

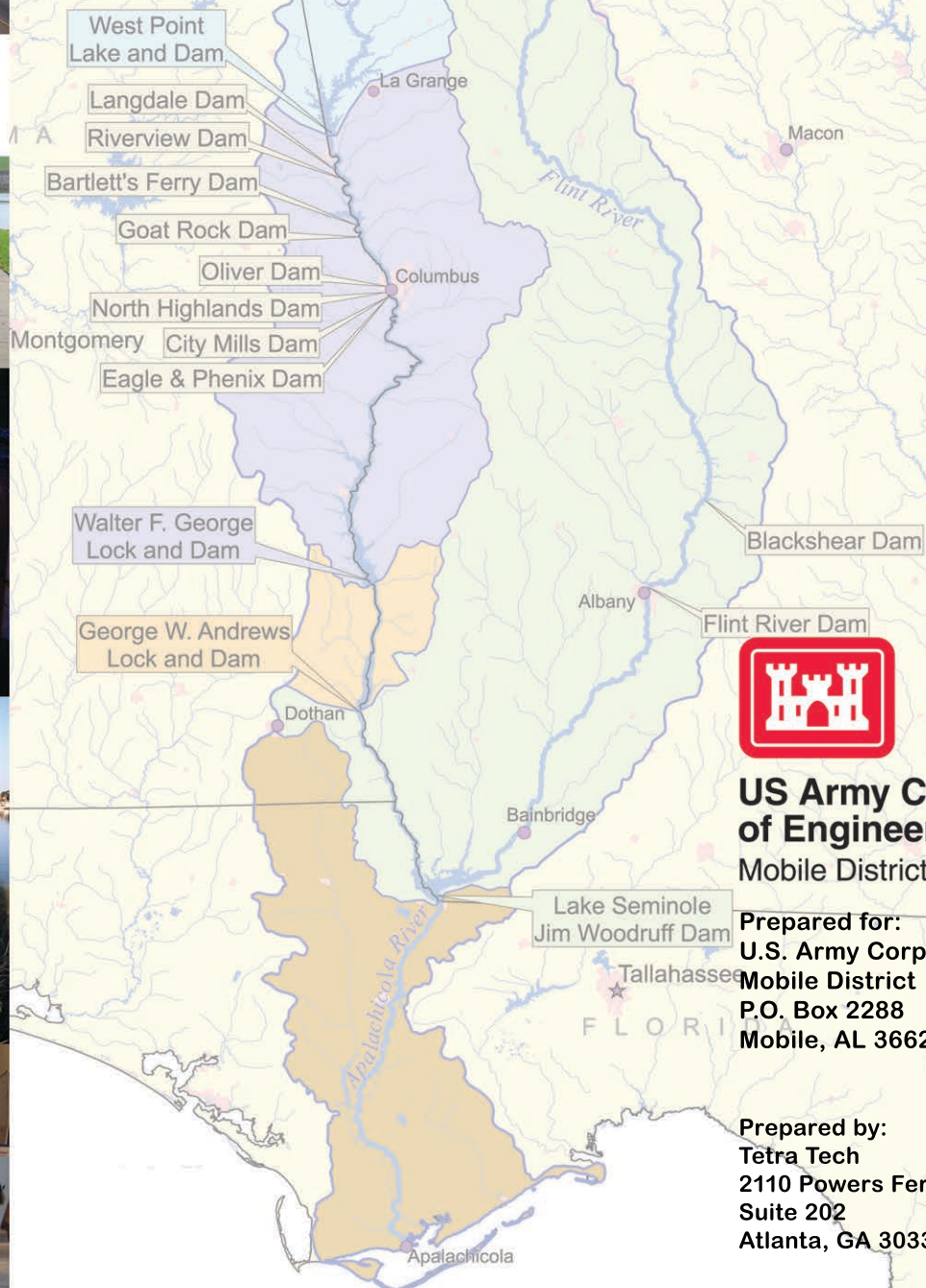


Final

UPDATED SCOPING REPORT Environmental Impact Statement

Update of the Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin, in Alabama, Florida, and Georgia

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of Engineers®**

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Executive Summary

The U.S. Army Corps of Engineers (USACE), Mobile District, conducted public scoping in fall 2008, fall 2009, and again in fall 2012 to initiate preparation of an Environmental Impact Statement (EIS) regarding development and implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin* (Master Manual) in Alabama, Florida, and Georgia. The reinitiation of public scoping in 2009 and 2012 was the direct result of federal court decisions that would have a direct effect on the scope of the update of the ACF Master Manual and the associated EIS. A Notice of Intent to prepare an EIS was released February 22, 2008; a *Federal Register* notice to announce public scoping meetings was published September 19, 2008; a *Federal Register* notice to revise the scope of the Draft EIS was published November 19, 2009; a third *Federal Register* notice to revise the scope of the Draft EIS was published September 22, 2012. An interagency meeting was held October 9, 2008, and public scoping meetings were held at five strategic locations within the ACF River Basin between October 20 and 29, 2008. The USACE also contacted Native American Indian tribal leaders with interests in the ACF River Basin as part of the scoping efforts.

The purpose of scoping is to determine the range of issues to be addressed and to identify the significant issues to be analyzed in depth with respect to the proposed action. The process also helps to deemphasize insignificant issues, thereby narrowing the scope of the EIS process. Through the scoping process the USACE will identify the range of actions, alternatives, and impacts to be considered in the EIS for the update of the Master Manual. The EIS will provide supporting documentation for a decision on implementing a Master Manual update, as well as updating reservoir-specific water control plans to be included as appendixes to the Master Manual.

This scoping report provides background regarding USACE's role in managing the ACF River Basin and the need to update the Master Manual (Section 1); describes the scoping activities conducted by USACE (Section 2); categorizes the issues raised in the scoping comments (Section 3); summarizes the comments submitted by federal, state, and governmental agencies (Section 4); and provides the framework for preparing an EIS to address the potential for significant impacts on the human and natural environment resulting from implementation of an updated Master Manual (Section 5).

The appendixes to this report contain copies of all USACE's public communication and documentation about the scoping process; copies of all comments received during scoping (in their original format); and a report containing all the comments, broken down into segments and categorized by issues.

In 2008 a total of 1,018 stakeholders participated in the five public scoping meetings. Table ES-1 shows a breakdown of participation by meeting location.

