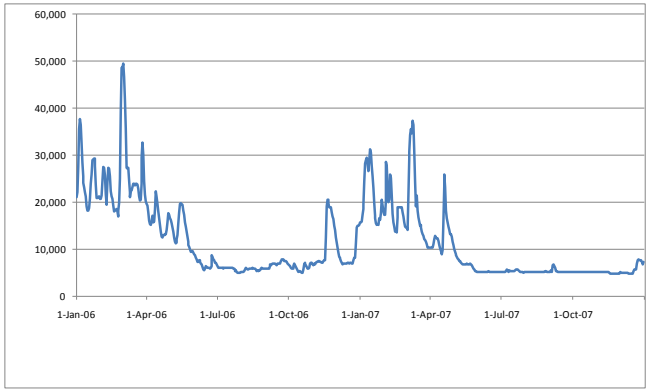
FIGURE 3

FLOW AT THE CHATTAHOOCHEE GAGE ON THE APALACHICOLA RIVER
2006 - 2007 (cfs)



Lemieux, Monica

From: Monica Lemieux <MLemieux@my100bank.com>
Sent: Wednesday, November 28, 2012 4:31 PM
To: ACF-WCM
Cc: 'anita@apalachicolabay.org'
Subject: Apalachicola/Chatthoochee/Flint River Sysstem

I have lived in Apalachicola all of my life except for college and a short time while my husband was in the U S Navy. My family works on the water crabbing, shrimping and oystering. I was involved in the Seafood Workers Association as an officer for many years.

The river flow is critical to the health of Apalachicola River and Bay. In times of severe drought, Atlanta historically holds all of the water and all users below Lake Lanier feel the adverse affects of drought.

I know and realize that water is a precious resource and has to be managed. I do feel that there has to be some compromise so that all users have a fair and equitable allocation. I would like to see the dams removed from the rivers, but that will likely never happen. I do believe mother nature is our best historical user and man made structures only damage the resources.

Please do not allow the urban sprawl in Atlanta and the recreational interests on Lake Lanier to unfairly allocate the water resources to the detriment of the hard working and proud seafood workers in Apalachicola Bay.

Monica Lemieux
Special Assets Lender
Centennial Bank-Apalachicola
NMLS ID#229352
(850) 653-2306

mlemieux@my100bank.com

Lewis, Michael

10/31/2012

COMMENTER: Michael Lewis
1060 Riverbend Club Drive
Atlanta, GA 30339

ORGANIZATION:

COMMENTS: Current issues pertaining to me, a homeowner on the Chattahoochee River:

Erratic release schedules of the Buford Dam adversely affect recreation downstream. The on/off releases multiple times per day results in highly silted waters that are poor for fishing.

Morgan Falls Dam has no published release schedule.

In the past, (Sept. 2009) Large water releases by Buford Dam combined with heavy rain results in an unnaturally high river level downstream.

It seems as if maintaining full water levels to Lake Lanier is a last priority.

I understand that these are difficult issues and there are many variables pulling all at one time. Thank you for your efforts.

Linch, Carole

From: Kelly Linch <kellylinch@hotmail.com>
Sent: Wednesday, December 19, 2012 4:20 PM
To: ACF-WCM
Subject: West Point Lake

To the Corps of Engineers:

We purchased our lake lot at 50 Whitewater Woods on Whitewater Creek when the lake was first impounded. For many years the lake stayed full in the spring, summer, and early fall and we enjoyed boating, fishing, etc. For the past years this has not been true. We can hardly enjoy the lake even in the summer. I know we have had a drought a couple of years but that is not the reason. The reason is that most of the water is sent downstream.

The fishing tournaments and marinas suffer tremendously when the lake levels are low. This is a big source of income to our community. Our property values for our lake lot is probably not even what we paid for it 30 years ago which is very sad. Now I am shocked to learn of this new plan to further damage West Point Lake. This could be one of the most beautiful lakes in Georgia. It is so pretty with the natural state of most of the shoreline. I just don't understand the vendetta the Corps of Engineers has for this lake as they further destroy it. Our community needs this lake for recreation.

We have been harassed over the years by the Corps with rules that made no sense. Our son died on the lake in 1986 because of the lax enforcement of the boating under influence laws. So you see this is personal for me but it is still important for the lake to be able to be used be the citizens of Troup County and the visitors of the area. Please use wisdom and humanness when you make the decisions on the management of our lake.

I almost didn't write this letter as all the meetings, letters, etc. always have fallen on deaf ears. But I decided to try one last time to make the Corps understand this could be a jewel in their crown and LaGrange and West Point. I look at surrounding lakes (Wedowee, Eufaula, Harding, Martin) that are doing well. Our lake should be just as good as those. Please reconsider this plan that will benefit no one!!

Sincerely,

Carole D. Linch

Lindow, Charles

From: Charles Lindow <clindow@charter.net>
Sent: Monday, November 12, 2012 10:42 AM
To: ACF-WCM
Subject: Westpoint Lake water level

Sirs, please read letter sent to Congressman Westmoreland regarding your management of Westpoint Lake and generation of power at the dam.

Dear Congressman Westmoreland, This is my first attempt to contact you regarding the lake level on Westpoint Lake. I understand your involvement and efforts to address these issues. I am very frustrated with the Corps of Engineers management of this lake. I live on it and watch it on a daily basis and I have come to the conclusion that the C.O.E's Mission must be, not as stated on their website but, should be" To Generate as much power as possible in order to pay for these new generators with total disregard for the coincidences". When you look at the hydraulic graph(http://water.weather.gov/ahps2/hydrograph.php?wfo=ffc&gage=wetg1) you can not help but notice the drop in lake level every time they generate. The lake level remains fairly consistent without this generation. I question the need for this generation in our drought situation. As you must know, the economy of the area suffers from the low lake level to the tune of about $300,00,000 a year. I ask myself, does the sale of electricity generated at the dam justify this loss? I think not. The lake level as of 11/09/2012 is about the lowest I have seen it in the 19 years I have lived on it. It has since gone up about 1.5 feet over the weekend (they don't generate on the weekend) but only at the sacrifice of Lake Lanier. The water quality at this point must compared to a cup of coffee that has sat in the pot all day and boiled down to a thick goo. I wonder if F.E.M.A. will be able to address the needs of the people who depend on this lake for their drinking and bathing water needs when the Corps finally succeeds in it's quest to return this once beautiful lake into a mud puddle, which most of it is now or just a grassy field. One more observation, when the C.O.E. is generating 8-10 hours a day, short of a tropical depression parked over the lake basin will keep up with the water going down stream, so we don't need to keep blaming the drought for the low lake levels. The main problem is over generation.

Lockhart, Janie

Page 1 of 2

Typed version of Comment 2012-0073 (copy of original handwritten letter follows on next page):

Nov 26, 2012

Dear Sir:

Or who ever, I just want to know if I need to fix my boat dock if I am not going to have water? And if I fix it or not will we have any water? If I don't fix it will the next person who buys by house will they be able to have a dock? If I don't pay the rest and don't fix it? You people want our name and address on the dock and I am the only one around here that done this in Yellow Jacket Creek 628 Water View Dr, La Grange, GA 30240 Thank you I would like to know about these questions.

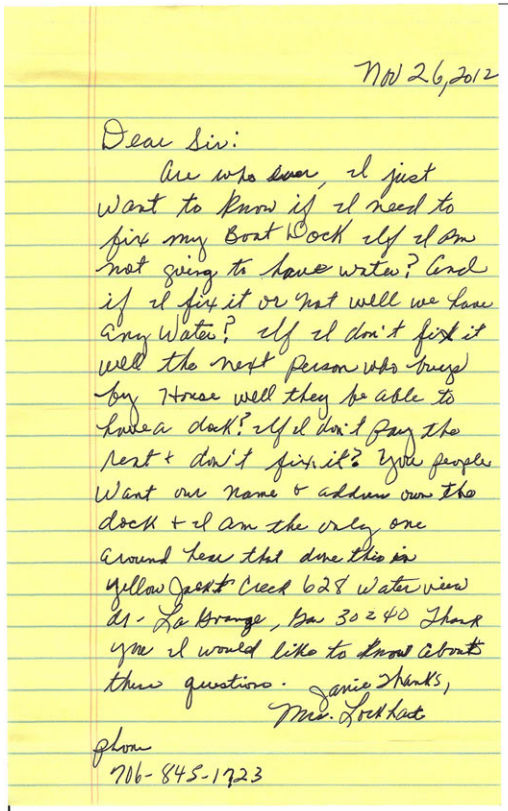
Thanks,

Mrs. Janie Lockhart

Phone 706-845-1723

Lockhart, Janie

Page 2 of 2



Nov 26, 2012

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Mrs. Lockhart

phone
706-845-1723

Long, Ada

1/12/2013

COMMENTER: Ada Long
316 Cook Street
St. George Island, FL 32328

ORGANIZATION:

COMMENTS: I urge you to implement a water management plan for the ACF basin that provides a future for the Apalachicola Bay. As a resident of St. George Island, I am seeing the death of this great bay along with the essential sea life that lives and spawns here. Human as well as marine culture is in dire jeopardy unless adequate amounts of fresh water start to reach the bay--soon!

Longmore, Bruce

Subject: FW: Water Control Manual Revision Public Comments

From: Success@brucelongmore.com [mailto:Success@brucelongmore.com]
Sent: Monday, January 14, 2013 8:49 PM
To: ACF-WCM
Subject: Water Control Manual Revision Public Comments

Comments regarding water control of ACF:

- The 5,000 cfs minimum flow required at the state line is not representative of the true lowest historical flows in the ACF and is not sustainable.

- Lanier was never designed to support ALL downstream demands and can't be expected to because the dams originally proposed on the Flint River were never built.

- The Corps' current operating rules require more water to be released from Lanier than is necessary and do not allow as much to be stored as is possible. These draw the lake down more than necessary and make it less likely to refill to full pool under contemporary climatic conditions.

- The Endangered Species Act does not require the Corps to augment Apalachicola River flows above run-of-river levels and the practice should not be required because it depletes Lanier unnecessarily.

- Regular navigation is no longer feasible on the ACF and the Corps should not try to support it in view of the other demands on Lanier as a resource of last resort.

Bruce
Lenny's Sub Shop
Alpharetta and Cumming, GA
404-574-3884 cell
http://www.Lennys.com
http://www.Food4ThoughtBlog.com
http://www.facebook.com/LennysAtlanta
http://twitter.com/LennysAtlanta
http://www.linkedin.com/in/brucelongmore
Text "Lennys" to 99699 for more info and offers
★Our **PASSION** is spreading happiness w/ delicious food, superior service and affordable **CATERING**★

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Longo, Teresa

Page 1 of 1

11/15/2012

COMMENTER: Teresa Longo
5420 Pine Forest Rd
Gainesville, GA 30504

ORGANIZATION:

COMMENTS: The impact we have on the lake from pulling of water goes beyond all I can say. We cannot continue to send water to all these other states and think that our current water supply is going to handle all. We have so much erosion now because of increased decline in lake levels and failure to keep Lanier a full lake. Rip Rap doesn't do anything anymore since lake levels rarely meet full pool. Lake is filling up with silt because of erosion, dredging is not option, too expensive and doesn't do anything unless lake gets full. Signficant hazard for people on the lake as well with low levels. Quit worrying about mussels, they were here before the lake was. Let the lake come to full pool or extend full pool two more feet, leave it full and only let out what comes in (when full). Build more reservoirs that can help handle the consumption needs. Thank ou.

Longo, Jr., P.J. (Pat)

Page 1 of 2

From: Longo Jr, P J <p.j.longo.jr@lmco.com>
Sent: Wednesday, November 28, 2012 10:51 AM
To: ACF-WCM
Subject: Water usage of Lake Lanier water.

First let me thank you for allowing the public to contribute to the new water usage plan for Lake Lanier. Being a person who has lived on the lake for the last 8 years, I consider myself fortunate to be able to enjoy The natural beauty that surrounds me.

I realize that droughts are naturally occurring weather patterns that no one has control over, however, I don't Believe that those who live on and around Lake Lanier should be the only people who must suffer the effects Of the drought.

As I travel across this lake during lake levels lower than 10 ft. below full pool, one can't help but notice the Number of docks that are affected by the low water level. Serious structural damage occurs to docks that don't Rest on level land. A considerable expense is incurred constantly having to have a dock moved or repaired. Another more serious thing happens when water levels are permitted to fall below certain levels and that is The silt run-off every time it rains. These run-offs are slowly filling up the finger coves all over the Lake making The backs of some coves no longer able to accommodate a dock.

Several things I think should be considered when establishing a new water usage policy are these.

1.Consider raising the full pool level to 1073, with over 550 miles of shoreline this would virtually create another Reservoir.

