

Performance Metrics Identification Overall Summary

ACF Stakeholders  
Last Updated : June 26, 2013

Caucus	Node / Gage	Metric	Navigation	Recreation	Water Quality	Water Supply	Farm Agriculture	Industry & Manufacturing	Seafood Industry	Hydro Power	Thermal Power	Local Government	Environment & Conservation	Business & Economic Development	Historic & Cultural	Urban Agriculture	Notes
Upper Chattahoochee	Lanier	Level	Not Applicable	Percent of Time Lanier Level is <1061, UC Caucus Metric 10 - Percent of Weeks March through Nov < Corps Identified Recreation Impact Levels	Concerns with lake level and water quality; generally better water quality with higher lake levels	UC Caucus Metrics 1-9	No Specific Criteria Identified	Metrics Linked to Water Supply	Not Applicable	Weekly minimum MWHr generation for each month	Not Applicable	Linked to Recreation	Percent of time the ramp rate in Lake Lanier is <1/2 foot per day April to June	Linked to Water Supply and Recreation	Linked to Recreation	Metrics Linked to Water Supply	See Upper Chattahoochee Basin Caucus Meeting July 27, 2012 notes for Performance Metrics example graphs. See attached numeric background information for the Hydro Power metric.
	Buford Gage	Flow	Not Applicable	Linked to Water Supply and Hydropower	GA DNR hatchery desired release = 550 cfs to keep nursery intake covered, DO, temp	UC Basin Caucus Metric 11 - Number of Days with Shortages of Withdrawals	No Specific Criteria Identified	Metrics Linked to Water Supply	Not Applicable	Weekly minimum MWHr generation for each month	Not Applicable	Linked to Water Supply, Water Quality, and Recreation	% change from the monthly mean & median UIF (all years)	Linked to Water Supply and Recreation	NPS concern is flooding inundation, NWS identified elevation 924	Metrics Linked to Water Supply	
	Norcross	Flow	Not Applicable	Percent of time >1500 cfs into Bull Sluice Lake (Atlanta Rowing Club); hourly variability is a concern	No Specific Criteria Identified	UC Basin Caucus Metric 11 - Number of Days with Shortages of Withdrawals	No Specific Criteria Identified	Metrics Linked to Water Supply	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply, Water Quality, and Recreation	Percent of time flow meets guidelines in FWS PAL Letter. Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)*** % change from the monthly mean & median UIF (all years)	Linked to Water Supply and Recreation	NPS concern is flooding inundation, NWS identified 890 = 11,000 cfs	Metrics Linked to Water Supply	Recreational safety from hourly variations is a concern.
	Morgan Falls	Level/Flow	Not Applicable	Percent of time level > elevation 864 (Atlanta Rowing Club Input)	No Specific Criteria Identified	UC Basin Caucus Metric 11 - Number of Days with Shortages of Withdrawals	No Specific Criteria Identified	Metrics Linked to Water Supply	Not Applicable	No Specific Criteria Identified	Not Applicable	Linked to Water Supply, Water Quality, and Recreation	No Specific Criteria Identified	Linked to Water Supply and Recreation	NPS concern is flooding inundation, NWS identified 867 = 12,000 cfs at Roswell; use % of time Morgan Falls level >866.5	Metrics Linked to Water Supply	Georgia Power operates Morgan Falls between 866 and 858 to reregulate Lanier releases to meet 750 cfs at Peachtree Creek; this is protective of thermal plant needs.
	Peachtree Creek (as measured at USGS Atlanta)	Flow	Not Applicable	% of time flow between 1000 and 1250 cfs for recreation (National Park Service)	750 cfs or greater throughout the year; releases to meet this flow with current discharge limits generally protective of DO and temperature	UC Basin Caucus Metric 12 - Percent of Days Below 750 cfs	No Specific Criteria Identified	Metrics Linked to Water Supply	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply, Water Quality, and Recreation	No Specific Criteria Identified	Linked to Water Supply and Recreation	NPS concern is flooding inundation, NWS identified 764 = 17,600 cfs at Atlanta	Metrics Linked to Water Supply	750 cfs is a current RIOP rule in the model***** Potential modeling of different flow rules, changing flow quantity and/or seasonal flow differences was discussed during Upper Chattahoochee Basin Caucus Meeting July 27, 2012
	Whitesburg	Flow	Not Applicable	% of time flow >2200 cfs for recreation based on 4 ft depth	% of time daily average 1000 cfs or greater, 7-day average 1350 cfs or greater	% of time daily average 1000 cfs or greater, 7-day average 1350 cfs or greater	No Numeric Criteria Identified	% of time daily average 1000 cfs or greater, 7-day average 1350 cfs or greater	Not Applicable	Not Applicable	Not Applicable	Not Applicable	% of time flow >2200 cfs for recreation based on 4 ft depth	Link to Thermal Power	No Numeric Criteria Identified	No Numeric Criteria Identified	Instantaneous minimum of 750 cfs desired; model will not provide information at this resolution