Table ES-1. Participants by Scoping Meeting Location

Date	Location	Attendance
October 20, 2008	Apalachicola, Florida	135
October 21, 2008	Dothan, Alabama	24
October 22, 2008	LaGrange, Georgia	365
October 23, 2008	Marietta, Georgia	93
October 29, 2008	Gainesville, Georgia	401
<i>Total</i>		<i>1,018</i>

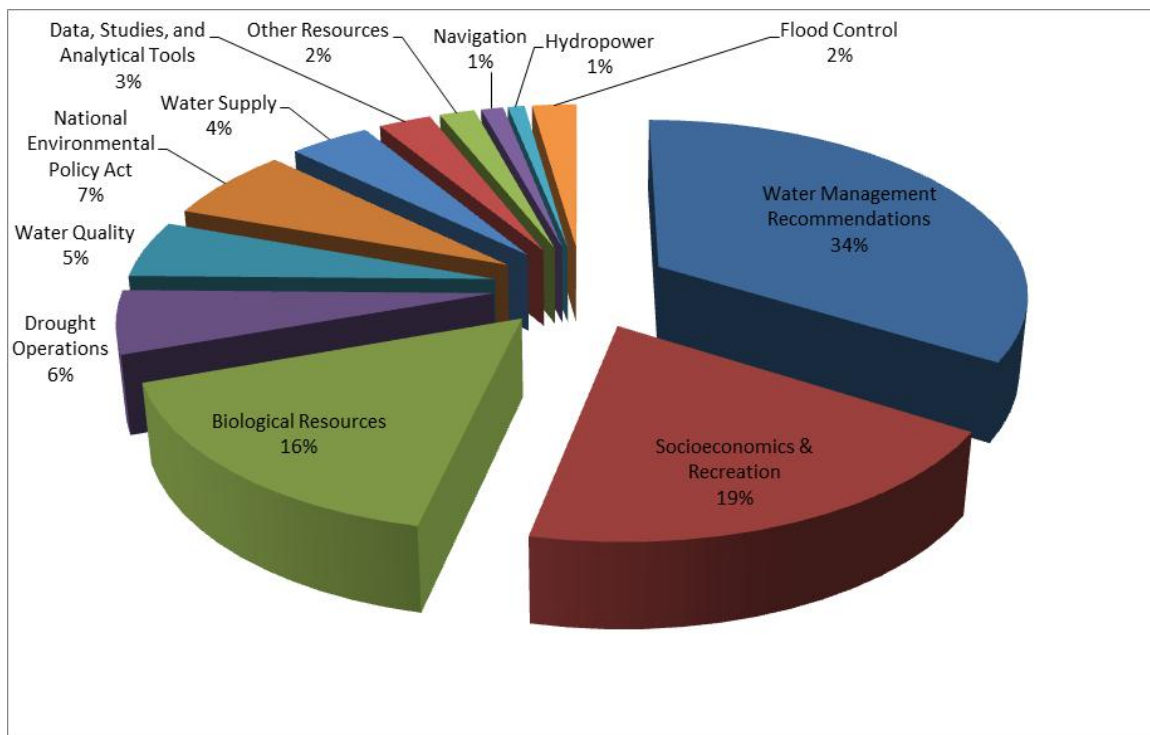
The 2008, 2009, and 2012 public scoping effort for updates to the ACF River Basin Master Manual resulted in a total of 3,621 comments from 965 individuals, organizations, and agencies (this includes comments received from all three scoping efforts). The agencies included federal, state, and local governments. Federal agencies that submitted comments were the U.S. Environmental Protection Agency (EPA) Region 4, the Southeastern Power Administration (SEPA), and the U.S. Fish and Wildlife Service (USFWS). Leaders from the Georgia and Florida congressional delegations submitted comments, along with the Georgia State House of Representatives. The three states—Alabama, Georgia, and Florida—submitted comments from their respective state agencies. Other local governmental agencies, including the Metropolitan North Georgia Water Planning District; Atlanta Regional Commission; Franklin County, Florida; Hall County, Georgia; Troup County, Georgia; Gwinnett County, Georgia; the City of LaGrange, Georgia; and Douglas County, Georgia, submitted comments as well.

Three petitions were received during scoping. Two petitions were received during the scoping process in 2008. One was from “West Point Lake Advisory Council Needs Your Show of Support,” and it had been signed by 2,809 people. The second petition received included comments on the “Potential for the Turkey Run Landfill to Pollute Groundwater and Surface Waters in Violation of Georgia Environmental Protection Division Solid Waste Management Rules and Landfill Permit,” and it had been signed by 58 people. In 2012 a petition with the subject “Guide Curve Change at West Point Lake” was received from the LaGrange-Troup County Chamber of Commerce. This petition was received through electronic mail, U.S. mail, and original signature pages resulting in a total of 2,985 signatures.

All the comments from scoping were reviewed, analyzed, and organized into the 12 categories shown in Table ES-2. The table also shows the number of comments by category. Figure ES-1 shows the distribution of comments by category.

Table ES-2. Distribution of Comments

Category	Number of Comments
Water Management Recommendations	1,228
Socioeconomics and Recreation	706
Biological Resources	584
Drought Operations	208
Water Quality	189
National Environmental Policy Act	241
Water Supply	149
Data, Studies, and Analytical Tools	97
Other Resources	65
Navigation	41
Hydropower	31
Flood Risk Management	82
<i>Total</i>	3,621

**Figure ES-1. Distribution of comments by major category.**

As shown in Table ES-2 and Figure ES-1, most of the comments (1,228) were related to water management recommendations, which include the authorized project purposes and USACE's ability to balance needs throughout the ACF River Basin. Other comments in this category addressed alternatives to consider (or mitigation), demand projections as they relate to downstream and future needs, and overall water conservation in the basin.

Issues and concerns regarding socioeconomics and the tie between water levels, recreation, and regional economics received the second-largest number of comments (706). Most of the comments received in this category pertained to the adverse socioeconomic impacts that have occurred in the northern portions of the ACF River Basin due to extremely low water levels in Lake Lanier and low or inconsistent water levels in West Point Lake. Similar comments were made by stakeholders in the middle and lower reaches of the basin, who attributed adverse economic conditions to low water flows. Comments were also made regarding the need to address adverse impacts on low-income and minority populations resulting from low lake levels; the potential for collapse of the seafood and fishing industry in the Apalachicola Bay region; safety hazards due to low water levels; concerns regarding property values, aesthetics, and quality of life; and myriad other concerns over the direct and indirect impacts of basin water management practices on socioeconomics. The primary message stakeholders have conveyed is that USACE should fully assess in the EIS the socioeconomic impacts of water management practices at the individual projects and in the overall system.

The next three categories were biological resources (584), drought operations (208), and *National Environmental Policy Act*, or NEPA, (241 comments). Biological resources comments pertained to fisheries; threatened and endangered species; flow concerns for Apalachicola Bay; and other biological issues such as habitat, research, and monitoring. The drought operation comments usually referenced drought conditions in the Lake Lanier watershed over the past decade. Some comments suggested that during periods of extreme drought conditions, USACE needs to redirect and optimize its operational practices to balance project purposes by establishing management triggers, conservative reservoir operations, emergency drought measures, and water supply conservation measures and/or by prioritizing reservoir purposes. NEPA-related comments discussed public involvement, the schedule, the baseline, the proposed action and alternatives, mitigation measures, compliance with other regulations, and cooperating agencies.