2. Once the water level reaches a certain level, say 10 feet below full pool, go to a water in water out mode. Any Water that the two rivers put in the lake, this should be the only water let out. Everybody should be made to make Adjustments for the drought.

3.Build the water reservoir that was planned for northwest Georgia but was cancelled during president Carters Administration, to help with water needs downstream.

4.Try to negotiate with Tennessee about tapping the Tennessee river.

5.And last but not least, reconsider tapping any water for muscles or sturgeon downstream. These creatures were Right where they are now long before Lake Lanier was even thought about. These creatures are prehistoric and I'm Quite sure they survived without somebody making sure they were comfortable. If we are so worried about saving Muscles and Sturgeon, let start raising them through aquaculture. This is the biggest no brainer of all.

Thanks again for allowing us to suggest some things that might not have been thought of.

Respectfully,

P.J. (Pat) Longo Jr.
C-130 Quality Assurance
770-494-2241

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Longo, Jr., P.J. (Pat)

Page 2 of 2

Loveless, G.E.

Page 1 of 1

From: Gwen & Grady <majgel@wirelesshometown.com>
Sent: Thursday, November 01, 2012 3:39 PM
To: ACF-WCM
Subject: West Point Lake, Ga.

The management of lake levels at West Point has always been a problem for the Corps of Engineers since it was impounded.
There have been less than three years when the lake was in good shape. I have long believed that the managers could not read a long range prog chart.
This year is the worst it has ever been. I realize the drought over the last two years has been a severe problem, but it could have been much better if only the winter pool level is raised.
The lake needs to be managed for it's primary intended uses and NOT for a Florida water source. The sea life that Fla complains about existed nicely long before West Point lake was here. Water for HUMAN use is MORE important than mussels.

G.E. Loveless
Major, USMC (Ret)
LaGrange, Ga.

Lucas, Barry

Page 1 of 1

From: Lucas, Barry H. <BHLucas@forsythco.com>
Sent: Tuesday, November 27, 2012 4:11 PM
To: ACF-WCM
Cc: Zettle, Brian A SAM
Subject: Master Water Control Manual (WCM) for the Apalachicola-Chattahoochee-Flint River Basin (ACF) - Public Comment

To The US Army Corps of Engineers:

Please accept the statement below as a public comment for the Update of the Master Water Control Manual (WCM) for the Apalachicola-Chattahoochee-Flint River Basin (ACF). I live and work in Forsyth County, Georgia.

==========

The Water Control Manual for the ACF should not take into consideration the trout fishery below Buford Dam. This is an artificial trout fishery which consists entirely of non-native fish species which should not be present in this section of the Chattahoochee River. In fact, Buford Dam should be modified so that it will release warmer water, so that the natural warm water habitat/fishery can be restored in this section of river. There are likely threatened or endangered species that would benefit from the re-establishment of their warm water habitat, which was destroyed by Buford Dam and the resulting cold water release.

Please DO NOT CONSIDER the artificial trout fishery in the Update of the Master Water Control Manual for the ACF Basin. This is one factor that can be ignored. No US Government resources should be expended studying this issue, and the artificial trout fishery should not be considered in the management of ACF basin water. Restore the natural warm water habitat to the Chattahoochee River below Buford Dam.

==========

Thank you for your consideration.

Barry H. Lucas
8265 Stonebrook Drive
Cumming, GA 30040

770-886-2793
bhlucas□forsythco.com
bhlucas□hotmail.com

1

Luther, Landy

Page 1 of 1

1/13/2013

COMMENTER: Landy Luther
PO Box 1073
Eastpoint, FL 32328

ORGANIZATION: Supporters of St. Vincent NWR

COMMENTS: I urge the Corps to include the following within the scope of its revised ACF Master Water Control Management Plan EIS:

1) A quantitative assessment of the downstream flows needed to sustain Apalachicola River and Bay ecosystems in an ecologically healthy condition;

2) Increased water releases from Woodruff Dam of appropriate timing and duration to sustain Apalachicola River and Bay ecosystems, in accordance with this assessment; and

3) Development of an ACF basin-wide sustainable water management plan which protects the ecological integrity of Apalachicola River and Bay, and equitably distributes ACF basin water resources.
I wholeheartedly agree with the data and comments submitted by Ms. Elizabeth Wright on this project.

M. (illegible), Wendy

Page 1 of 2

11/24/2012

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

1) There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!

2) WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.

3) In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.

M. (illegible), Wendy

Page 2 of 2

2.

4) The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.

5) Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.

6) USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Wendy M. Nash

Maddox, Greg

Page 1 of 2

11/17/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

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1) **There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!**

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Maddox, Greg

Page 2 of 2

2.

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely, Greg C Maddox

Maltese, Joe

Page 1 of 3

From: J Maltese <jjmaltese@att.net>
Sent: Saturday, October 13, 2012 10:34 AM
To: ACF-WCM
Subject: Problem with web site- Coimments ACF

I attempted to submit these via the posted web site and each time I submitted them I received an error message that did not allow the transmission of the comments. Please accept and record these comments for the review process.

Thanks

Joe Maltese

October 13, 2012

Submitted Comments

Corps of Engineers

Joe Maltese

It is important that the Corps be fully aware of its total ignorance and direct violation of the enabling legislation that specifically authorized the West Point lake project for General Recreation and Sport Fishing and Wildlife development. Since its inception the water resources for the West Point lake (WPL) project have been mismanaged and these resources have been directed for use for other ACF activities, interests and projects, many of which have never received a specific Congressional authorization.

In particular:

1. The Corps seems to have ignored the adverse impacts of agricultural demand on the ACF- specifically the Flint River basin which has been stressed by agricultural uses during dry weather. The result has been lower than natural river flows on the Flint, resulting in the Corps using the limited stored waters in the Chattahoochee basin lakes to create an artificial and unnatural flow to the Apalachicola from Corps lakes on the Chattahoochee. Subsidizing lost flows to the Apalachicola from the Flint basin due to dry weather and agricultural use is not and never has been an authorized purpose of any Corps project on the ACF system.

2. The Corps has failed to mimic historic natural low flows on the Apalachicola, and instead has guaranteed unnaturally high flows in the face of extreme drought. This utilization of stored waters in West Point to create an unnatural flow regime is an example of mismanagement of the resource, and demonstrates how the Corps has destroyed the West Point lake project utilizing water essential to support general recreation and sport fishing to sustain other uses that were not authorized for the WPL project.

3. The Corps and USFWS have failed to recognize and accept that there are other factors contributing to stress on the Apalachicola. These include:

1

Maltese, Joe

Page 2 of 3

-the failure to recognize that scouring and dredging, and the blockage of naturally flowing sediments that would have been transported to the river bed below JWLD have lowered water levels in the river impacting sturgeon spawn and mussel populations.

- the Corps and USFWS have inadequately explored other environmental factors (i.e. diminished water quality etc)that may impact threatened and endangered species on the Apalachicola

4. The Corps of Engineers was instructed by Congress to create West Point Lake specifically for Recreational Purposes along with 4 other purposes, yet in total the Corps fails to maintain and operate the resource for that purpose in any form. This past year the Corps has focused more heavily in storing water in Lake Lanier while draining West Point Lake to support downstream demands. The financial impact has been devastating to the existing recreational industry associated with the WPL project and resulted in the effective denial of use for recreational purposes by the general public. Specifically this past year the Corps closed ALL camping areas at the WPL project even though it maintained camping facilities opened at other Corps projects on the ACF - projects which did not have a specific recreational authorization. Individuals that rent slips in Corps leased marinas are denied use of their slips and water craft due to low water levels. This represents direct financial impact and loss to business and individuals and has resulted in property damage also to watercraft owners and small businesses. The Corps seems to ignore this impact in order to address other non authorized demands along the river.

5. The Corps has arbitrarily established "action zones " for the ACF system projects that benefits Lake Lanier and other projects at the expense of West Point lake. These arbitrarily enacted zones have punished the WPL resource and its users by creating a scenario that allows the Corps to utilize WPL stored waters while keeping other lakes full. Yet no other ACF project has a specified authorized recreational purpose. This has kept WPL below its established recreational impact levels since the creation of the project on average a majority of the time. The bottom of the conservation pool for the WPL should be effectively established at 632, the Corps recognized level at which recreation becomes impaired. Operations should be limited between 632 and 635 to eliminate adverse recreational impacts and to comply with the specified authorizations.

6. The Corps should provide financial compensation for WPL users, especially those that have made business or personal investments in, or rent, a recreational asset associated with the project when the Corps fails to fulfill its mandate of operating the WPL project with adequate lake levels to sustain recreational use. The corps has other resources available for to sustain its artificially created flows that do not have a recreation authorization specifically, Seminole, Walter F George and Lanier- which remain underutilized.

7. The Corps seems intrigued by the demands of fishery interests in Apalachicola and that it must find ways to accommodate an industry stressed by so many other factors that have yet to be revealed. Ironically the Corps totally ignores socio economic interests on West Point Lake and seems to eagerly sacrifice the WPL project to accommodate those interests upstream and downstream that scream the loudest in the media and to politicians.

Mother nature doesn't continually drain West Point Lake, so hiding behind the verbiage that cries drought is a falsehood. Only humans at the Corps of Engineers have their hand on the valve that opens and closes the WPL dam and releases water.

2

Maltese, Joe

Page 3 of 3

The Corps must stop storing air at West Point and start storing water- and it must leave the lake alone. The Corps has used its assumed cart blanche (especially in the form of its self created action zones) to ignore Congress' authorized use of the project and has managed the resource for other purposes. Its time for the Corps to stop worrying about addressing the over hyped needs from Atlanta north and Apalachicola to the south. It's time to do the right thing for once and to fulfill the purposes authorized at West Point Lake. Take the hand off the valve.

3

Mansolillo, Peter

Page 1 of 1

1/14/2013

COMMENTER: peter mansolillo
1970 Ridge Rd
Cumming, GA 30041

ORGANIZATION:

COMMENTS: Dear Corps,

Thank you for hearing my thoughts.

During the 2006-2008 drought, Lake Lanier became the sole source of augmentation flows to maintain the 5,000 cfs minimum required flow at the Chattahoochee Gage. Augmentation releases from Lanier's storage during late summer and fall of 2007 at times amounted to two to three times the basin inflow of the entire ACF. The same phenomenon occurred again in 2012, dropping Lake Lanier nearly six feet in six weeks between late October and mid-December. As explained above, Lake Lanier alone cannot provide enough water to be the sole source of augmentation flows to meet the 5,000 cfs minimum required flow under the changing climatic circumstances we are facing. We hope that the Corps will take this opportunity to re-examine its fundamental presumptions regarding that flow volume and draft the new WCM in a way that safeguards Lake Lanier's water levels for the future.

Marks, Chuck

Page 1 of 1

10/15/2012

COMMENTER: Chuck Marks
PO Box 129
Apalachicola, FL 32329

ORGANIZATION: Marks Insurance Agency, Inc.

COMMENTS: I am very concerned about the lack of water flowing down the Apalachicola River to Apalachicola, FL

Martin, Roger

Page 1 of 3

PO Box 985 • Columbus, Georgia 31902 • 706.649.2326

January 11, 2013

Tetra Tech
Attention: ACF-WCM
61 Saint Joseph Street, Ste 550
Mobile, AL 36602-3521

Chattahoochee RiverWarden, Inc. is a 501 c 3 non-profit organization whose mission is the use of science, education and advocacy for the protection and stewardship of the middle Chattahoochee River and its tributaries from West Point Dam to the Jim Woodruff Dam in Bainbridge, GA. Our organization represents over 650 members, businesses and affiliations. We greatly appreciate the opportunity to provide our comments and thought to the US Army Corps of Engineers regarding the EIS scoping for the updating of the ACF Water Control Manuals. The ACF basin has undergone great changes since the development of the original 1958 Master Manual. The changing dynamics of land use, population growth, increasing consumptive demand, lack of water conservation, industrial usage, agricultural irrigation, waste water assimilation, public water supply are stressing the system to the point that the ACF projects are unable to meet all its federally mandated authorizations. The proposed revision to the Basin Master Manual and individual federal lakes operating plan should be able to help fill some of the gaps of water availability that currently exist.

We propose that the USACE consider the following ideas as they update the manuals.

A.) Use the 1958 Master Manual prepared for the ACF as the environmental baseline, not the 1989 draft water control plan or existing conditions. The draft manual established Action Zones and the 5,000-cfs flow "requirement" to the Apalachicola River, both of which the Corps unilaterally adopted without compliance with the *Flood Control Act*, its own regulations, NEPA, or the *Endangered Species Act*. NEPA does not allow the Corps to "grandfather" changes in water control operations that have not been subject to final NEPA review. All changes in reservoir operations since that time and their environmental impacts must be analyzed under NEPA as part of the proposed action.