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Middle & Lower Chattahoochee	West Point	Level	Not Applicable	% of time level April-October is 635 or above, 632.5 at all other times	% of time level April-October is 635 or above, 632.5 at all other times	% of time level April-October is 635 or above, 632.5 at all other times	No Numeric Criteria Identified	% of time level April-October is 635 or above, 632.5 at all other times	Not Applicable	No Numeric Criteria Identified	Not Applicable	Not Applicable	% of time level April-October is 635 or above, 632.5 at all other times	% of time level April-October is 635 or above, 632.5 at all other times	No Numeric Criteria Identified	No Numeric Criteria Identified	635 equals full pool.
	West Point Gage	Flow	Not Applicable	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	Not Applicable	Weekly minimum MWhr generation for each month	No Numeric Criteria Identified	No Numeric Criteria Identified	Percent of time flow meets guidelines in FWS PAL Letter	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	
	Columbus	Flow	Not Applicable	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	No Numeric Criteria Identified	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	Not Applicable	No Numeric Criteria Identified	Not Applicable	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	% of time daily average 1350 cfs or greater, 7-day average 1850 cfs or greater	No Numeric Criteria Identified	No Numeric Criteria Identified	Instantaneous minimum of 800 cfs desired; model will not provide information at this resolution. 2000-3000 cfs desired for recreation at Columbus, particularly on weekends when West Point is not operating hydropower.
	W.F. George	Level	% of time > 187.5 feet, December through May	% of time level April-October is 190 or above, 187.5 at all other times	Not Applicable	Not Applicable	No Numeric Criteria Identified	% of time level April-October is 190 or above, 187.5 at all other times	Not Applicable	Not Applicable	Not Applicable	Not Applicable	% of time level April-October is 190 or above, 187.5 at all other times	% of time level April-October is 190 or above, 187.5 at all other times	Historic Chattahoochee and USF archeologist concern over flooding and erosion of historic sites, % of time level is 190 or above	No Numeric Criteria Identified	Historic Chattahoochee and USF archeologist concern over flooding and erosion of historic sites from Phenix City south
	W.F. George	Flow	Not Applicable	Not Applicable	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	Not Applicable	Weekly minimum MWhr generation for each month	No Numeric Criteria Identified	No Numeric Criteria Identified	Meet flow guidelines in FWS PAL Letter. Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	
	Andrews	Level	% of time >101.9 feet, December through May	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	No Numeric Criteria Identified	
	Columbia	Flow	Not Applicable	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater	Not Applicable	No Numeric Criteria Identified	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater	Not Applicable	Not Applicable	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater, elevation >74.5 ft for Plant Farley	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater	Not Applicable	% of time daily average 2000 cfs or greater, 7-Day average 2000 cfs or greater	No Numeric Criteria Identified	No Numeric Criteria Identified	
	Woodruff	Level	% of time level April-October 77.5 or greater, 76.5 at all other times	% of time level April-October 77.5 or greater, 76.5 at all other times	% of time level April-October 77.5 or greater, 76.5 at all other times	% of time level April-October 77.5 or greater, 76.5 at all other times	No Numeric Criteria Identified	% of time level April-October 77.5 or greater, 76.5 at all other times	Not Applicable	Not Applicable	% of time level April-October 77.5 or greater, 76.5 at all other times	% of time level April-October 77.5 or greater, 76.5 at all other times	Not Applicable	% of time level April-October 77.5 or greater, 76.5 at all other times	No Numeric Criteria Identified	No Numeric Criteria Identified	Desired flow contribution 50% from Chattahoochee and Flint basins; % of flow from each basin for each month July through December in the 25% lowest rain years