Water quality (189) and water supply (149 comments) were the next two categories. Water quality concerns were related to wastewater dilution, recreational uses, impacts of low lake levels and low flows, reevaluation of low-flow requirements, salinity in Apalachicola Bay, monitoring, effects of population growth, industrial discharges, maintaining existing minimum flows, the effect of the Revised Interim Operating Plan, and Total Maximum Daily Loads. The water supply comments pertained to importance compared to downstream uses, public water supply, real-time monitoring at the City of Atlanta's intake, concern over future availability, consideration of the Metropolitan North Georgia Water Planning District's plans, lack of congressional authority, cumulative effects, population growth, and monitoring of the use of storage. The remaining comment categories, with a total of 316 comments, were data, studies, and analytical tools; other resources; navigation; hydropower; and flood risk management.

Throughout this process, the public can obtain information on the status of the Master Manual update and the EIS by checking the Mobile District website at www.sam.usace.army.mil. The scoping report will be posted at <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate.aspx>, and it can be downloaded with or without the appendixes.

1.0 Introduction

In fall 2008 the U.S. Army Corps of Engineers (USACE) Mobile District, initiated public scoping for preparation of an Environmental Impact Statement (EIS) regarding development and implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin* (Master Manual) in Alabama, Florida, and Georgia. The purpose of scoping, in accordance with the requirements of the *National Environmental Policy Act of 1969* (NEPA), is to solicit input from other agencies and the public to help identify all the relevant issues and alternatives that should be addressed in an Environmental Impact Statement (EIS). The EIS will provide documentation supporting a decision on implementing a Master Manual update, as well as updating reservoir-specific water control plans to be included as appendixes to the Master Manual.

On July 17, 2009, the U.S. District Court for the Middle District of Florida issued a memorandum and order in the case *In re Tri-State Water Rights Litigation* addressing USACE's authority to provide water supply benefits through its operation of the Buford Dam/Lake Sidney Lanier project. The court's ruling introduced new information and circumstances that affected some of the assumptions reflected in USACE's January 2009 Final Scoping Report. On November 19, 2009, the USACE reopened public scoping to account for the court's ruling. The reopened scoping period provided the public an opportunity to submit comments on the significant new information and circumstances introduced by the July 17, 2009, court order.

In June 2011, the U.S. Court of Appeals for the Eleventh Circuit vacated that 2009 district court order in the case *In re Tri-State Water Rights Litigation* and directed USACE to determine its legal authority to operate the Buford Dam/Lake Lanier Project to accommodate water supply withdrawals. In compliance with the Eleventh Circuit's order, USACE's Chief Counsel issued a legal opinion on June 25, 2012, concluding that USACE has the legal authority to accommodate both current and increased levels of water supply withdrawals from Lake Lanier and downstream at Atlanta. In light of this legal opinion and the Eleventh Circuit's ruling, the USACE reopened scoping on October 12, 2012, to propose to expand the scope to include additional water supply alternatives, and to provide the public an opportunity to submit comments on the new circumstances resulting from the ruling.

This scoping report provides background regarding USACE's role in managing the Apalachicola-Chattahoochee-Flint (ACF) River Basin and the need to update the Master Manual (Section 1); describes the scoping activities conducted by USACE in both 2008, 2009, and 2012 (Section 2); categorizes the issues raised in the scoping comments (Section 3); summarizes the comments submitted by federal, state, and local government agencies (Section 4); and provides the framework for preparation of an EIS to address the potential for significant impacts on the human and natural environment resulting from implementation of an updated Master Manual (Section 5). The appendices to this report contain copies of all USACE's public communication and documentation about the scoping process; copies of all comments received during scoping (in their original

format); and a report containing all the comments, broken down into segments and categorized by issues.

1.1 Background

The ACF River Basin drains 19,800 square miles in parts of southeastern Alabama, northwest Florida, and central and western Georgia. About 74 percent of the basin lies in Georgia, 15 percent in Alabama, and the remaining 11 percent in Florida. The basin extends approximately 385 miles from the Blue Ridge Mountains to the Gulf of Mexico and has an average width of approximately 50 miles. It covers 50 counties in Georgia, 8 in Florida, and 10 in Alabama. The headwaters of the Chattahoochee River are in north Georgia, and the river flows along the Georgia-Alabama state line. The Chattahoochee joins the Flint River at Lake Seminole. Downstream of the lake, the Apalachicola River ultimately flows into the Gulf of Mexico via Apalachicola Bay in Florida (Figure 1).

The ACF River Basin is a dynamic hydrologic system characterized by interactions between aquifers, streams, reservoirs, floodplains, and estuaries. Water resources in the basin have been managed to serve a variety of purposes, including navigation, hydroelectric power, flood risk management, water supply, and recreation. There are 16 projects on the main stems of the Apalachicola, Chattahoochee, and Flint Rivers (5 federal and 11 non-federal projects), which have altered the natural stream flow and provided water supply improvements and recreational opportunities for the public in these resource areas. The interrelationship between operation of the dams and the resulting river flows has resulted in a highly regulated system over much of the basin. The principal rivers, particularly in the lower half of the basin, receive a substantial contribution of water from groundwater baseflow during dry periods (Comprehensive Water Resources Study Partners, 1995).