B.) Currently, the FERC Middle Chattahoochee Project License (P-2177-053) provides the following terms regarding flow regimes: The Middle Chattahoochee Project would be operated to provide: (1) an instantaneous target minimum flow release of 800 cfs, or inflow, whichever is less, downstream of each development; (2) a daily average target minimum flow of 1,350 cfs, or inflow, whichever is less, downstream of the North Highlands development; and (3) a weekly average target minimum flow of 1,850 cfs, or inflow, whichever is less,

Martin, Roger

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downstream of the North Highlands development. These flows regimes should be a part to the new ACF Water Control Manual. These flow values were recommended by the States of Georgia and Alabama (Georgia DNR letter filed with application dated August 9, 2002, Alabama Office of Water Resources filed July 2, 2003).

C.) Currently the Glades Reservoir in Hall County, GA and Bear Creek Reservoir in South Fulton County, GA are in the 404 permitting process with the USACE. The impact of these potential reservoirs should be evaluated in the EIS scoping process. Both projects are dependent on waters from the Chattahoochee River or a tributary.

D.) We believe that the future population projections and water needs for the Metro Atlanta region are overstated and should be revised. Consideration should be given to the **realistic population projections** and increasing consumptive demands on the ACF river basin as a whole.

E.) The USACE should investigate the potential of raising the elevation of Lake Lanier to 1073.

F.) Develop a water control plan for each reservoir project, as well as a control manual for the coordinated operation of the multiple projects within the ACF river basin.

G.) Recognize that the dry weather patterns the Southeast has experienced in recent years will likely continue in the future and that management of water systems within the ACF River Basin must take that into account. Consider how climate change might affect ACF flow regimes and how to best adapt reservoir operations to the most likely foreseeable changes. Development operating plans based on hydrological forecasting methods developed by the U.S. Geological Survey (USGS) to optimize reservoir operations.

H.) Hydrologic system interactions between aquifers, streams, reservoirs, floodplains, and estuaries should be modeled. Evaluate the effects of past and proposed project operations on flood durations and floodplain habitats in the Apalachicola Bay estuary system.

I.) Identify key species that need upstream and downstream movement then establish fish passage plans for all Corps locks and dams in the ACF River basin.

J.) Consider the amount of water that may be lost from the basins through inter-basin transfers and consumptive uses and place appropriate limitations on any such losses, particularly under drought conditions. Any raw data should be measured using modern technology.

K). Balance the release of water from each of the reservoirs when lake levels are in Action Zones 2 through 4 as a result of drier than normal or drought conditions.

L.) Consider the potential risks and benefits of reducing the magnitude of the autumn drawdown and/or of beginning the spring refill earlier, especially during dry periods.

M.) Establish adaptive management policies that allow the Corp to make operational changes in response to changing basin conditions and as new scientific, engineering and ecological information becomes available.

Martin, Roger

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N.) Under authority of Section 216 (P.L. 91-611) of River and Harbor Flood Control Act of 1970, investigate modifying the projects and/or operations in the ACF river basin due to the significantly changed physical and economic conditions in the basin in order to improve the quality of the environment for benefit of the overall public interest, not just the Metro Atlanta region.

O.) Currently the USACE manages the system in drought as if all droughts are the same. However, every drought is different. The USACE should use adaptive management practices in responding and managing the system during droughts.

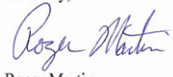
P.) The USACE should study the best way that the floodplain in the Apalachicola River can be inundated for three to six weeks per year consecutively.

Q.) The USACE should study raising the winter flood rule curve for each lake during the wet season. Technology and climate models have advanced since the rules curves were established.

R.) Dissolved Oxygen (DO) levels should be studied for releases from West Point Lake during the summer lake stratification period (May-September). If levels are below state standards, processes should be developed to increase the DO during this period.

Our organization appreciates the opportunity to offer these comments as the USACE continues the development of the new Water Control Manuals for the ACF River System.

Sincerely,



Roger Martin
Executive Director

Martin, et al, Mack

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TROUT UNLIMITED
Georgia Council

January 11, 2013

Steven J. Roemhildt
Colonel, Corps of Engineers
District Commander, USACE, Mobile District
P.O. Box 2288
Mobile, AL 36628

Re: Master Water Control Manual Update, Environmental Impact Statement for the Apalachicola-Chattahoochee-Flint River Basin

Dear Col. Roemhildt:

Thank you for the opportunity to comment on the referenced Environmental Impact Statement during the extended scoping period. This letter is submitted by the Georgia Council of Trout Unlimited and the Metro Atlanta Trout Unlimited Chapters directly affected by Buford Dam Operations. We recognize the numerous and, at times, competing interests resident in the basin. Our comments herein are limited to those significant issues that are related to our mission of conserving, protecting and restoring Georgia's coldwater fisheries and their watersheds. Trout Unlimited's mission is directly related to Buford Dam/Lake Lanier's authorized purposes for Corps-owned projects of water quality, fish and wildlife conservation and recreation delineated in *USACE Scoping Report for the ACF River Basin* dated March 2010, Table 1 on page 9.

Notably, the Chattahoochee River Tailwater is named by Trout Unlimited as one of America's 100 Best Trout Streams. It is home to a robust, naturally reproducing population of wild brown trout, which sits in the backyard of a major metropolitan area with five million plus residents. It is a unique resource that provides economic benefits, recreation and drinking water to the ninth most populous metropolitan area in the country.

Dissolved Oxygen (DO)

GA DNR Environmental Protection Division (EPD) classifies the Chattahoochee River downstream of Buford Dam to the I-285 West bridge as secondary trout water in *GA DNR EPD Rule 391-3-6-.03(15)(b).*

GA DNR EPD Rule 391-3-6-.03(6)(a)(ii) establishes minimum DO water quality standards for trout streams:

> "A daily average of 6.0 mg/L and no less than 5.0 mg/L at all times for waters designated as trout streams by the Wildlife Resources Division. A daily average of 5.0 mg/L and no less than 4.0 mg/L at all times for water supporting warm water species of fish."

USACE Engineer Regulation 1110-2-8154.6.a sets maintaining state water quality standards as policy:

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> "It is national policy that the Federal government, in the design, construction, management, operation, and maintenance of its facilities, shall provide leadership in the nationwide effort to protect and enhance the quality of our air, water, and land resources. Federal facilities shall comply with all Federal, state, interstate, and local requirements in the same manner and extent as other entities. Federal antidegradation policy maintains and protects existing high quality waters where they constitute an outstanding national resource. Where the quality of a water resource supports a diverse, productive, and ecologically sound habitat, those waters will be maintained and protected unless there is compelling evidence that to do so will cause significant national economic and social harm. No degradation is allowed without substantial proof that the integrity of the stream will not diminish. In all cases, the existing instream water uses and the water quality necessary to protect them will be maintained. This national policy is founded on the overall objective established in the Clean Water Act to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The thrust of this policy is to protect all existing and future uses including assimilative capacity, aquatic life, water supply, recreation, industrial use, hydropower, etc. Where uses are degraded, it is the national goal to restore those degraded waters to more productive conditions."

During low/minimum flows from Buford Dam in the fall and early winter months, DO levels have consistently been less than 5.0 mg/l for extended periods, often dropping and remaining below 3.0 mg/l. The exception was 2004 when sluicing was employed during repairs to the #3 turbine. During that time, DO levels exceeded 9.0 mg/l. Reduced DO in trout streams has been associated with decreased fish health and lower angler success. Other aquatic organisms that rely on DO are also negatively affected by low DOs. This impacts the overall health of the river, recreational opportunities and the associated economic benefits that anglers contribute to the local economy.

In a letter dated January 6, 2011, Upper Chattahoochee Chapter of Trout Unlimited (UCCTU), Chattahoochee Riverkeeper (CRK) and Chattahoochee Cold Water Fishery Foundation (CCWFF) expressed concern about low DO levels to USACE Buford Dam requesting that sluicing be evaluated as a method to meet Georgia's DO water quality standards. UCCTU followed up that initial correspondence with a second letter dated August 19, 2011 and a meeting of interested parties on November 17, 2011. Attending that meeting were USACE, GA DNR WRD, National Park Service – Chattahoochee River National Recreation Area (CRNRA), UCCTU, CRK and CCWFF. Due to scoping of the referenced EIS and sluice gate repairs, this issue is unresolved. Some sluice testing during periods of low DO was accomplished recently with positive results.

Since extended periods of low DO are persistent below Buford dam and complying with state water quality standards is a matter of USACE policy, we request that maintaining minimum DO standards for trout water below Buford Dam as established by *GA DNR EPD Rule 391-3-6-.03(6)(a)(ii)* be incorporated into the ACF Master Water Control Manual.

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Temperature

Cold, clean water is essential to maintain a wild trout fishery such as the Chattahoochee River Tailwater. Coldwater releases from Buford Dam and adequate instream flows are particularly important during the warm periods of late spring, summer and early fall to the brown trout fishery.

USACE Scoping Report for the ACF River Basin dated March 2010 states that "Commenters noted that trout fisheries, which are not part of the natural habitat of the ACF River Basin, should not be accommodated by releasing water out of the lake to maintain a specific water temperature." However, the construction of Buford Dam irrevocably and dramatically changed the historic habitat of the Chattahoochee River downstream of Buford Dam. As a matter of policy, through *GA EPD Rule 391-3-6-.03(15)(b)*, Georgia designates and manages the Chattahoochee River Tailwater as a trout fishery. Wild brown trout now naturally reproduce and thrive in that section of the river.

In February 2001, GA DNR WRD proposed upgrading the secondary trout water classification to primary for the Chattahoochee River Tailwater from Buford Dam to GA 400 after documenting that trout were reproducing in that segment. In May 2002, the GA DNR Board authorized GA DNR EPD and WRD to conduct a 3-year study of temperature effects on trout below Buford Dam to develop an appropriate standard that would protect the fishery. Fieldwork began on these studies in 2003 and concluded in 2007. GA DNR EPD and WRD have proposed that the river from Buford Dam to Island Ford Shoals be known as the Upper Chattahoochee Tailwater Trout Stream. This classification and its accompanying temperature criteria would be designated to protect the year round trout fishing from Buford Dam to Island Ford Shoals where coldwater releases from Buford Dam exert their greatest influence. Proposed thermal management of the Upper Chattahoochee Tailwater Trout Stream by GA DNR would be modeled to ensure that water temperature not exceed 22°C maximum or 20°C as a 5-day average more than once in 30 days measured by USGS Gauge 02335450 at Eves Road.

We request that the ACF Master Water Control Manual support GA DNR's thermal management of the Chattahoochee River Tailwater. Volume and duration of releases are not the only variables affecting downstream water temperatures. During periods of elevated air temperatures, releasing in the late evening allows water to flow downstream and avoid solar heating. Extended periods of no releases, thirty six hours or more, during the late spring, summer and early fall allow water temperatures to rise. Timing releases during the warm weather periods is critical to the fishery's health and will become even more important as Metro Atlanta grows, increasing surface water runoff that contributes to thermal pollution of the Tailwater.

Sedimentation

Sedimentation from erosion is a significant issue in the Chattahoochee River Tailwater. While tributaries contribute a considerable amount of sedimentation to the system, accelerated erosion from bank-scouring and sloughing created by fluctuating releases from Buford Dam is a major factor. Bank-sloughing causes sedimentation of trout spawning habitat and widens the river channel. Trout require a gravel substrate for successful spawning. Macroinvertebrates, which are a primary food source for

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trout, also need a rocky or gravely habitat to thrive. As the river widens, it shallows and more large rocks are exposed acting as a heat sink raising water temperatures. Riverside lots are reduced in size from bank-sloughing resulting in lower property values. Important archaeological sites are also threatened by erosion and siltation.

We request that releases from Buford Dam be managed to minimize erosion from bank-sloughing.