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Flint	Griffin	Flow	Not Applicable	See note.	% of time flow <18 cfs wasteload allocation flow from GA EPD. See Note.	% of time flow <60 cfs Griffin Still Branch permit minimum flow	No specific numeric criteria identified	% of time above wasteload allocation flow of 18 cfs	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times. ****% of time Flow> monthly 7Q10+80% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply & Water Quality	Linked to Recreation	Linked to Water Supply & Water Quality	Clayton County used a 20-year minimum flow of 12.7 mgd per flow records for their recent waste load allocation evaluation into the Flint at Flint River Road in Jonesboro. The Caucus wants to incorporate Lake Horton, Lake Kedron, and Lake Peachtree into the model in the future for more detailed flow information.
	Carsonville	Flow	Not Applicable	% of time >600 cfs weekly average daily flow March through October	% of time flow <110 cfs wasteload allocation flow from GA EPD.	No specific numeric criteria identified	% of time flow <180 cfs from permitted ag withdrawals near Carsonville	% of time above wasteload allocation flow of 110 cfs	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times. ****% of time Flow> monthly 7Q10+80% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply, Water Quality, and Recreation	Linked to Recreation	Linked to Water Supply & Water Quality	Demonstrate flow variability and low flow duration at node.
	Montezuma	Flow	Not Applicable	% of time flow is less than 700 cfs for boating March through October	% of time flow <317 cfs wasteload allocation flow from GA EPD.	No specific numeric criteria identified	% of time flow <180 cfs from permitted ag withdrawals near Carsonville	% of time above wasteload allocation flow of 317 cfs	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times. ****% of time Flow> monthly 7Q10+80% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply, Water Quality, Recreation, and Farm Agriculture	Linked to Recreation	Linked to Water Supply & Water Quality	One SW ag withdrawal between Carsonville and Montezuma with low flow protection exists.
	Albany	Flow	Not Applicable	Lake Blackshear and Lake Chehaw are operated as run of the river which provides level for recreation	% of time flow <1000 cfs for wasteload allocation based on USGS pre-1974 7Q10	No specific numeric criteria identified	No specific numeric criteria identified	% of time above 1000 cfs	Not Applicable	Lake Blackshear and Lake Chehaw are operated as run of the river; Lake Chehaw operated to maintain elevation 181.8+-0.5 feet; no specific numeric criteria identified	Not Applicable	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times***Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)****% of time Flow> monthly 7Q10+30% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply & Water Quality	Linked to Recreation	Linked to Water Supply & Water Quality	Groundwater withdrawals accounted for in model as a surface water withdrawal based on USGS Groundwater/Surface water impact.
	Newton	Flow	Linked to level in Woodruff	% of time flow is less than 1000 cfs	Informational Need: % of time flow > wasteload allocation flow	No specific numeric criteria identified	No specific numeric criteria identified	% of time above wasteload allocation flow	Not Applicable	Not Applicable	Plant Mitchell has a 232 mgd withdrawal permit but uses once through cooling; protected by other metrics	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times*** Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)****% of time Flow> monthly 7Q10+30% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply & Water Quality	Linked to Recreation	Linked to Water Supply & Water Quality	Groundwater withdrawals accounted for in model as a surface water withdrawal based on USGS Groundwater/Surface water impact. ***** Informational need for future research is reduction in flows from Radium Springs, particularly during Memorial Day-Labor Day recreation season (related to historic & cultural and recreation)
	Bainbridge	Flow	Linked to level in Woodruff	% of time >900 cfs weekly average daily flow	% of time flow <2300 cfs for wasteload allocation based on USGS pre-1974 7Q10	No specific numeric criteria identified	No specific numeric criteria identified	% of time above 2300 cfs	Not Applicable	Not Applicable	Not Applicable	Linked to Water Supply & Water Quality	% of time flow is more than 15% below cumulative UIF average daily flow between Feb 15-Jun 15 and more than 30% below at other times *** Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)****% of time Flow> monthly 7Q10+30% . Use UIF dataset to calculate the monthly 7Q10 since 1974.	Linked to Water Supply & Water Quality	Linked to Recreation	Linked to Water Supply & Water Quality	Groundwater withdrawals accounted for in model as a surface water withdrawal based on USGS Groundwater/Surface water impact.