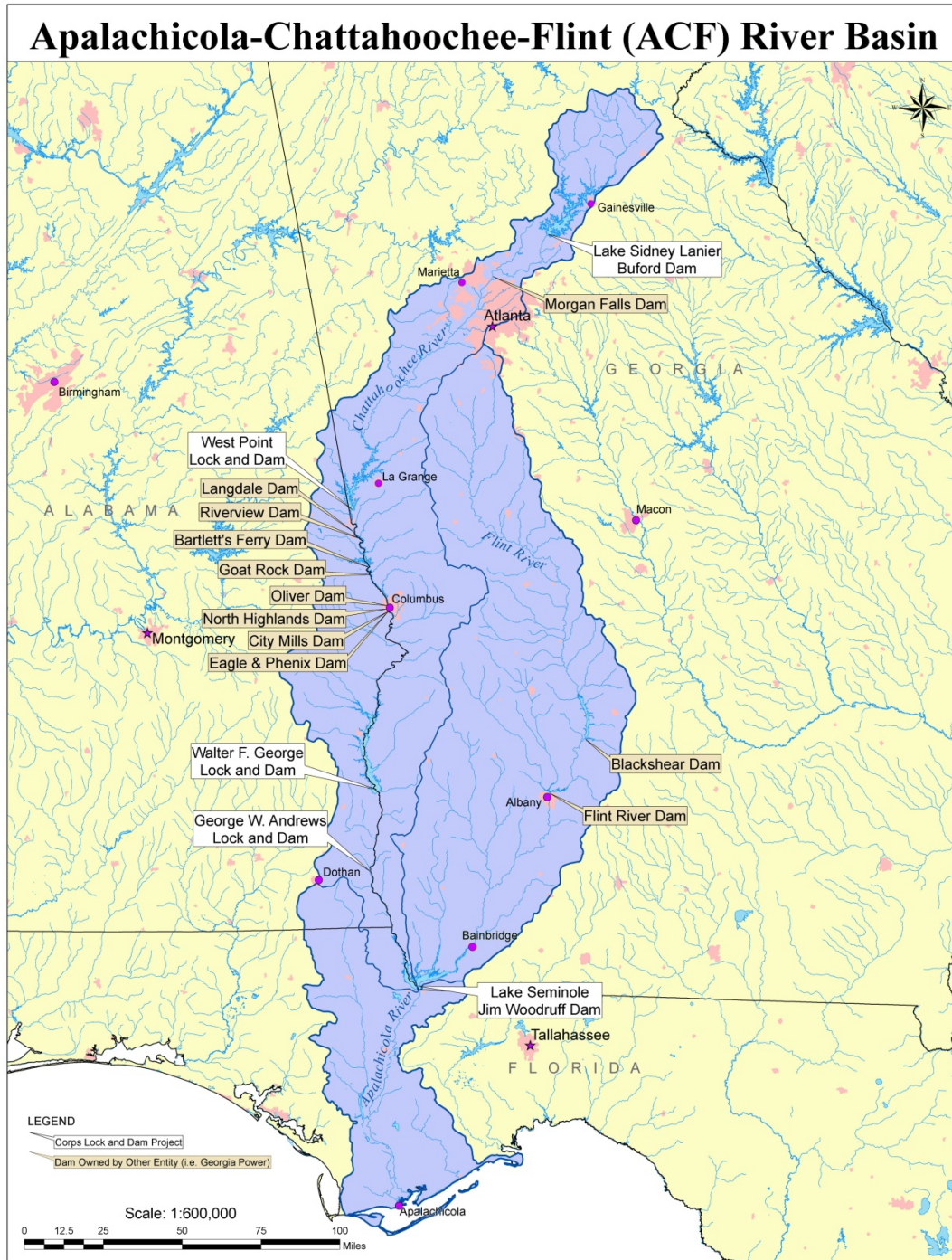


Figure 1. Apalachicola-Chattahoochee-Flint (ACF) River Basin.

1.2 Federal Authorizations

Several pieces of authorizing federal legislation affect the ACF River Basin. Section 2 of the *River and Harbor Act of 1945* (Public Law [P.L.] 79-14) approved the general plan recommended in House Document 342, 76th Congress, for development of the Apalachicola, Chattahoochee, and Flint Rivers, Georgia and Florida, for the multiple purposes of navigation, hydroelectric power generation, flood risk management, and water supply. A modification to the 1945 general plan was authorized by Section 1 of the *River and Harbor Act of 1946* (P.L. 79-525), in accordance with the report of the Chief of Engineers dated May 13, 1946 (House Document 300, 80th Congress), to include Buford multipurpose reservoir (Lake Lanier), the Fort Benning Lock and Dam, and the Upper Columbia and Jim Woodruff multipurpose developments. The navigation feature of the project was to be provided by dredging, channel contraction works, construction of a series of locks and dams, and flow regulation by the upstream reservoirs. In the Apalachicola River portion of the project, the 1946 amendment provided that "...local interests furnish free of cost to the United States, as and when required, all rights-of-way, spoil-disposal areas, easements and other lands required for the provision and maintenance of a navigation channel in the Apalachicola River...." The Chief of Engineers proposed revised plan for a low dam at the Columbia (now called George W. Andrews Lock and Dam) site rather than the previously considered high dam, and a high dam at the Ft. Gaines (now called Walter F. George Lock and Dam) site rather than a low dam at the more upstream Ft. Benning site. These modifications were authorized by Congress in 1953 (House Committee Public Works Resolution adopted May 19, 1953). The *Flood Control Act* of 1962 authorized West Point Lake, in accordance with House Document No. 570, 87th Congress.

Other authorities generally applicable to USACE reservoir projects may affect operation of the ACF system. Such authorities include the Flood Control Act of 1944 (P.L. 78-534), which provides authority to construct, operate or allow recreational facilities (Section 4) and to make contracts for the use of surplus water for domestic, municipal and industrial purposes (Section 6) at any USACE reservoir; the *Water Supply Act of 1958* (P.L. 85-500, Title III), which provides the authority to include storage for municipal and industrial water supply; the *Fish and Wildlife Coordination Act of 1958* (P.L. 85-624), which provides the authority to modify projects to conserve fish and wildlife; the *Federal Water Pollution Control Act Amendments of 1972* (P.L. 92-500), which establish the goal to restore and maintain the quality of the nation's waters; and the *Endangered Species Act of 1973* (ESA; P.L. 93-205), which provides the authority for operating projects to protect threatened or endangered fish and wildlife.

1.3 USACE Projects in the ACF River Basin

The USACE operates five dams in the ACF River Basin (in downstream order): Buford, West Point, Walter F. George, George W. Andrews, and Jim Woodruff. All but one is located wholly on the Chattahoochee River arm of the basin. The exception is the furthest downstream dam, Woodruff, which is immediately below the confluence of the Chattahoochee and Flint rivers and marks the upstream extent of the Apalachicola River. Buford, West Point, George, and Woodruff dams are reservoirs (Lakes Lanier, West

Point, George, and Seminole, respectively) with a combined conservation storage capacity (relative to the top of each reservoir's full summer pool) of about 1.6 million acre-feet. Because George W. Andrews and Jim Woodruff Dam/Lake Seminole are operated as a run-of-river projects, only very limited storage is available to support project purposes. The USACE projects in the ACF River Basin and their authorized project purposes are described in more detail in the following subsections.

1.3.1 Lake Sidney Lanier and Buford Dam

The USACE's Buford Dam on the Chattahoochee River is a multipurpose project that provides benefits including flood risk management, hydroelectric power generation, navigation, recreation, water supply, water quality, and fish and wildlife conservation. Section 2 of the *River and Harbor Act of 1945* (P.L. 79-14) approved the general plan recommended in House Document 342, 76th Congress, for development of the Apalachicola, Chattahoochee, and Flint Rivers, Georgia and Florida, for the multiple purposes of navigation, hydroelectric power generation, and flood risk management. A modification to the 1945 general plan was authorized by Section 1 of the *River and Harbor Act of 1946* (P.L. 79-525), in accordance with the report of the Chief of Engineers dated May 13, 1946 (House Document 300, 80th Congress), and it included Buford multipurpose reservoir (Lake Sidney Lanier, or Lake Lanier). On July 30, 1956, Congress enacted P.L. No. 84-841 (70 Stat. 725) modifying the Buford Project by authorizing the Secretary of the Army to contract with Gwinnett County, for up to 50 years on terms that the secretary deems reasonable, "for the use of storage space in the Buford Reservoir for the purpose of providing . . . a regulated water supply in an amount not to exceed eleven thousand two hundred acre-feet of water annually."

The authorized project provides for a rolled-earth dam 1,630 feet long with crest at elevation 1,106 feet National Geodetic Vertical Datum of 1929 (NGVD), or about 192 feet above streambed elevation; three earthen saddle dikes with a total length of 5,406 feet; a chute spillway with crest at elevation 1,085 feet; a powerhouse in a deep cut, with steel penstocks in tunnels and concrete intake structure at the upstream end of the tunnels; and a flood control sluice tunnel paralleling the power tunnels.