Thank you in advance for consideration of our request. You can reach us at:

Mack Martin; (404) 683-0070; mack@mackmartin.com
Kevin McGrath; (404) 668-5835; Conservation@UCCTU.org
Bill Egeland; (678) 910-5008; begeland@mastest.com
Jeff Wilson; (404) 374-0433; jlw_beer@yahoo.com
Tony Kearns; (770) 317-7182; tpmr@bellsouth.net

Regards,

Mack Martin
Chairman
Georgia Council of Trout Unlimited
6105 Paddock Lane
Cumming, GA 30040

Kevin F. McGrath
Past President
Advocacy and Conservation Chairman
Upper Chattahoochee Chapter Trout Unlimited
3391 Windsong Court
Roswell, GA 30075

Jeff Wilson
President
Cohutta Chapter Trout Unlimited
1019 Chatsworth Lane
Woodstock, GA 30189

Bill Egeland
President
Tailwater Chapter Trout Unlimited
501 Wintergreen Way
Canton, GA 30115

Tony Kearns
President
Kanooka Chapter Trout Unlimited
7392 Asbury Drive
Lithonia, GA 30058

cc: Tim Rainey, Operations Project Manager, USACE Buford Dam
Patty Wissinger, Superintendant, Chattahoochee River National Recreation Area
Dan Forster, Director, GA DNR Wildlife Resources Division
Judson Turner, Director, GA DNR Environmental Protection Division
Steve Moyer, Vice President for Government Affairs, Trout Unlimited

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Matheny, Anthony

Page 1 of 1

From: Tony Matheny <t_matheny@hotmail.com>
Sent: Thursday, November 01, 2012 1:04 PM
To: ACF-WCM
Subject: West Point Lake

Sirs,

I have one statement and two questions about the lake levels at West Point Lake in Troup County GA.

Q1: What did the species that are endangered now do before the lake was impounded in 1974 when they only had a river running to the Gulf of Mexico at a much lesser rate of flow than now?

Q2: Where are the supposed economic benefits to Troup County, (with lake levels so low 2/3rds of the year) to replace the property taxes lost with the impounding of the lake?
(Note:)Troup County was promised economic benefits from the lake (visitors/events, etc.) to offset the lost property taxes being paid at the current time of the lake impoundment

I live on West Point Lake in north Troup County. For the majority of the year we are not able to even use our docks because of the low lake levels. We have thousands of dollars tied up in docks that sit on the ground. There are 3 usable months during the year (June-Aug) if we have rain. There have been national and local events cancelled here because of the low and dangerous levels of the lake. West Point Lake has ruined Troup County economically because of LOST PROPERTY TAX BASE. The lack of this revenue has driven Troup to be one of the poorest counties in the state of Georgia.

Please consider keeping the lake at higher levels, when we have rain above the dam let more water out, and when we have no rain CLOSE THE GATES to a minimum release. Sometimes the area south of the dam has rain plus the release of the water from the dam and we are left with no rain AND a dry lake.

Respectfully,
Anthony Matheny
405 Canterbury Dr
LaGrange GA 30241

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Mayfield, Matthew

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11/28/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

1) **There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!**

2) **WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.**

3) **In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.**

Mayfield, Matthew

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2.

4) The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.

5) Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.

6) USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Matthew J. Mayfield

225 Linda Lane
LaGrange, GA, 30241
(706) 302-8070

Mayfield, Jr., Robert

Page 1 of 2

11/28/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

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3) In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.

Mayfield, Jr., Robert

Page 2 of 2

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Robert H. Mayfield Sr.

225 Linda Lane
La Grange, GA, 30240
(706) 884-5236

McBride, Mike

Page 1 of 2

From: MJohnMcbride@aol.com
Sent: Tuesday, November 06, 2012 11:45 AM
To: ACF-WCM
Subject: scoping input
Attachments: corps letter.doc

Attached is my input.

Mike McBride
706-416-5666

McBride, Mike

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11/6/12

To Whom It May Concern:

This letter is in response to the U.S. Corps of Engineers reopening of the "scoping" process for comments on the water control plan. In the past, I have written letters to the editor of the LaGrange Daily News critical of the Corps' management of the West Point Lake water levels. Initially, I thought, what is the use in writing something else only to have it be the victim of the delete button? On reflection, however, I decided I would be remiss if I didn't at least try one more time. I hope others do the same.

One of the main reasons I moved here a few years ago was to take advantage of living on the lake. To this end, I bought a lot, built an expensive house, got the dock permit, put in a dock, bought a boat, and pay high property taxes. Needless to say, I've had a positive economic impact on the area. If I had known then how the Corps would manage the lake levels, I would have never moved here. Furthermore, now, I would certainly not recommend others moving here; you tourist, go some place else.

While the Corps has managed the wooded shore line and recreational facilities in an exemplary manner, their handling of the water itself is abysmal at best. It appears the more water in, even more water out. Observing this past weekend's fishing tournament was depressing with the participants crowded into what is left of the lake. In fact, the greatly expanded shoreline with docks high and dry looked like a skeleton of something dying or maybe already dead.

What is at stake here, however, is not just aesthetics, but the economic viability of the community. Let's face it, the empty textile mills that dot the area are a thing of the past while the lake provides current and future positive economic potential. I have yet to speak with anyone in the community from those running restaurants, marinas, boat and fishing related businesses, and just my neighbors and friends who don't understand this. So why doesn't the Corps?

A few months ago, a spokesman for the Corps stated "he got it," in response to the criticism received from the community. Unfortunately, I believe the Corps does "get it" but doesn't care and will continue to follow their outdated procedures. Having worked for the Federal government for 35 years I understand it's a lot easier and safer to just do the same old thing. After all, it's just a job to them, not their life.

Admittedly, over the past few years there have been drought conditions, but it appears those of us around West Point Lake are taking the brunt of the situation. Shouldn't there be some shared suffering? How really endangered are those Florida species? Just what are the possibilities of West Point being flooded, especially with the 21st century weather forecasting and water gauges now in place?

I can only hope and pray the Corps will listen to citizens such as me, the West Point Lake Coalition, and our community leaders as the Corps rewrites the water control manuals. Hopefully, we can all work together as opposed to becoming adversarial, but I'm afraid the latter path is what we're now going down.

Mike McBride
West Point Lake

McBride, Mike

Page 1 of 3

From: MJohnMcbride@aol.com
Sent: Saturday, December 22, 2012 11:53 AM
To: ACF-WCM
Subject: Scoping comment
Attachments: corp letter 12-22-12.doc

Here is an additional letter for your consideration.

Mike McBride
706-884-0483

1

McBride, Mike

Page 2 of 3

12/22/12

To the U.S. Army Corps of Engineers:

In early November I wrote a letter for consideration during the scoping process. It involved the negative economic impact your management, or in my opinion mismanagement, of the West Point Lake levels. Even though you have extended the scoping, I was not going to have any additional input until this new "guide curve" issue surfaced. The situation with the lake couldn't have gotten any worse I thought, but you did it. Suddenly the marbles in my head started bouncing around.

I realize the Corps has to serve a wide area and has many balls to juggle. From what I understand, the biggest ball is FLOOD CONTROL. It is obvious you have either disregarded or ignored the vast amount of information provided to you from the last scoping process in 2009 including an extensive report by the West Point Coalition. Let's face it, over the past few years, even if Noah was building an ark along the now extended banks and it rained for forty days and nights, there still would be no danger of flooding. In addition, since you last wrote your operational manuals, they have come up with things like water flow gauges, weather satellites, and even a TV channel that will let you know when, where, and how much water you're going to get.

HYDROELECTRIC POWER is another ball. Is it necessary to be generating regularly when we're in this severe drought as you constantly point out? Is electricity now the major reason for the lake? If that's so, then why do lakes run by Georgia Power routinely have higher and more constant and useable levels? Please advise me, "it isn't so," that private enterprise can run an operation more efficiently than a federal agency.

NAVIGATION: the Chattahoochee is not the Mississippi. Even so, it appears from what I've observed, the water is rushing down stream past the dam is just fine. In fact, it's so good, the Columbus area is now touting water rafting and kayaking. Of course north of the dam you've created a very formidable obstacle course. Can you now hear my marbles bouncing around?

As to the SPORTS FISHING AND WILDLIFE DEVELOPMENT ball, you've been very efficient, in a negative way. This spring you dropped the levels and ruined the spawning season. Further do our native bass, crappie, and mussels do better in such confined areas? Wait, who cares, they're not endangered species – yet. Of course you had to consider those endangered species in Florida, you know the ones they harvest and eat. Have you bothered to contact your Corps personnel there about how much water they've had?

So finally that leaves GENERAL RECREATION. Your own literature describes the lake as "a recreation demonstration project," and "recreation (being) a prime benefit". The reality is the lake's recreational use has been severely curtailed by you in the past few years. In a 10/30/12 press release you advised "use caution due to unusually low water levels." Duh! Those of us who live along and try to use the lake knew that back in May. Last year any safe recreation was over by July. Come to think about it, maybe your new proposed guide curve might be an improvement; that is if you really kept the levels up. Your track record however, shows that's not going to happen. Always looking at the glass as half full however, if the Bassmaster Tournament is canceled, maybe it could be replaced with the first ever "Snag a Stump Event."

McBride, Mike

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So here I sit at the end of my dock pondering the above and trying to get a glimpse of the water. I realize you have all the facts and figures and that's what troubles me even more. What is your true agenda? It certainly can't include SPORTS FISHING, WILDLIFE, and RECREATION as you have proven by your actions. If you've truly taken these two balls out of play then why not just admit it? Let us together let Congress know you failed in the "recreation demonstration project." Maybe they could have some Congressional hearings about it to insure the tax payers are not let down and misled in the future.

Please enlighten me and make these marbles stop bouncing.

Mike McBride
West Point Lake

McCurdy, Ralph

Page 1 of 2

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

1) There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! Increased Storage + Better Management = Reduced Risk of Flooding and Increased Economic Development and Economic Impacts!

2) WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.

3) In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.

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4) The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never

McCurdy, Ralph

Page 2 of 2

been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.

5) Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.

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We thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period. We look forward to a Revised WCM which will honor the WPL Congressional Authorizations and provide for the economic benefits envisioned by Congress and promised to the taxpayers!

Sincerely,

Ralph McCurdy
908 S. Willowmist Way
LaGrange, GA 30240

McDaniel, Shane

Page 1 of 2

1/13/13

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

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McDaniel, Shane

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Shane McDaniel

McGee, Jeremy

Page 1 of 2

12/9/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

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McGee, Jeremy

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Sincerely, Jeremy McGee

McGowan, O.W.

Page 1 of 3

November 14, 2012

Tetra Tech
Attention: ACF-ACM
61 St. Joseph Street, Ste 550
Mobile, AL 36602-3521

Re: Scoping Comments for ACF Water Control Manual

To Whom It May Concern:

I am a citizen of Troup County, Ga, and have been a member of the West Point Lake Coalition for over ten years. I am writing to express my extreme disgust at the total lack of progress during those years in maintaining West Point Lake at a reasonable minimum level, to maximize the favorable impact of this tremendous asset for Troup County and the whole river basin.

It has been proved several times during periods of extreme rainfall that the lake can be maintained at 632' MSL, OR MORE, without jeopardizing downstream needs and concerns. It grieves me no end to know that my favorite event on the lake - the 13th annual Poker Run for Boats - was cancelled due to unpredictability of adequate lake level for safely holding the event. Not only was this a tremendous advertisement for the lake, but also the major fund raiser for obtaining funds to do the great work I've seen the Coalition do on behalf of the lake and the community.

It seems to me that most of the people assigned to manage the lake come in, spend their 2 or 3 year assignment, then move on, without giving a **crap** about what they are doing to the stake holders; by refusing to modify the rules, based on proven data, that would allow keeping the lake at a more usable minimum. Then maybe multiple residents around the lake wouldn't see their boats sitting in the mud much of the year.

I am attaching a copy of a letter written recently by the Executive Director of the West Point Lake Coalition, giving significantly more information for consideration. I thank you for the opportunity to comment, and look forward to some progress in correcting a dismal situation here is Troup County

Sincerely,

O. W. McGowan
310 Lane Circle
LaGrange, Ga 30240

McGowan, O.W.

Page 2 of 3

November 7, 2012

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

On behalf of the West Point Lake Coalition, its 1,000+ members, and its Corporate Sponsors, I submit the following comments in the recently reopened public scoping period:

1) **There is a definitive need for <u>additional storage</u> in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! Increased Storage + Better Management = Reduced Risk of Flooding and Increased Economic Development and Economic Impacts!**

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McGowan, O.W.

Page 3 of 3

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We thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period. We look forward to a Revised WCM which will honor the WPL Congressional Authorizations and provide for the economic benefits envisioned by Congress and promised to the taxpayers!

Sincerely,

McGrew, John

Page 1 of 1

10/13/2012

COMMENTER: John McGrew
1848 So. Chestatee Street
Suite 104
Dahlonega, GA 30533

ORGANIZATION: Georgia Reservoir Company, LLC

COMMENTS: Water management

McIntyre, Lynn

Page 1 of 1

12/17/2012

COMMENTER: Lynn McIntyre
9135 Willeo Road
Roswell, GA 30075

ORGANIZATION: Chattahoochee Nature Center

COMMENTS: I'm looking forward to seeing all comments about the recreational aspects of the waterway and the impacts of water releases on safety in the Chattahoochee River area.