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Apalachicola	Chattahoochee	Flow	See Note.	% of time > 45' msl level at Chattahoochee Landing by month (16,000 cfs). See Note for recreational navigation.	% of time tributaries "disconnect" from river, however, no specific numeric criteria identified	Not Applicable	% of time Blountstown gage is >7 feet (15,800 cfs) in the month of February to flood tupelo trees	Not Applicable	Linked to Chattahoochee recreation gage criteria; floodplain detritus necessary for organic material for shellfish productivity	% of time <77' level at Woodruff	% of Time >5,000 cfs, % of time elevation is >38 ft MSL for Plant Scholz; note Plant Scholz scheduled for closing July 2015	% of time <77' level at Woodruff	Comparison of pre & post dam flow. Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)	% of time <77' level at Woodruff	Linked to Recreation interests. Desire to minimize flow surges and impact on Indian mounds, confederate emplacements, and artifact preservation	Not Applicable	Percent of time Commercial Navigation: Jan - May (Normal) = 18,000 cfs, Jan - May (Dry) = 16,000, Feb- April (Drought) = 16,000 cfs *****Percent of time Recreational Navigation: Jun - Dec (Normal) = 14,000 cfs, Jun-Aug & Dec (Dry) = 10,000 cfs, Sept- Nov (Dry)= 8,000 cfs, Jun-Aug & Dec (Drought) = 8,000 cfs, Sept - Nov (Drought)=6,500 cfs ***** Note: navigation criteria to be evaluated based on performance during specific hydrologic inflow conditions (years) provided by Dan Tonsmiere. *****Percent of flow contribution from Chattahoochee and Flint basins (Middle Chattahoochee) ***** FWS PAL letter flow guidelines will be reviewed.
	Blountstown	Flow	Linked to Chattahoochee gage criteria	% of time >5 feet (~11,600 cfs) on Blountstown gage (Duck ponds between Wewahitcha & Sumatra)	% of time tributaries "disconnect" from river, however, no specific numeric criteria identified	Not Applicable	Not Applicable	Not Applicable	% of Time > 15 feet gage (38,300 cfs) (oyster fishery shutdown) and % of time level > 7 feet gage (15,800 cfs) for freshwater flow to the bay	Not Applicable	Not Applicable	Not Applicable	% of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)	Not Applicable	Linked to recreation interests. Desire to minimize flow surges and erosion of historic sites.	Linked to Recreation	Percent of time monthly average flows are between 14,000 and 18,000 cfs February through May and between 10,000 and 16,000 cfs June through January in a non-drought year. Percent of time monthly average flows are <14,000 cfs February through May and <8,000 cfs June through January in a drought year.
	Sumatra	Flow	Linked to Chattahoochee gage criteria	Linked to Chattahoochee gage criteria	% of time tributaries "disconnect" from river, however, no specific numeric criteria identified	City of Port St. Joe water supply canal elevation, but no specific numeric criteria received	Linked to adequate stream flows for other uses	Not Applicable	Informational need: Productivity of Shellfish	Not Applicable	Not Applicable	Not Applicable	Also, % of time flow > 6% reduction in flow on a monthly basis for dry years (6% reduction is from UIF_CMA median monthly flows of pre-dam years from IFA Analysis)	Not Applicable	Linked to recreation interests. Desire to minimize flow surges and erosion of historic sites.	Not Applicable	Historic Chattahoochee and USF archeologist concern over flooding and erosion of historic sites from Sumatra north to Phenix City.
	Apalachicola Estuary			Recreational fishery from Destin to Tampa		Not Applicable	Not Applicable	Not Applicable	7,500 acres of healthy oyster bars	Not Applicable	Not Applicable	Related to recreation	Areal coverage of freshwater seagrass; maintain location of 5 ppt isohaline	Not Applicable	Not Applicable		The estuary is not a node in the river model; however, metrics for the estuary will be related to environment and seafood industry stakeholders. Metrics may relate to river flow at Sumatra. Currently this effort is being led by the Bay Assessment Ad-hoc committee. The Sustainable Water Management Plan for the ACF Basin will include an assessment of how suggested WMAs can contribute to the freshwater needs of the Apalachicola River, Floodplain and Bay. Although the estuary is not a node in the river model, ACFS is seeking a method for evaluating the impacts of freshwater flows at the Sumatra node on salinity, oysters and possibly other indicators.

Legend  
 Evaluation using model output  
 Additional information needed

This report was prepared by Black & Veatch in association with Georgia Water Resources Institute for the ACF Stakeholders, Inc. (ACFS) and has been presented to and accepted by the Technical Oversight and Coordination Work Group (TOCWG) for the specific purpose identified in the introduction to this document for use in developing a sustainable water management plan. This report addresses complex issues on which individual stakeholders may disagree. The statements, findings, conclusions, and recommendations contained in this report are those of the author(s) alone. Acceptance of this report shall not be interpreted as an approval or endorsement by the ACFS, or any individual ACFS member, of any of the statements, findings, conclusions, and recommendations it contains.