Lake Lanier has a total storage of 2,515,800 acre-feet, composed of flood storage and is a dedicated space in a reservoir that temporarily holds flood waters. Flood storage is normally empty and can vary seasonally. Conservation storage is a volume represented by total storage minus inactive storage and flood storage, and inactive storage is a dedicated volume within a reservoir to maintain design integrity of the project and serve as a sediment reserve. The minimum conservation pool elevation is 1,035 feet, and the maximum conservation pool elevations are 1,071 feet in the summer and 1,070 feet in the winter. At the top of the conservation pool—elevation 1,071 feet, in summer—the reservoir storage is 1,917,000 acre-feet, of which 1,087,600 acre-feet (in summer) is conservation storage and 867,600 acre-feet are inactive storage. In winter, conservation storage is 1,049,400 acre-feet, between elevations 1035 and 1070. In addition, 637,000 acre-feet (598,800 acre-feet in summer) is reserved for flood storage between elevations 1,071 (1070 in summer) and 1,085. The total usable storage, consisting of flood control

and conservation storage, is 1,686,400 acre-feet at all times. Lake Lanier has a surface area of 40,133 acres at elevation 1,071 feet.

The power installations consist of one 7-MW generating unit and two units of 60 MW each, for a total of 127 MW. The penstock capacity is 12,000 cfs. The project is typically operated for peaking power on a 5-days-a-week schedule, with occasional peaking on Saturdays and Sundays. The number of hours of generation per day depends on the available storage, conditions in the basin, and electrical demand. The 7-MW unit runs continuously (at 600 cfs) to help meet downstream minimum flow requirements.

Since the mid-1970s, USACE has, at times, made additional releases from the larger generating units during off-peak periods to accommodate downstream water supply withdrawals and to assist with maintaining a 750 cubic feet per second (cfs) minimum flow target established by the State of Georgia at Peachtree Creek. Such releases have been made in conjunction with the Georgia Power Company's operation of the Morgan Falls reservoir, which serves to reregulate releases from Buford Dam, and according to understandings among multiple parties, memorialized in a series of interim plans and agreements (e.g., an interim plan in 1975, a modified interim plan in 1979, and a short-term plan in 1986). The USACE's operation of Buford Dam to accommodate water supply withdrawals from the reservoir and downstream has been the subject of litigation, culminating in a decision by the U.S. Court of Appeals for the Eleventh Circuit and a technical analysis and legal opinion by the Corps on remand. This litigation and the Corps' determinations upon remand are discussed in more detail in Section 1.5.

1.3.2 West Point Lake and Dam

The USACE's West Point Dam and Lake were authorized by the *Flood Control Act* of October 23, 1962 (P.L. 87-874). The authorized project purposes for the reservoir are flood risk management, hydroelectric power generation, navigation, recreation, water quality, and fish and wildlife conservation.

The authorized project provides for a gravity-type concrete dam 896 feet long with earthen embankments at either end—1,111 feet long on the east end and 5,243 feet long on the west end. The total length of the dam and spillway is 7,250 feet. The main dam consists of a concrete non-overflow section, 185 feet long on the west side, and an earthen embankment retaining wall on the east side. The main dam has a gravity concrete spillway 390 feet long, including piers and abutments, with six tainter gates, each 50 feet by 41 feet. A monolith intake-powerhouse section and erection bay 321 feet long are constructed directly west of and adjacent to the spillway.

At the top of conservation pool (elevation of 635 feet), the reservoir provides a total storage of 774,800 acre-feet, of which 306,100 acre-feet is available conservation storage (elevation 635 feet to 620 feet) and 298,400 acre-feet is inactive storage. The total storage at maximum flood pool (elevation 641 feet) is 1,379,320 acre-feet. During the critical flood season, the reservoir is operated with a maximum conservation pool elevation of 628 feet to provide additional flood damage reduction storage. West Point Lake has a

surface area of 25,900 acres at elevation of 635 feet. The power installations consist of one 3 MW generating unit and two units of 42 MW each, for a total of 87 MW.

At the full pool elevation of 635 feet NGVD, the reservoir provides a total storage of 605,000 acre-feet, of which 307,000 acre-feet is usable. Flood risk management storage of 85,200 acre-feet is provided between pool elevations 635 feet and 641 feet. During the critical flood season, the reservoir is operated with a maximum conservation storage elevation of 625 feet to provide additional flood risk management storage of 221,000 acre-feet. West Point Lake has a surface area of 25,900 acres at an elevation of 635 feet. The power installations consist of one generating unit of 3 MW and two units of 42 MW each, or a total of 87 MW.

When peaking generation is not occurring, the 3 MW unit is run continuously, releasing 675 cfs to the Chattahoochee River. It operates in a peaking mode, generating power between two and six hours during normal operations each weekday depending on the conservation pool elevation. Weekend generation may occur if required to meet customer needs. Lake levels vary during high inflows to the basin and during flood storage drawdown in the winter. Flood flows captured in the reservoir are usually released slowly over the subsequent weeks, unless additional flood flows are expected. Power releases during the low-flow season augment flows at the Georgia Power Company projects along the Chattahoochee River. The releases also provide water for navigation on the Apalachicola River below Jim Woodruff Lock and Dam during the winter.

1.3.3 Walter F. George Lock and Dam

Walter F. George Lake, also known as Lake Eufaula, is created by the Walter F. George Lock and Dam on the Chattahoochee River about 183 miles upstream of Apalachicola Bay. The authorized project purposes are hydroelectric power generation, navigation, recreation, water quality, and fish and wildlife conservation. The existing project provides for a concrete dam, gated spillway, and single-lift lock, with earthen embankments at either side. The non-overflow section of the dam includes a powerhouse and an intake structure. The gated spillway is 708 feet long with a fixed crest at elevation 163 feet NGVD. The two earthen embankments, almost equal in length, have a total length of 12,128 feet, with crest elevation at 215 feet and a maximum height of about 68 feet. The non-overflow section of the concrete dam is 200 feet long, with the deck of the powerhouse section at elevation 208 feet. A lock 82 feet wide and 450 feet long, along with a 9-foot-deep, 200-foot-wide navigation channel extending to Columbus, Georgia, is authorized for navigation use. The lock has a lift of 88 feet with the normal upper pool elevation at 190 feet. Depths are 13 feet over the lower sill and 18 feet over the upper sill at normal pool elevation.

At the full pool elevation of 190 feet, the reservoir provides a total storage of 934,400 acre-feet, of which 244,400 acre-feet is reserved for conservation storage and 690,000 acre-feet is inactive storage. There is no dedicated flood storage at this project. Walter F. George Lake has the largest reservoir surface area of any USACE project in the ACF River Basin; it has a surface area of 45,180 acres at elevation 190 feet. The power installation at the lake has been rehabilitated. The installation consists of four generating

units of 42 MW, for a total of 168 MW. A lock 82 feet wide and 450 feet long, along with a 9 feet-deep navigation channel extending to Columbus, Georgia, is authorized for navigation use.