McLeod, Bob

Page 1 of 1

1/14/2013

COMMENTER: Bob McLeod
27 Toto Creek Dr
Dawsonville, GA 30534

ORGANIZATION:

COMMENTS: - The 5,000 cfs minimum flow required at the state line is not representative of the true lowest historical flows in the ACF and is not sustainable.

- Lanier was never designed to support ALL downstream demands and can't be expected to because the dams originally proposed on the Flint River were never built.

- The Corps' current operating rules require more water to be released from Lanier than is necessary and do not allow as much to be stored as is possible. These draw the lake down more than necessary and make it less likely to refill to full pool under contemporary climatic conditions.

- The Endangered Species Act does not require the Corps to augment Apalachicola River flows above run-of-river levels and the practice should not be required because it depletes Lanier unnecessarily.

- Regular navigation is no longer feasible on the ACF and the Corps should not try to support it in view of the other demands on Lanier as a resource of last resort.

McManus, William

1/14/2013

COMMENTER: WILLIAM Mc Manus
5775 lakeshore drive
buford, GA 30518

ORGANIZATION:

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Raise the lanier level nto 1073ft

McMellen Brannigan, Angela

1/13/2013

COMMENTER: Angela McMellen Brannigan
2057 Southern Star Loop
Las Cruces, NM 88011

ORGANIZATION:

COMMENTS: During the years I lived in Georgia completing a Ph.D. in Wildlife Ecology at the University of Georgia, I traveled to the Apalachicola area multiple times. Like many visitors to Apalachicola, I fell in love with the river and bay at first sight. The Army Corps of Engineers seemingly deliberate failure to protect the unique and remarkable ecosystem in the Apalachicola area is a slap in the face to all the visitors and residents of this area.
I urge the Corps to include the following within the scope of its revised ACF Master Water Control Management Plan EIS:

1) A quantitative assessment of the downstream flows needed to sustain Apalachicola River and Bay ecosystems in an ecologically healthy condition;

2) Increased water releases from Woodruff Dam of appropriate timing and duration to sustain Apalachicola River and Bay ecosystems, in accordance with this assessment; and

3) Development of an ACF basin-wide sustainable water management plan which protects the ecological integrity of Apalachicola River and Bay, and equitably distributes ACF basin water resources.

The "Last Great Bay" is dying of thirst! This remarkably pristine and productive estuarine ecosystem displays signs of mounting ecological stress due to lack of sufficient freshwater input. Both scientists and lifelong oystermen/women have reported a noticeable increase in abundance of marine predators in the bay resulting from increased salinity, as well as increasing prevalence of a devastating oyster disease (Dermo).

In addition to oysters, crabs, shrimp, finfish, and other aquatic species, oyster die-off likely will contribute to a long-term decline in populations of a state-listed shorebird species, the American Oystercatcher (FL-threatened). As its name suggests, this species relies heavily on oysters as a food source, and uses exposed bars as places to rest, preen, and escape disturbance -- some even nest on the bars! Many other shorebird species also rely on oyster bars in similar ways. If Apalachicola Bay's oysters continue to die off, multiple species of shorebirds whose populations are already in decline will lose critically important foraging, roosting, and breeding habitats.

Productivity of the bay also is no doubt being adversely affected by a lack of nutrient input from the backswamps upriver because, in the absence of sufficient mainstem flows, these areas have not experienced in several years their typical winter flood cycle. Thus, nutrients produced in the remarkably large and intact bottomland hardwood forests which buffer the Apalachicola River are not being transported to the Bay. In addition, backswamp tree species such as water tupelo, which need "wet feet" for a portion of the year, are clearly experiencing ecological stress longtime observers say they're dying -- as a result of this lack of seasonal flooding.

McMellen Brannigan, Angela

Page 2 of 2

The Corps' current water management policies for this basin are rapidly driving Apalachicola River and Bay ecosystems to a tipping point: these ecosystems can still be saved and returned to functional integrity, but the time to act is now! Otherwise, it will be too late.
Is the Corps really willing to continue threatening the ecological integrity of the Last Great Bay, and the economic health of local communities and their residents who love and rely upon our river and bay?

Humans upstream can reduce their water use. Apalachicola River and Bay ecosystems can't. It's as simple as that.

Thank you for considering my comments.

Angela McMellen Brannigan, Ph.D.
Wildlife Ecologist

Meacham, Heather

Page 1 of 2

1/13/13

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

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Meacham, Heather

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I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Heather Meacham

Miller, Willie

Page 1 of 1

11/9/2012

COMMENTER: Willie Miller
138 Caney Ck. Ct.
Lagrange, GA 30240

ORGANIZATION:

COMMENTS: My ubderstanding is that James Hathorne, Warer mgr. in Mobile, has not had any complaints about the water level on West Point Lake.....I am officially complaining. We have had adequate rain this year, but you startred dropping it in July, knowing Oct. is historically this regions driest month. We have to pay exhorbitant tazxes in this county, and tgey go up every year.....then we have to put up with unneccessary drawdown from you , on top of all this. Most of the people that live on this lake are retired, they fish off their docks.....some of them because physically they can't do otherwise. You have, over the last 5 yrs. in particular, have taken that away from them.....but yet our taxes are steady and increasing. It's like watching our tax dollars leave our dam. My neighbor recently cam back from the Seafood Festival in Appilachicola Fl, and the " local" people are complaining about too much fresh water for the oysters, yet Mr. Hathorn recently said the Appilachicola Bay commision is complaining aboyut not enough water...something " stinks" here besides the dead and dieing mussles on W. Pt. Lake. I hope you people can sleep at night./ Yours Truly.....Willie Miller

Mitchell, Kristina

Page 1 of 2

1/13/2013

COMMENTER: Kristina Mitchell
805 North 310 East
Tooele, UT 84074

ORGANIZATION:

COMMENTS: Hello,

I urge the Corps to include the following within the scope of its revised ACF Master Water Control Management Plan EIS:

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The "Last Great Bay" is dying of thirst! This remarkably pristine and productive estuarine ecosystem displays signs of mounting ecological stress due to lack of sufficient freshwater input. Both scientists and lifelong oystermen/women have reported a noticeable increase in abundance of marine predators in the bay resulting from increased salinity, as well as increasing prevalence of a devastating oyster disease (Dermo).

It's quite clear that our previously thriving oyster populations have declined as a result, threatening to topple the entire bay ecosystem by reducing the number of filter-feeders. We've seen this happen in the Chesapeake Bay -- please don't let Apalachicola Bay go the same way.

In addition to oysters, crabs, shrimp, finfish, and other aquatic species, oyster die-off likely will contribute to a long-term decline in populations of a state-listed shorebird species, the American Oystercatcher (FL-threatened). As its name suggests, this species relies heavily on oysters as a food source, and uses exposed bars as places to rest, preen, and escape disturbance -- some even nest on the bars! Many other shorebird species also rely on oyster bars in similar ways. If Apalachicola Bay's oysters continue to die off, multiple species of shorebirds whose populations are already in decline will lose critically important foraging, roosting, and breeding habitats.

And what about the federally-listed (ESA) mussel species found in this area? It seems they're simply being ignored in the Corps' water management decisions. What's happened to Section 7 here is no less than shameful.

Productivity of the bay also is no doubt being adversely affected by a lack of nutrient input from the backswamps upriver because, in the absence of sufficient mainstem flows, these areas have not

Mitchell, Kristina

Page 2 of 2

experienced in several years their typical winter flood cycle. Thus, nutrients produced in the remarkably large and intact bottomland hardwood forests which buffer the Apalachicola River are not being transported to the Bay. In addition, backswamp tree species such as water tupelo, which need "wet feet" for a portion of the year, are clearly experiencing ecological stress longtime observers say they're dying -- as a result of this lack of seasonal flooding.

The Corps' current water management policies for this basin are rapidly driving Apalachicola River and Bay ecosystems to a tipping point: these ecosystems can still be saved and returned to functional integrity, but the time to act is now! Otherwise, it will be too late.

Without increased freshwater flows, I predict they'll enter a state of irreversible decline like America's other great bays (most notably, the Chesapeake, with which I'm quite familliar). And then we'll spend tens of millions of taxpayer dollars pretending to "save" another bay, when in reality it will no longer be ecologically feasible.

Destruction of Apalachicola River and Bay ecosystems, in turn, will destroy the economy of my county (Franklin Co., FL) and its various municipalities including Apalachicola, Eastpoint, and St. George Island. Our county's economy relies heavily on the seafood industry and tourism (charter fishing, ecotourism, maritime heritage tourism, etc.) associated with our awe-inspiring river and bay. If we lose our world-famous oysters, our hospitality industry will collapse as well.

Also threatened is production of our world-famous tupelo honey, produced by local beekeepers who deliver their hives to the backswamps while the water tupelos are in bloom. Unhealthy tupelos mean less tupelo honey; dead tupelos mean no tupelo honey.

We don't have any large corporations here. All the businesses I mention above are true small businesses, mostly family-owned. Our watermen/women and honey producers learned their trades from their parents, grandparents, and great-grandparents. We produce marketable goods like oysters and honey in truly sustainable ways -- the way they used to do it "back in the day."

Is the Corps really willing to continue threatening the ecological integrity of the Last Great Bay, and the economic health of local communities and their residents who love and rely upon our river and bay?

Humans upstream can reduce their water use. Apalachicola River and Bay ecosystems can't. It's as simple as that.

Thank you for considering my comments.

Kristina L. Mitchell
Wildlife Biologist and huge admirer of the Apalachicola River and Bay areas
Boise State University

Mitchell, Mark

Page 1 of 1

From: Mark Mitchell <mmitchell@gsp.net>
Sent: Tuesday, November 20, 2012 12:20 PM
To: ACF-WCM
Subject: Lake West Point Water Levels

Dear Army Corps of Engineers,

I wish to document the extremely low water levels in LaGrange, Georgia at Lake West Point are of great concern to local residents and myself. We deserve better management of this reservoir then your agency has given us. When we see other lakes in our area that are managed by power companies maintain full pools during the same time periods, it just defies logic!

I urge you to request whatever changes in federal law you need to correct this problem. Common sense tells us, you can't release more water from the lake than comes into the lake but for so long!

Respectfully,

Mark J. Mitchell
LaGrange, GA 30240
mmitchell@gsp.net

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Moore, Brad

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1/3/2013

COMMENTER: Brad Moore
1925 Powell Trail
Abbeville, AL 36310

ORGANIZATION: Indian Hills Neighborhood Association

COMMENTS: January 3, 2013

Mobile District
U.S. Army Corps of Engineers
107 Saint Francis Street, Suite 1403 Mobile, Alabama 36602-9986

Re: Scoping Comments for Revisions of the Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin

Dear Colonel Roemhildt:

This letter provides the comments of Indian Hills Neighborhood Association (IHNA) regarding the scoping process of the Corps of Engineers (Corps) to update its water control manual for the Apalachicola-Chattahoochee-Flint (ACF) River System. Thank you for the opportunity to comment and your consideration of IHNA's views.

IHNA's Interest in the ACF River Basin
IHNA represents of 24 homeowners that reside around Walter F. George lake (Lake Eufaula).

The Corps Must Acknowledge and Address the Needs of the Middle Portions of the ACF River System.

Congress authorized and instructed the Corps to build and operate the ACF reservoirs substantially for the benefit of those located in between those two ends of the ACF River System. For example Congress authorized the three storage reservoirs primarily for navigation support and hydropower production below the fall line. As the Corps develops revisions to its ACF water control manual, it must ensure its operations serve the communities and businesses of the ACF River System's middle regions.

Desired Lake Level
Water shortages in North Georgia and endangered species in the Apalachicola River have dominated the public discourse on ACF operations in the past few years due to the drought in the Southeast. IHNA recognizes that the persistent drought has necessitated lowering reservoir levels to fulfill minimum flow requirements; however, we do wish to specify our desire for maintaining Walter F. George lake at a level of 187 ft or greater. When lake level is below 187 ft then recreational activities on the lake are curtailed. Submerged stumps become uncovered at levels below 187 ft and present safety hazards to boaters. Walter F. George has the second highest amount of recreational activity on the ACF and this is an important driver in the local communities's economies. In addition, from a geology and soils aspect a lower lake level results in greater wave generated undercutting of the bank.

Moore, Brad

Page 2 of 2

Thank you again for this opportunity to comment. Please feel free to contact me at (334) 616-7888 if you have any questions.

Sincerely,

Brad Moore
President IHNA

Moore, Brad

Page 1 of 4

From: Brad Moore <bmooreless@gosuto.com>
Sent: Thursday, January 03, 2013 12:35 PM
To: ACF-WCM
Subject: Public Comments on ACF WCM Revision
Attachments: FOLE_comments_USACE_WCM_EIS_11.5.pdf; ATT00002.htm

Dear Sirs, In that I could not be assured that my comments were submitted electronically on the USACE web site I am enclosing comments from Friends of Lake Eufaula per the attached letter below.
Thank you for the opportunity to comment.