1.3.4 George W. Andrews Lock and Dam

The George W. Andrews Lock and Dam is a navigation project on the Chattahoochee River, 154 miles upstream of Apalachicola Bay. Its authorized project purposes are navigation, recreation, and water quality. It consists of a concrete fixed-crest spillway 340 feet long extending into the right bank with crest at elevation 102 feet NGVD, a concrete gate spillway adjacent to the lock 280 feet long with crest at elevation 82 feet NGVD, a single-lift lock with usable chamber dimensions of 82 feet by 450 feet, and a maximum lift of 25 feet. Depths are 13 feet over the lower sill and 19 over the upper sill at a normal pool elevation of 102 feet. The Andrews project reregulates inflows caused by peaking power operations at Walter F. George Powerhouse.

1.3.5 Lake Seminole and Jim Woodruff Dam

The Jim Woodruff Lock and Dam are on the Apalachicola River 107.6 miles above its mouth, about 1,000 feet below the confluence of the Chattahoochee and Flint Rivers and 1.5 miles northwest of Chattahoochee, Florida. The reservoir, Lake Seminole, extends about 46.5 miles upstream along the Chattahoochee River to the vicinity of Columbia, Alabama, and about 47 miles upstream along the Flint River, or 17 miles above Bainbridge, Georgia. The authorized project purposes are hydroelectric power generation, navigation, recreation, water quality, and fish and wildlife conservation.

The existing project provides for a concrete open-crest spillway 1,634 feet long on the right bank, with crest at elevation 79 feet NGVD; a single-lift lock with usable chamber dimensions of 82 feet by 450 feet constituting a portion of the dam; an earthen section 506 feet long, with a maximum lift of 33 feet and a depth over the sills of 14 feet; a gated spillway 766 feet long with the bridge at elevation 107 feet NGVD, or about 67 feet above the streambed elevation; a powerhouse with an intake section constituting a portion of the dam; an earthen section 506 feet long to accommodate the switchyard and substation; and an overflow dike section 2,130 feet long on the left bank, with crest at elevation 85 feet.

At the normal pool elevation of 77 feet, the reservoir has a total capacity of 367,320 acre-feet. Lake Seminole has a surface area of 37,500 acres. The power installation consists of three units of 14.45 MW, or a total of 43.35 MW. The reservoir level is normally maintained near elevation 77 feet. Pondage of one-half foot above and below this elevation is used to reregulate flows into the reservoir from upstream projects that operate as peaking plants. Because there is no flood risk management storage at this project, the reservoir level is maintained at elevation 77 feet by passing inflows through the spillway gates or through the powerhouse.

On March 7, 2006, the USACE initiated formal consultation with the USFWS, pursuant to Section 7 of the Endangered Species Act, regarding the effects of existing operations at

Jim Woodruff Dam and releases to the Apalachicola River on endangered and threatened species and associated critical habitat. Specific species/critical habitat affected include: the threatened Gulf sturgeon (*Acipenser oxyrinchus desotoi*) and critical habitat for the Gulf sturgeon; the endangered fat threeridge mussel (*Amblema neislerii*); the threatened purple bankclimber mussel (*Elliptoideus sloatianus*); and the threatened Chipola slabshell mussel (*Eliptio chipolaensis*). The formal consultation on what was termed the Interim Operation Plan was completed with the issuance of a Biological Opinion on September 5, 2006.

Over the 2006-2008 timeframe, the USACE and USFWS continued to consult resulting in additional modifications to the IOP. Formal consultation was again requested by USACE on April 15, 2008, to consider further revising the IOP (RIOP) to include a drought contingency plan that allows for additional storage conservation and system recovery during periods of extreme drought and providing additional opportunities to conserve storage when entering and exiting drought conditions while still providing support for federally listed species and their critical habitat in the Apalachicola River. A final BO was issued by the USFWS on June 1, 2008, determining that the RIOP would not significantly impact the federally listed species.

On the basis of new information about the distribution and mortality of endangered fat threeridge mussels in the Apalachicola River, USACE reinitiated consultation on the RIOP in November 2010 to consider modifications to the RIOP. These modifications include (1) elimination of the use of volumetric balancing; (2) minimum flow releases will match basin inflow when basin inflow is between 5,000 and 10,000 cubic feet per second (cfs) in June through November (this provision is suspended during drought contingency operations); (3) drought contingency operations are not suspended and normal operations reinstituted until such a time as the composite conservation storage has recovered above Zone 2 into Zone 1; (4) when releases are within powerhouse capacity and less than 10,000 cfs the maximum fall rate is limited to 0.25 feet per day (ft/day) or less; and (5) in accordance with RPM 2008-4 of the RIOP BO (USFWS 2008), formal adoption of an additional Gulf sturgeon spawning season (March-May) provision which ensures that river stage declines of 8 feet or more will not occur in less than 14 days when river flows are less than 40,000 cfs (under both normal and drought operations). The RIOP is intended to govern releases from Jim Woodruff Dam until revised or replaced with a new Water Control Plan.

1.4 Non-USACE-Owned Dams in the ACF River Basin

Eleven additional dams are in the ACF River Basin that the USACE does not own and operate. Brief descriptions of the dams are provided below. Table 1 provides an overview of all the dams (USACE and non-USACE) in the ACF River Basin. The Morgan Falls project is on the Chattahoochee River 30 miles below Buford Dam at river mile 312.6. The dam impounds a 7-mile reservoir that has a surface area of 637 acres at elevation 866 feet. The total reservoir storage volume is about 2,450 acre-feet, of which 2,250 acre-feet is usable. The maximum generating capacity of the project is 16.8 MW. Georgia Power operates the Morgan Falls Project as a modified run-of-river project to reregulate peaking

flows from USACE's upstream Buford Dam for power generation, drinking water supply, and assimilation of treated wastewater in the Atlanta region.

Below West Point Dam are a series of eight hydropower dams along approximately 32 miles of river. Six of these dams are part of Georgia Power's Middle Chattahoochee Hydro Group; they are known individually as Langdale, Riverview, Bartlett's Ferry, Goat Rock, Oliver, and North Highlands. The first two, Langdale Dam and Riverview Dam, have very small, unnamed reservoirs. The larger projects at Bartlett's Ferry, Goat Rock, Oliver, and North Highlands are described below. The Middle Chattahoochee projects operate in a run-of-river-with-pondage mode, based on the outflow from USACE's West Point Dam upstream.

Table 1. Projects in the ACF River Basin

Basin/River/Project Name	Owner/State/Year Initially Completed	Drainage Area (Sq Mi)	Reservoir Size (Ac)	Total Storage (Ac-Ft) ^a	Conservation Storage (Ac-Ft)	Power Capacity (kW)	Normal (Summer) Lake Elev (Ft)	Authorized Purposes for USACE-Owned Projects ^b
Chattahoochee River 8,770								
Habersham Mill Dam	Habersham Mills/GA/1925		NA ^c	NA ^c	0	0		Inoperative
Buford Dam/Lake Lanier	USACE/GA/1957	1,040	40,133	2,515,800	1,087,600	127,000	1,071	FDR, HP, NAV, REC, WQ, WS, FW
Morgan Falls Dam (Bull Sluice Lake)	GPC/GA/1903	1,340	673	2,450	0	16,800	866	
West Point Dam and Lake	USACE/GA/1975	3,243	25,900	1,379,320	306,100	87,000	635	FDR, HP, NAV, REC, WQ, WS, FW
Langdale Dam	GPC/GA/1860	3,600	152	NA ^c	0	1,040	548	
Riverview Dam	GPC/GA/1902	3,600	75	NA ^c	0	480	531	
Barletts Ferry Dam	GPC/GA/1926	4,260	5,850	181,000	0	173,000	521	
Goat Rock Dam	GPC/GA/1912	4,500	940	11,000	0	26,000	404	
Oliver Dam	GPC/GA/1959	4,630	2,150	32,000	0	60,000	337	
North Highlands Dam	GPC/GA/1900	4,630	131	1,500	0	29,600	269	
City Mills Dam ^d	City Mills/GA/1863	4,630	110	684	0	0 ^d	226	Inoperative
Eagle and Phenix Dam ^d	Consolidated Hydro/GA1834	4,640	52	260	0	0 ^d	215	Inoperative
W. F. George Lock, Dam, and Lake (Lake Eufaula)	USACE/GA/1963	7,460	45,180	934,400	244,400	168,000	190	HP, NAV, REC, WQ, FW
George W. Andrews Lock, Dam, and Lake	USACE/GA/1963	8,210	1,620	18,180	0	None	102	NAV, REC, WQ
Flint River 8,468								
Crisp County Dam (Blackshear Dam and Lake)	Crisp Co./GA1930	3,800	8,700	144,000	0	15,200	237	
Flint River Dam (Albany Dam, Lake Worth)	GPC/GA/1920	5,310	1,400	NA ^c	0	5,400	182	
Apalachicola River 3,235								
Jim Woodruff Lock and Dam/ Lake Seminole	USACE/FL/1954	17,230	37,500	367,320	NA ^c	43,350	77	HP, NAV, REC, WQ, FW

^a Measured at top of storage for flood damage reduction.^b As used in this table, the term authorized purposes includes purposes expressly identified in the project authorizing documents; incidental benefits recognized in projection authorizations; and objectives that result from other authorities, such as general authorities contained in congressional legislation, for which the USACE operates each listed project as of 2012. FDR = flood damage reduction; HP = hydropower; NAV = navigation; REC = recreation; WQ = water quality; WS = water supply; FW = fish and wildlife conservation.^c NA = not available. ^d Inoperative and planned for removal under the USACE section 206 ecosystem restoration program.

- Bartlett's Ferry Dam is on the Chattahoochee River upstream of Columbus, Georgia. The dam impounds Lake Harding, which has a surface area of 5,850 acres at elevation 521 feet. The project includes a powerhouse composed of six units, which have a total generating capacity of 173 MW.
- Goat Rock Dam is at mile 172.2 on the Chattahoochee River. It impounds Goat Rock Lake, which has a surface area of 940 acres at elevation 404 feet. The powerhouse consists of six units with a total generating capacity of 26 MW. The project provides an instantaneous target minimum flow release of 800 cfs, or inflow, whichever is less, downstream of the dam.
- Oliver Dam, which impounds Lake Oliver, is at mile 163.5 on the Chattahoochee River downstream of Goat Rock Dam. The lake has a surface area of 2,150 acres at elevation 337 feet. The powerhouse consists of three 18-MW generating units and one small 6-MW generating unit, for a total capacity of 60 MW. The project provides an instantaneous target minimum flow release of 800 cfs, or inflow, whichever is less, downstream of the dam.
- The North Highlands project is at mile 162.5 on the Chattahoochee River downstream of Oliver Dam. The impoundment has a water surface area of 131 acres at elevation 269 feet. It has four units with a total generating capacity of 29.6 MW. The project is operated in a run-of-river-with-pondage mode, based on the outflow from the West Point Dam upstream. It provides an instantaneous target minimum flow release of 800 cfs, or inflow, whichever is less, downstream of the dam; a daily average target minimum flow of 1,350 cfs, or inflow, whichever is less, downstream of the project; and a weekly average target minimum flow of 1,850 cfs, or inflow, whichever is less, downstream of the project.

Two other dams, City Mills Dam and Eagle and Phenix Dam, are located downstream of Georgia Power's Middle Chattahoochee Hydro Group. These dams are inoperative, and the USACE is removing them under the authority of Section 206 of the *Water Resources Act of 1996*, as amended, in the interest of aquatic ecosystem restoration. Removal of Eagle and Phenix Dam took place in March 2012 and the City Mills Dam removal began in January 2013.

Lake Blackshear Dam, owned and operated by the Crisp County Power Commission, impounds the Flint River near Warwick, Georgia, at river mile 134.7. The power plant consists of four units with a total licensed capacity of 15.2 MW. The project consists of two earthen dams, each 30 feet high. The North Dam is 3,400 feet long, and the South Dam is 650 feet long. The drainage basin is approximately 3,764 square miles and begins at Hartsfield Airport just south of Atlanta, Georgia. The normal full pool elevation is 237 feet above mean sea level (msl).

Lake Worth is formed by the Lake Worth Dam on the Flint River, at its confluence with Muckalee Creek and Kinchafoonee Creek. The Georgia Power Company owns and operates the project. The lake covers 1,400 acres and has 36 miles of shoreline. It is in

Dougherty County just upstream of Albany, Georgia. The power installation consists of three units with a capacity of 5.4 MW.

1.5 Litigation

In 1989 two proposals caused controversy among water user groups, the states of Alabama, Florida, and Georgia, and various federal agencies. The USACE proposed to reallocate storage to municipal and industrial water supply at three reservoirs in the Alabama, Coosa, Tallapoosa (ACT) and ACF River Basins—Lake Lanier, Lake Allatoona, and Carters Lake—and Georgia proposed to develop a regional reservoir near the Alabama state line (West Georgia Regional Reservoir). A draft Reallocation and Post-Authorization Report and draft Environmental Assessment had been prepared for the Lake Lanier proposal. A draft ACF River Basin Master Water Control Plan, dated October 1989, was included as an appendix to the post-authorization change report.

1.5.1 The Alabama Case

Alabama filed a lawsuit against the USACE in June 1990 to halt these proposed actions. As a result of the litigation, the proposed revisions to the Master Manual were deferred while the parties negotiated. Accordingly, the USACE has been operating under the Draft 1989 Master Water Control Plan pending the update of the Master Manual and individual project water control plans.