Brad Moore
President FOLE
PO Box 142
Eufaula, Al 36072

334-161-7888

1

Moore, Brad

Page 2 of 4

January 3, 2013

Mobile District
U.S. Army Corps of Engineers
107 Saint Francis Street, Suite 1403
Mobile, Alabama 36602-9986

Re: **Scoping Comments for Revisions of the Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin**

Dear Colonel Roemhildt:

This letter provides the comments of Friends of Lake Eufaula (FOLE) regarding the scoping process of the Corps of Engineers ("Corps") to update its water control manual for the Apalachicola-Chattahoochee-Flint ("ACF") River System. Thank you for the opportunity to comment and your consideration of FOLE's views.

FOLE's Interest in the ACF River Basin

FOLE represents over 200 homeowners, businesses and local governments that reside around Walter F. George lake (Lake Eufaula). FOLE's charter is to protect and promote the lake. In protecting the lake we have sponsored numerous lake clean up efforts and worked with the Corps to re-establish indigenous aquatic vegetation. One of our key promotional efforts is establishing the Chattahoochee River and the lake as a scenic river trail.

The Corps Must Acknowledge and Address the Needs of the Middle Portions of the ACF River System.

Congress authorized and instructed the Corps to build and operate the ACF reservoirs substantially for the benefit of those located in between those two ends of the ACF River System. For example Congress authorized the three storage reservoirs primarily for navigation support and hydropower production below the fall line. As the Corps develops revisions to its ACF water control manual, it must ensure its operations

Moore, Brad

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serve the communities and businesses of the ACF River System's middle regions.

Communities in the Lower Portions of the Basin Depend on the Corps' Provision of Adequate Flows and Lake Levels.

Communities and businesses located and grew around Lake Eufaula with the full expectation that the Corps would operate the ACF reservoirs according to the laws authorizing their construction and operation. Those communities spent significant dollars to build public works projects as well as infrastructure including the Eufaula Inland Dock. Those facilities made it possible for local communities to sell and ship agricultural, silvicultural and mineral products in bulk and to receive large deliveries of fuels and fertilizers by barge.

Not only have these communities and businesses acted and invested in reliance on the Corps' lawful operation of the ACF reservoirs in the past, but they are counting on adequate flows and lake levels for their future survival. Industry and commerce will continue to grow in southeastern Alabama and southwestern Georgia with adequate flows and channel maintenance.

Desired Lake Level

Water shortages in North Georgia and endangered species in the Apalachicola River have dominated the public discourse on ACF operations in the past few years due to the drought in the Southeast. FOLE recognizes that the persistent drought has necessitated lowering reservoir levels to fulfill minimum flow requirements; however, we do wish to specify our desire for maintaining Walter F. George lake at a level of 187 ft or greater. When lake level is below 187 ft then recreational activities on the lake are curtailed. Submerged stumps become uncovered at levels below 187 ft and present safety hazards to boaters. Walter F. George has the second highest amount of recreational activity on the ACF and this is an important driver in the local communities's economies. In addition, from a geology and soils aspect

Moore, Brad

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a lower lake level results in greater wave generated undercutting of the bank.

Hydrologic Model Runs

FOLE does not have the resources to perform detailed hydrologic model runs to evaluate various operational alternatives. We do wish to state our desire for the Corps to make their various model run results available to the public. This could allow public involvement in helping evaluate the alternative scenarios and ensure all stakeholder interests are represented. We recognize that the Corps must make the final decision on the best alternative; however, the insights gained from the model runs would be very much appreciated by FOLE.

Thank you again for this opportunity to comment. Please feel free to contact me at (334) 616-7888 if you have any questions.

Sincerely,

Brad Moore

Brad Moore

President FOLE

Moran, Chris

Page 1 of 1

1/14/2013

COMMENTER: chris moran
1918 Vineland Lane
Tallahassee, FL 32317

ORGANIZATION:

COMMENTS: lake Seminole does not seem to be suffering a drought situation at all, yet the apalachicola river is at aLL time lows. The river is suffering way more than almost all upsteam users. More water has got to be released. OPEN UP THE DAM! The river and the backwoods around the river need water desperatly.

Morgan, Ashley

Page 1 of 2

11/28/12

Tetra Tech
Attention: ACF-WCM
61 St. Joseph Street
Suite 550
Mobile, AL 36602-3521

Scoping Comments for ACF Water Control Manual

I submit the following comments in the recently reopened public scoping period:

1) **There is a definitive need for additional storage in the ACF Basin; and that storage is readily and safely available in West Point Lake. Recent studies submitted to the USACE demonstrate that West Point Lake (WPL) can be maintained at a minimum 632.5 MSL year round; and if managed differently, the risk of downstream flooding during major rain events can actually be reduced! The trifecta is there to be won: Increased storage + Better management = Reduced flooding!**

2) **WPL is specifically authorized by Congress for Recreation and Sport Fishing/Wildlife Development in addition to Flood Control, Navigation, and Hydropower. Flood Control can be improved as outlined in the Operations Study referred to in #1 above and which study has been previously submitted to the USACE. Hydropower and Navigation both benefit from the availability of increased storage. The USACE must deliver and honor the Recreation and Sport Fishing/Wildlife Development Authorizations stipulated under law by Congress.**

3) **In order to accomplish #1 and #2 above, the Rule Curve needs to be adjusted upward to a minimum 632.5 MSL and the Action Zones need to be modified upward as well to a minimum 630.0 at the bottom of Action Zone 4. The parameters of 632.5 and 630.0 MSL are significant because they represent the initial and second recreation impact levels respectively as defined by the USACE.**

Morgan, Ashley

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2.

4) **The economic damages to the WPL communities and the lack of economic development due to unnecessarily low and undependable lake levels need to be assessed and stopped. Small businesses have gone bankrupt and others have been stretched to keep their doors open. Major fishing tournaments have been cancelled damaging hotels, restaurants, marinas, and lake related businesses. Visitation is down and campgrounds have been closed. Land specifically set aside for a hotel, conference center, golf course, etc. has never been developed. We are blessed with a moderate climate and WPL should be managed as a 52 week a year lake with the corresponding benefit of a 52 week a year lake related economy! WPL needs a dependable and reliable lake level to provide for economic development and stop the economic harm.**

5) **Environmental harm to WPL needs to be documented. Due to wildly vacillating lake levels, the fish spawn has suffered significantly in 3 of the last 5 years and the quality of the fishery, specifically the bass and crappie, has declined. Thousands, if not hundreds of thousands of mussels have been killed threatening water quality; erosion has increased the cost of water treatment; and siltation continues to eliminate valuable storage.**

6) **USFWS needs to be challenged to provide their science and document the need for 5,000 cfs for endangered species. Why 5,000 cfs? Why not 2,000 cfs? How many of each endangered species are there? Do they exist in deeper water than previously thought? What is the Recovery Plan? Are they still endangered, threatened, or neither? Can they be relocated to other areas where water is more plentiful and the economic damages are less. Who is looking out for the welfare of the small businessman? Common sense would seem to dictate that the needs of man should be balanced with the needs of the critters. The RIOP needs close analysis as part of the EIS to see what changes can be made to avoid destroying the economic, environmental, and recreational value of WPL during all times other than "extreme" drought!**

I thank you for the opportunity to comment and ask that the above issues be submitted and studied during the EIS period.

Sincerely,

Ashley Morgan
225 Linda Lane
LaGrange, GA, 30240
(706) 884-5236

Morrison, Bill

Page 1 of 1

Bill Morrison, O.D.

Gainesville Vision Clinic

Specializing in family eye care for over three generations

Dr. Bill Morrison
Optometrist

Board certified: Diagnostic & therapeutic pharmaceutical agents

Treatment of anterior eye diseases

Member: American Optometric Association

Georgia Optometric Association

Northeast Georgia Optometric Association

Georgia State Board of Examiners in Optometry

Gainesville Hall County Chamber of Commerce

Speaker & lecturer locally and statewide

- Comprehensive & unhurried eye health examinations
- Glaucoma & cataract testing
- Experienced treatment of eye infections & allergies
- Foreign object removal
- Prescription eyeglasses & hard-to-fit contact lenses
- Post-op cataract care
- Laser Vision Correction Pre & Post OP Care
- Over 1000 designer frames for adults & children
- One-hour service on most contacts & eye wear
- On-site optical lab
- Over 8000 contact lenses in stock
- Disposable, extended wear, bifocal & astigmatic contact lenses
- Contacts that change your eye color
- No-line bifocals
- Tints, UV filters, anti-scratch & anti-reflective coating
- 24-Hour emergency care

October 16, 2012

Tetra Tech
Attention: AGF-WCM
61 St. Joseph Street
Suite 550
Mobile, Alabama 36602-3521

Dear US Army Corps of Engineers

RE: Lake Lanier Management

I have lived on Lake Lanier since 1982 and have watched the lake levels fluctuate up and down for 30 years. It is sad to say that the current management of the lake level is causing irreparable damage to the lake and horrible erosion problems. Top soil and run off debris is filling up the lake. Damage is being done to wildlife and personal and public property – parks, boat docks, boats, marinas, etc. To me the level shouldn't fluctuate more than 2-3 feet yearly. There was no Buford Dam and Lake Lanier 50 years ago and yet somehow the fresh water mussels and barges downstream in Georgia, Florida, and Alabama survived. There is no reason they can't survive now with proper minimal water withdrawals.

Respectfully submitted,

Bill Morrison

Bill Morrison

1201 Sherwood Park Drive, N.E. • Gainesville, GA 30501 • (770) 536-3231

Mueller, Heinz

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

January 14, 2013

Planning and Environmental Division
Environment and Resources Branch
U.S. Army Corps of Engineers, Mobile District
P.O. Box 2288, Mobile, AL 36628–0001;
Attention: Mr. Brian Zettle, Biologist

Subject: EPA Scoping Comments on the Notice of Intent for the Water Control Manual Update and the Environmental Impact Statement (EIS) for the Apalachicola-Chattahoochee-Flint River (ACF) Basin. Alabama, Florida and Georgia

Dear Mr. Zettle:

Pursuant to Section 309 of the Clean Air Act (CAA) and Section 102(2)(C) of the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) has reviewed the Notice of Intent for the proposed project and the previous scoping report. EPA previously provided scoping comments on December 8, 2008, and participated in two public scoping meetings held on October 22, 2008, and October 23, 2008, respectively. Subsequent to that scoping process, the Water Control Manual Update (WCM) and the Environmental Impact Statement (EIS) was put on hold so the U.S. Court of Appeals could hear the appeal of the District Court's decision concerning the allowable uses of Lake Lanier's water. As a result of the June 2011 ruling by the U.S. Court of Appeals for the 11th Circuit regarding the U.S. Army Corps of Engineers' (USACE) authority to accommodate municipal and industrial water supply from the Buford Dam/Lake Lanier project, the Mobile District of the Corps is revisiting the scoping process. This scoping letter is intended to supplement our previous scoping comments on the proposed project.

EPA understands that the USACE intends to update and revise the WCM for the Apalachicola-Chattahoochee-Flint (ACF) River Basin in order to improve operations for authorized purposes to reflect conditions that have changed since the current Manual was completed in 1958, and before many of the reservoir projects in the system were completed. Since then, reservoir regulation manuals for the projects that were constructed following the Manual's completion were attached, including the West Point Dam, Walter F. George Lock and Dam, and George W. Andrews Lock and Dam. Some reservoir manuals were updated, but the master WCM was not comprehensively updated. In conjunction with the updates to the WCM, an Environmental Impact Statement (EIS) will be prepared.

An updated Master WCM that includes water control plans for all the projects in the ACF River Basin is required. The ACF Basin provides water resources for multiple purposes and encompasses an area of approximately 19,600 square miles. There are 16 major dams and

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reservoirs (five federal and 11 non-federal) located in the basin. The federal projects owned and operated by the Corps include Buford Dam and Lake Lanier, West Point Dam and Lake, Walter F. George Dam and Lake, George W. Andrews Dam and Lake located on the Chattahoochee River; and Jim Woodruff Dam and Lake Seminole located on the Apalachicola River at the confluence of the Chattahoochee and Flint Rivers.

The authorized project purposes at the Corps reservoirs may include flood control, hydropower, navigation, water supply, water quality, fish and wildlife conservation, and recreation. Other non-Federal reservoirs located on the Chattahoochee River and Flint River include power projects owned and operated by the Georgia Power Company and Crisp County, Georgia. Operations between the Georgia Power and Crisp County projects, and the federal projects are coordinated as necessary to meet downstream water quality and quantity, as well as water supply demands. In 1989, a draft master manual for the ACF basin was proposed which described operations current at that time. Since that time Corps operations have continued to conform with the operations described in the 1989 draft manual and other more recently updated water control manuals for the various federal projects. The new manual will eventually replace any current manuals and will address the basin-wide management of those water resources. The revised EIS will consider, along with operations for all authorized purposes, an expanded range of water supply alternatives associated with the Buford Dam/Lake Lanier project, including current levels of water supply withdrawals and additional amounts that Georgia has requested from Lake Lanier and downstream at Atlanta.

EPA's scoping comments relate primarily to the potential water resource impacts, biological resource and socioeconomic/EJ impacts associated with the proposed action. In summary, EPA recommends that consideration be given to maximizing the use of existing infrastructure in the ACF basin in an effort to minimize aquatic resource impacts including impacts to wetlands and streams within the basin; requiring the implementation of water efficiency or conservation measures as the primary alternative before commitments are made for supply or storage uses; and analyzing the effects of the WCM operations on water quality standards, with a particular emphasis on physiochemical endpoints such as dissolved oxygen, biological endpoints such as sensitive aquatic species, and physical endpoints that protect the designated aquatic life use, including adequate flows to maintain the physical integrity of the habitat. EPA also recommends that the socioeconomic, environmental and human health impacts on low-income and minority populations, should be identified, analyzed and addressed, as appropriate, and new and innovative procedures to enhance warning systems that will improve public safety and recreation throughout the system should be reviewed. The EIS should consider these issues and others raised in our previous comment letter as part of the development of the recommended alternative for the WCM.

Mueller, Heinz

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We appreciate the opportunity to provide additional scoping comments on the proposed WCM Update and EIS for the ACF River Basin. If you have any question regarding our comments, please contact Ntale Kajumba (404/562-9620) of my staff or the Water Protection Division technical coordinator Paul Gagliano, P.E. at 404 404/562-9373.

Sincerely,

Heinz J. Mueller, Chief
NEPA Program Office
Office of Environmental Accountability

Attachment - Detailed EPA Scoping Comments

Mueller, Heinz

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Scoping Comments on the Water Control Manual and EIS for the ACF River Basin

Wetlands and Streams

The Notice of Intent states that the EIS will consider operations for all authorized purposes, including an expanded range of water supply alternatives associated with the Buford Dam/Lake Lanier project. The scope of water supply alternatives considered can have significant influence on alternatives that entities can in turn consider when assessing how to meet water supply needs. With effective management, many allocations and uses can be met with existing resources, whereas new infrastructure or projects such as reservoirs could have greater impacts to environmental resources. When such projects require CWA Section 404 permits, they must meet the requirements of the regulations at 40 CFR Part 230, also known as the Section 404(b)(1) Guidelines. Among the key stipulations of the Section 404(b)(1) Guidelines are those that require that no such work shall be permitted if there is "a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (40 CFR § 230.10(a)), if it would "cause or contribute to significant degradation of the waters of the United States" (40 CFR § 230.10(c)), and "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem" (40 CFR § 230.10(d)). In accordance with the Section 404(b)(1) Guidelines, the WCM should facilitate holistic management of basin resources such that the total impact is minimized, and entities seeking water allocations and uses have access to alternatives that are the least environmentally damaging both in a local context and on a basin scale whenever possible.

Impoundments can fragment aquatic ecosystems, with impacts on many aspects of environmental integrity, particularly when the cumulative effects of multiple impoundments across a system are taken into account. Although the projects subject to the WCM are already in place, the allocations and uses allowed and established through the WCM revision can have significant influence on overall ACF system health by preventing further fragmentation. If managed to make the best use of these existing resources, further impacts of additional supply infrastructure development could be avoided or at least minimized.

Unimpeded physical continuity of the major ACF rivers with their floodplains, including riparian wetlands, is also controlled in large part by the management approach set forth in WCMs. Access to floodplains is critical to river sediment and chemical dynamics, hydrating riparian floodplains, and maintaining vegetation and habitat important in the lifecycles of many species, both aquatic and terrestrial, with characteristics adapted to such ecosystems. Managing flows for magnitude, seasonality, and variability that mimic natural conditions such that rivers have regular access to their floodplains is protective of riverine ecosystems and can reduce impacts to wetlands.

Recommendations: EPA recommends that consideration be given to maximizing the use of existing infrastructure in the ACF basin—in balance with environmental uses such as protection

Mueller, Heinz

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of habitat, aquatic life, and water quality—such that impacts to aquatic resources as a whole are minimized within the basin. If modifications to the operations of the existing systems avoid impacts of new impoundments and additional infrastructure, overall impacts to the basin could be minimized with holistic management. We recommend that the Mobile District fully address and document the effects of the proposed actions on wetlands and streams.

Water Supply Efficiency/Conservation

Projects that impact hydrology, such as new or expanded water supply, development, and recreational or amenity impoundments, often require Clean Water Act (CWA) Section 404 permits, making them subject to review for compliance with the Section 404(b)(1) Guidelines. When reviewing such projects, EPA and the Corps must consider whether the applicant has demonstrated adherence to the mitigation sequence, with avoidance and minimization of impacts to aquatic resources as the first two steps, and then ensure that the applicant has evaluated an appropriate range of alternatives and selected the Least Environmentally Damaging Practicable Alternative. For water supply project proposals, full implementation of conservation and efficiency measures, including water reuse options, is a primary alternative that could have a fraction of the impacts to aquatic resources of developing new supply infrastructure. The Corps should consider whether efficiency and conservation measures are in place to ensure that the overall use of Corps reservoirs minimizes impacts to aquatic resource when evaluating requests for allocations and uses related to the projects in the ACF WCM.

Minimizing supply withdrawals with conservation measures can also reduce conflicts among uses, easing pressure on the ACF system as a whole, and easing management of releases and flows for environmental protection. EPA Region 4's 2010 Guidelines on Water Efficiency Measures for Water Supply Projects in the Southeast ("WEGs") describes conservation and efficiency measures that can be expected of users seeking allocations or withdrawals from the system, and should be used to evaluate how well efficiency is being implemented before committing to new allocations or uses. EPA encourages entities' seeking allocations to demonstrate meaningful efforts to repair leaking or damaged infrastructure; use an integrated resource management approach across residential, industrial, agricultural, and commercial settings; implement full-cost pricing, conservation pricing, and metering of all water users; use low-impact development and green infrastructure; facilitate retrofit of all buildings; optimize water reuse; and facilitate landscaping to minimize demand and waste, and efficient irrigation practices. Protecting basin flows by requiring conservation and efficient use can reduce impacts to streams and riparian wetlands, aquatic life, habitat, and water quality, and ease management of system flows, particularly under low-rainfall conditions.

Analysis should consider the cumulative impacts of these revisions on water stress in the basin (e.g. a list of all permitted/proposed reservoirs in the basin). An explanation of how provisions in the WCM interact with state water planning and withdrawal permitting would be informative. The WCM should account for, to the extent practicable, future predicted trends in inflows (e.g. long term decreases in baseflow corresponding to increased evapotranspiration, consumptive uses or impervious surface). Likewise, the likelihood of future trends in reuse (industrial reuse, graywater, direct or indirect potable reuse), particularly in the greater metropolitan Atlanta area, should be discussed.

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Recommendations: EPA recommends that demonstrated water efficiency/conservation implementation be required as the primary alternative before commitments are made for new supply/storage uses.

Water Quality

State water quality standard programs include designated uses, criteria to protect those uses, and an antidegradation policy (CWA Section 303(c); 40 CFR § 131). Section 401 additionally protects these water quality standards, requiring state certification that federal activities which may result in any discharge will comply with state water quality standards. Further, Section 404(b)(1) Guidelines state that no such work shall be permitted if it would cause or contribute to "violations of any applicable State water quality standard" (40 CFR § 230.10(b)(1)), or if it would "cause or contribute to significant degradation of the waters of the United States" (40 CFR § 230.10(c)).

The revised WCM should be consistent with state water quality standards, and provide for the attainment and maintenance of all downstream uses (40 CFR § 131.10 (b)), including drinking water, recreation, fishing, swimming, shellfish harvesting and aquatic life protection. This should include ensuring compliance with physical parameters (pH, temperature, conductivity and dissolved oxygen), biological criteria, chemical parameters (including decreases in assimilative capacity for point and non-point sources), nutrient loadings (including lake nitrogen, phosphorus and chlorophyll standards) and providing the flows necessary for protection of aquatic life. The WCM should provide reasonable assurance that water quality standards will not be violated, consider the impact on reasonable potential to exceed water quality standards as analyzed for NPDES permits, confirm that TMDL restoration efforts will not be adversely affected and ensure that reservoir operations will not cause or contribute to water quality impairments or listings. Since the date of the last WCM revision, the science related to instream flows has evolved substantially. During that time, numerous licenses were negotiated and re-issued by the Federal Energy Regulatory Commission (FERC). Many renewed FERC licenses included advancements in water management and dam operations to better protect and maintain aquatic life which could be adapted for use on federally regulated rivers. For example, the FERC license issued to South Carolina Electric and Gas (SCE&G) for the operation of the Saluda River includes numerous updated provisions for protection of mussels, sturgeon, trout and rare plant and animal species. The revision of the WCM provides an opportunity to incorporate the latest science and successful practices for regulating flows to improve water quality, meet designated uses and, where possible, restore the hydrologic condition and ecological integrity of the river system. For instance, ecologists now understand that flows across the range of the natural hydrograph are important for maintaining structure and function of aquatic ecosystems rather than regulating a river to meet a static low flow target.

Aquatic plant and animal species have evolved life cycle patterns directly tied to the primary components of hydrologic variability frequency, magnitude, duration, timing and rate of change of natural flows. Every aspect of the lives of aquatic plants and animals is cued by and inextricably linked to the natural variability of our rivers and streams which are often absent in highly regulated systems. EPA encourages incorporation of variable flows in the new WCM,

Mueller, Heinz

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including the seasonal, intra-annual and inter-annual variable flow patterns needed to maintain or restore processes that sustain natural riverine characteristics. Naturally variable flows are also a major determinant of physical habitat in streams and rivers and directly affects biological composition. Modifying flow regimes provides an opportunity to positively alter habitat and influence species diversity, distribution and abundance. Therefore, EPA recommends that, where possible, the operations established within the WCM mimic the natural conditions as closely as possible in the downstream waters.

EPA reiterates the suggestions provided in the Fish and Wildlife Service's Planning Aid Letter (dated April 2, 2010, with March 1, 2011 addendum) to efficiently derive flow targets protective of a balanced and indigenous aquatic flora and fauna. EPA suggests the use of multiple endpoints to demonstrate the protection of aquatic life designated uses. Relevant endpoints include floodplain connectivity (inundation, maintenance of off-channel habitats, wetted perimeter, out-of-bank habitats) and habitat suitability analysis. Because of the intensity of the later (e.g. Physical Habitat Simulation System (PHABSIM), EPA recommends consulting the relevant wildlife resources agencies to determine which habitat locations are critical to aquatic life in the basin and may warrant prioritized, intensive study.

Historically, the regulation of the Chattahoochee River has been operated, in part, to meet an instantaneous flow requirement at Peachtree Creek of 750 cfs. EPA also suggests that the WCM consider the adequacy of that value, particularly in light of multiple requests from the State of Georgia for seasonal reductions below this threshold. The WCM update provides an opportunity for the USACE to work with the Georgia Environmental Protection Division to ascertain whether that value is the most appropriate flow condition to support uses or if a more seasonally variable value would be more appropriate.

In addition, EPA recommends that drought contingency plans be formally coordinated with dischargers (especially NPDES permit holders) and water intake permitees (including public drinking water suppliers, cooling water intakes, industrial users, etc.). Furthermore, discussion of best management practices for sediment and stormwater management in the system should be central to the WCM analysis of lake operations.

Recommendations: EPA recommends analyzing the affects of the WCM operations on water quality standards, with a particular emphasis on physiochemical endpoints such as dissolved oxygen, biological endpoints such as sensitive aquatic species, and physical endpoints that protect the designated aquatic life use, including adequate flows to maintain the physical integrity of the habitat.

Public Safety and Recreation

FERC license renewals have recently resulted in negotiated agreements that include provisions to enhance the recreation and public safety on regulated rivers. For instance, the SCE&G license on the Saluda River included a Warning Safety Enhancement Plan and provisions for Recreational Flow Releases. These revisions were prompted, in part, by hazardous conditions that existed during flow releases that resulted in the loss of life in recreation areas. Similarly, this system

Mueller, Heinz

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includes many river miles that are designated as recreation, including for example, the Chattahoochee River National Recreation Area.

Recommendations: EPA suggests that the WCM review new and innovative procedures to enhance warning systems to improve public safety and recreation throughout the system.

EJ / Socioeconomic

Pursuant to the executive order 12898 "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (February 11, 1994), the EIS should examine the effect of the proposed actions on minority and/or low-income populations. The EIS should identify, analyze and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The EIS should include a demographics analysis of the affected project area. Some of this information can be found at the U.S. Census Bureau, U.S. Bureau of Labor Statistics, LAUS, 2004-2006 and the U.S. Bureau of Economic Analysis, REIS, 2005. Publically available EPA Web-based tools like NEPAssist: https://oasext.epa.gov/NEPA/ can also be used to conduct preliminary screening level EJ reviews. This information should be used in conjunction with information acquired during the public involvement and ground verification processes. The Corps should continue to provide opportunities for meaningful community engagement in the NEPA process, including identifying potential effects (e.g., subsistence fishing), minimization and mitigation measures in consultation with affected communities. A summary of community concerns and agencies responses to those concerns should be included in the EIS.

Recommendations: EPA recommends that socioeconomic, environmental and human health impacts on low-income and minority populations should be identified, analyzed and addressed, as appropriate, as part of the EIS process. Efforts should be made to meaningfully engage these stakeholder groups or individuals in the public involvement and decision-making process. EPA has incorporated preliminary screening maps that highlight areas with higher levels of minority or low-income populations within the Basin.

Mueller, Heinz

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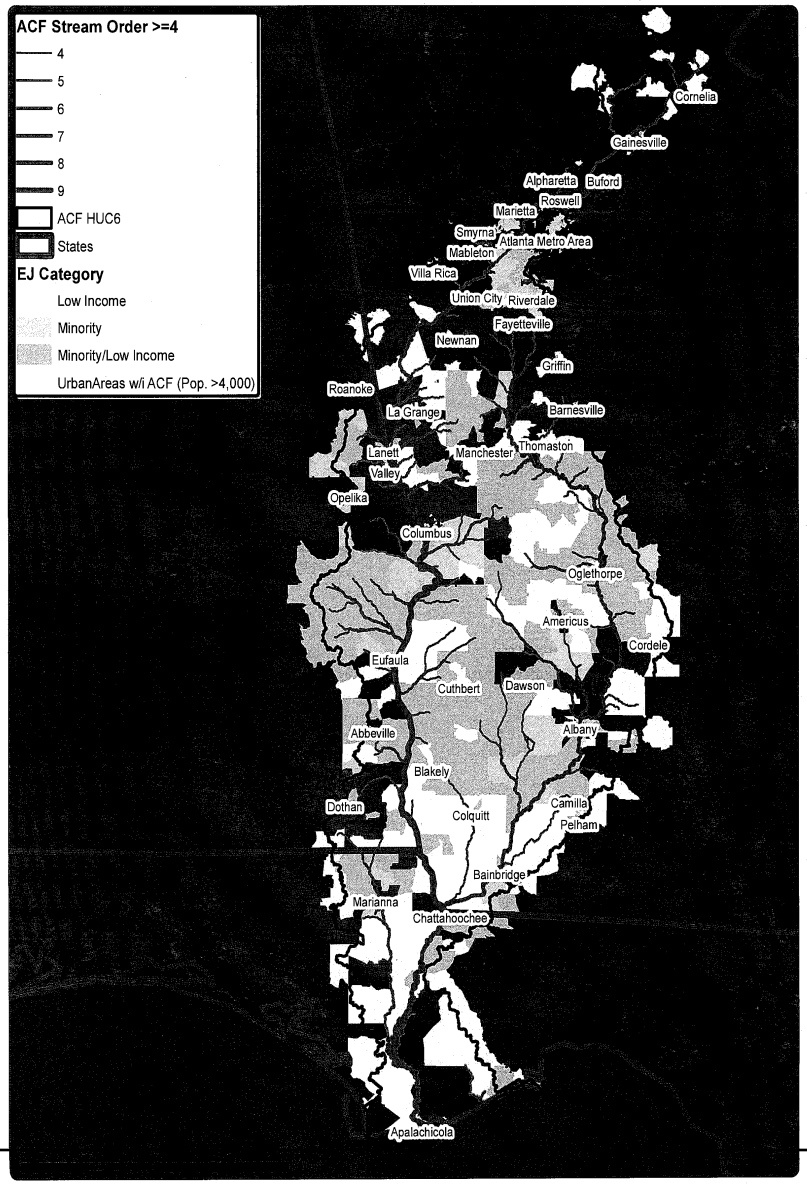

Mueller, Heinz

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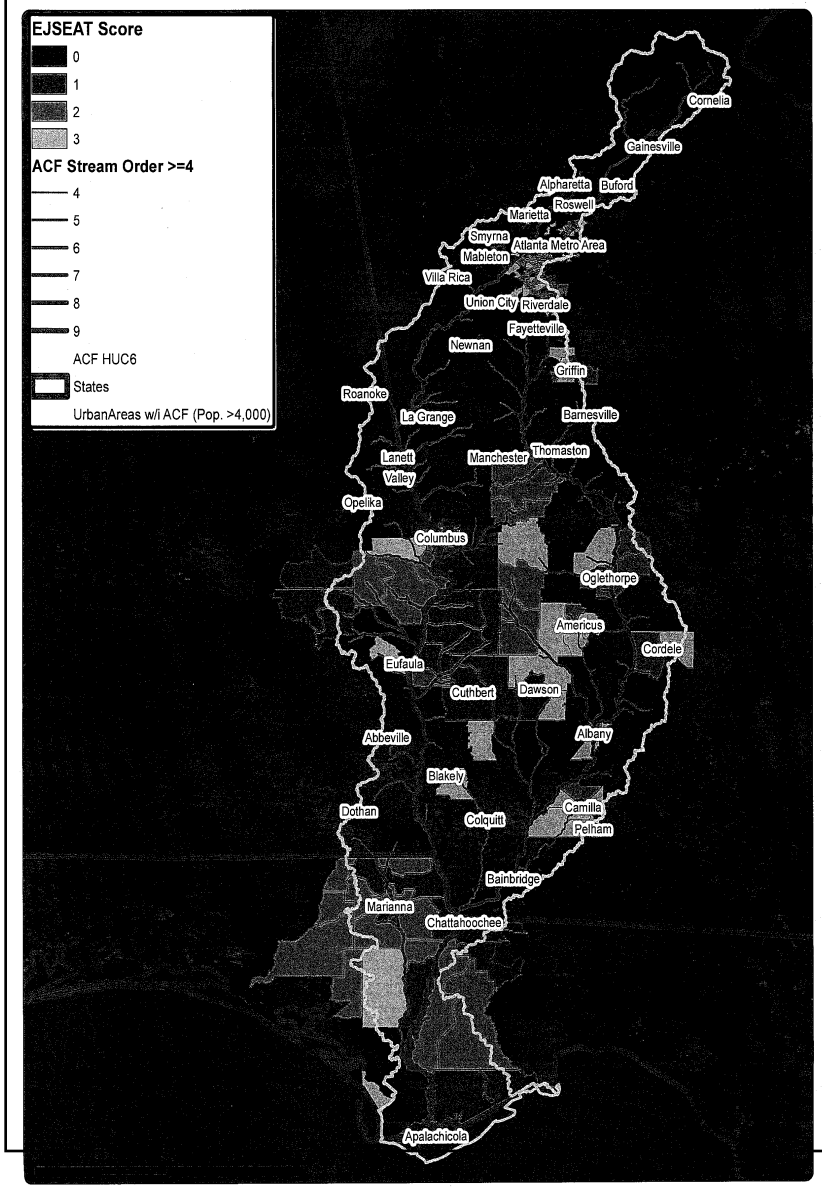

Mulvany, Gregg

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From: Gregg Mulvany <gmulvany@ictsonline.com>
Sent: Monday, December 17, 2012 10:34 AM
To: ACF-WCM
Subject: West Point Lake Levels

Good morning!

I have heard some rumors that we may be close to some sort of policy that would allow for West Point Lake to be brought up to full pool and then left there. I got online to look for news articles on the subject, and found your e-mail address in an article discussing how the ACE has reopened public comments on the issue of the lake level.

I live in Newnan, GA, and I am contemplating purchasing a second home down in Lagrange... particularly a Lake Front home. However, I have some trepidation, because after enjoying this last summer down at the lake, a recent visit had me scratching my head about how the lake level could be allowed to drop so low.

I do not proclaim to have any great degree of knowledge about managing lake levels and water flow and river basins, etc. I respect the training and education that those in control of the project must surely have. I can only comment on the subject from a civilian perspective of understanding.

From what I understand, part of the reason that the lake has as much water drained from it as it does is for the protection of a few species. I have heard that it is a particular species of Mussel in the Apalachicola, and a sturgeon, maybe? My question / comment is this. Once the lake has been allowed to fill to full pool, why would we let any more out of the lake than comes into the lake? Notwithstanding the reduced flows that would temporarily come from allowing the lake to refill, if the amount allowed through the dam was equal to the amount that would have flowed normally downstream, wouldn't the affected species downstream be dealing with what would have naturally occurred anyway? Drought is a naturally occurring condition. By releasing more water from the lake than actually enters the lake, aren't we then also interfering with the natural order of things?

A full lake carries with it a list of benefits for the residents of the area, as well for the wildlife in the Lake. First, and perhaps most "superficial" is the aesthetic appeal of the lake. Quite honestly, the shores of the lake are unattractive when the lake level drops. Secondly, there is no doubt that the local economy is harmed by the inconsistent lake levels. Home sales, marina business, campgrounds, restaurants, hotels, fishing tournaments... all of these things would bring much needed financial activity to the region, creating jobs and breathing some new life into the ailing local economy. I am also a small business owner, and I am "on the fence" about opening an additional location in Lagrange. I would certainly be more willing if the local economy were a bit stronger. I do honestly believe that West Point Lake being managed as a 52-week per year lake at full level would be just what the region needed to allow for economic growth.

I'm no fisheries expert, but I would imagine that the small shellfish, panfish (Bream and Crappie) and Largemouth Bass would benefit from having more of these shallow coves filled with water again. Fallen trees and other natural debris, along with the hundreds of docks would provide for more protected breeding and growth areas. Having the coves full of water again would also be a boon for all of the birds... creating more places for wading birds to stalk their prey and the shallow, still water of the coves allows insects to multiply...hence attracting birds like the Purple Martin and a healthy population of nighttime-feeding bats.

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To me...it seems that the benefits of a full-pool West Point Lake far outweigh the benefits of seasonally dropping the lake levels to a winter pool.

That's my two-cents. Thank you for your time and consideration. Please feel free to contact me if you want to have any further discussions on the matter.

Sincerely -

Gregg Mulvany
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Department of Energy
Southeastern Power Administration
Elberton, Georgia 30635-6711

November 28, 2012

Colonel Steven J. Roemhildt
District Commander
Mobile District, USACE
P. O. Box 2288
Mobile, AL 36628-0001

Dear Colonel Roemhildt:

Southeastern Power Administration (Southeastern) is pleased to have the opportunity to provide comments to the U.S. Army Corps of Engineers (Corps), Mobile District, on the planned update of the Water Control Manual for the Apalachicola-Chattahochee-Flint (ACF) River Basin in response to the recent ruling of the U. S. Court of Appeals for the Eleventh Circuit and subsequent Corps of Engineers Chief Counsel legal opinion, which concluded that the Corps has the legal authority to accommodate water withdrawals from Lake Lanier and downstream to satisfy the current and future water supply needs of the City of Atlanta.

Southeastern is the Federal Power Marketing Administration that has the responsibility to market the electric power generated at the Buford, West Point, Walter F. George, and Jim Woodruff projects in the ACF River Basin. Southeastern markets peaking capacity and energy from the ACF River Basin as part of the Georgia-Alabama-South Carolina and Jim Woodruff Systems. The generation from this basin benefits more than 190 municipalities and cooperatives, our Preference Customers, located in Georgia, Alabama, Mississippi, Florida, South Carolina, and North Carolina, which equates to more than 3.5 million electric meters. Southeastern's customers have scheduling rights for their allocation of government power, and, ultimately schedule their deliveries to satisfy their daily peak power requirements, as this minimizes their exposure to higher alternative market prices.

The revenue collected from the sale of this generation is used to repay, with interest, the cost of the federal investment which has been assigned to hydropower. Project repayment obligations were developed and assigned based on authorized purposes receiving certain benefits from the projects, and such costs are to be repaid by the purpose in the utilization of project features such as available storage. Typically, the costs allocated to hydropower account for a very high percentage of the project costs.

The overall operation of the river basin is an integral part of power marketing in terms of the effect on power production and availability of generation to meet customers' schedules.