After a period of negotiation, the governors of Alabama, Florida, and Georgia and the Assistant Secretary of the Army/Civil Works addressed the issues of concern by signing a Memorandum of Agreement (MOA) on January 3, 1992. The MOA specified that a comprehensive study of the water resources of the basins would be conducted, in partnership among the states and the USACE, to develop the needed water resources data and to investigate the feasibility of implementing an interstate coordination mechanism (compacts) for resolving water resources issues in the ACT and ACF River Basins. The MOA contained a live-and-let-live provision for water use in the basins while the ACT/ACF Comprehensive Study and negotiations were conducted. This approach permitted existing water users to reasonably increase water withdrawal amounts for the period necessary to negotiate a solution to the water issues. The MOA also specified that the USACE would operate the federal reservoirs in the ACT and ACF River Basins, within its statutory and contractual obligations, to maximize water resource benefits to the basins as a whole while taking into account the needs of existing water users and the need to maintain the historical flow regime in the rivers within the basins.

Subsequent supplemental MOAs extended the term of these agreements and continued to include the live-and-let-live provisions. The Comprehensive Study partners recommended river basin compacts between the states as the mechanism for negotiating storage allocation formulas and managing the basins. The live-and-let-live provisions were incorporated into the Interstate River Basin Compacts for each basin, signed into law by the President in November 1997; the MOAs were allowed to expire in September 1998.

It was envisioned that the Comprehensive Study would recommend, among other things, a conceptual plan for management of water resources in the ACT and ACF River Basins, including management of the federal and non-federal reservoirs within the basins; an assessment of existing and future water resource needs; the extent of water resources available within the basins to serve such needs; and an appropriate mechanism to implement management of the basins. The Comprehensive Study reports were never finalized, although much useful data on water resource needs and availability was generated and assessment and modeling tools were developed to assist in resource assessment and management of the basins.

Compact negotiations began in early 1998, with a December 31, 1998, deadline for reaching agreement on the storage allocation formulas. By mutual agreement and in accordance with the provisions of the Compacts, the states extended the deadline numerous times. Nevertheless, the State Commissioners (governors of each state) were unable to reach an agreement on an equitable apportionment of the waters in either basin, and the Compacts were allowed to expire in August 2003 (ACF River Basin) and in July 2004 (ACT Basin). Upon expiration of the ACT and ACF Compacts, Alabama and Florida reactivated their previous litigation and filed new litigation, resulting in a stay of any action by the USACE related to implementation of any new water supply contracts or changes in reservoir storage or water control operations. The states asserted in the litigation that water control operations in the ACF River Basin were not being conducted in accordance with approved water control plans, USACE regulations, and federal law. The ACF claims were consolidated as Multiple District Litigation to be heard by one judge in the District Court for the Middle District of Florida—*In re Tri-State Water Rights Litigation* (M.D. Fla. No. 3:07-md-01).

1.5.2 Mediation

Court-ordered mediation between the parties was initiated in March 2006 for both the ACT and ACF litigation. It expired in March 2007 (ACF River Basin) and in September 2007 (ACT Basin). On November 1, 2007, the governors of Alabama, Florida, and Georgia met with executive branch leaders (Secretary of the Department of the Interior, Chairman of the Council on Environmental Quality [CEQ], Chief of Engineers) to discuss strategies for developing solutions to the decades-long *water wars* among the three states. The resulting discussions focused primarily on the ACF system and the need for the states to agree on a drought water-management plan. The mutually agreed-upon deadline was March 1, 2008. The parties did not reach an agreement, and negotiations ended on the agreed deadline.

1.5.3 The D.C. Case

Water supply issues in the ACF River Basin were also the subject of litigation in the Federal District Court for the District of Columbia (D.C. Court) in December 2000, when the Southeast Federal Power Customers, Inc. (SeFPC) sued the USACE, alleging that use of water from Lake Lanier for water supply was not authorized and that the power customers were not receiving appropriate credit for hydropower losses. A Settlement Agreement in that lawsuit between the USACE and the SeFPC and Lake Lanier Water

Supply Providers was reached in January 2003 and approved by the D.C. Court on February 8, 2004. The Settlement Agreement included a proposal for the USACE to enter into interim water storage contracts at Lake Lanier for several municipalities and local governments, with the potential for the interim water storage contracts to roll over to permanent reallocation storage contracts in the future. Efforts to implement the Agreement, however, could not proceed because of an injunction obtained by Alabama in another federal court. That injunction was dismissed, and on December 21, 2005, the SeFPC filed a motion with the D.C. Court to stay proceedings in the case pending completion of the NEPA process contemplated by the Settlement Agreement.

In January 2006, the D.C. Court issued an order granting the stay and specifically stating that the stay of the litigation would not release the USACE from its existing legal obligation to implement the Settlement Agreement as expeditiously as practicable. On June 16, 2006, the Mobile District published in the *Federal Register* an NOI to prepare an EIS to address the proposed interim storage contracts. Public scoping meetings were held in November 2006, and a final Scoping Report was published in February 2007. Alabama and Florida appealed the SeFPC D.C. Court decision to the D.C. Circuit, and arguments were heard in November 2007. On February 5, 2008, the D.C. Circuit held the Settlement Agreement invalid because it constituted an amount that required congressional approval. Georgia filed a petition for a writ of certiorari with the Supreme Court on the decision by the D.C. Circuit. The Supreme Court denied the petition January 12, 2009.

1.5.4 The Georgia I Case

In 2000 the governor of Georgia made a written request for a water supply reallocation study asking the USACE to commit to making increased releases of water from the Buford Dam until the year 2030 to ensure a reliable municipal and industrial water supply to the Atlanta region. In 2001 after 9 months without a reply to the request, Georgia sued the USACE to increase its water supply. The USACE subsequently denied Georgia's request, claiming that it lacked the "legal authority to grant Georgia's request without additional legislative authority, because the request would involve substantial effects on project purposes and major operational changes." The federal district court, noting the similarity of the parties and the subject matter, found the case to be parallel to the Alabama case that was filed in 1990. The court suspended the proceedings in the Georgia I case pending resolution of the Alabama case.

1.5.5 The Georgia II Case

In 2006 the USACE issued an Interim Operating Plan (IOP) for Jim Woodruff Dam for the purpose of protecting federally protected species in the Apalachicola River. Georgia sued the USACE to challenge the IOP, claiming that it constituted a change from the only approved water control plan (which had been adopted in the late 1950s) and that the USACE was jeopardizing the state's future water supply. The suit also alleged that water supply was a contemplated purpose of the USACE's water project.

1.5.6 The Florida Case

In 2006 USFWS issued a biological opinion regarding the impact of the IOP for Woodruff Dam on protected species downstream. The biological opinion concluded that the USACE's operations under the IOP were not likely to jeopardize the species or their habitat. Florida filed a lawsuit to review the biological opinion, and the NEPA supporting the IOP. Furthermore, Florida alleged that the municipal and industrial water uses for which Georgia sought water were not authorized purposes.

1.5.7 The Consolidated Cases

In March 2007 the Alabama, Georgia I, Georgia II, and Florida cases were consolidated and transferred to the federal district court for the Middle District of Florida "to serve the convenience of the parties and witnesses and promote the just and efficient conduct of the litigation." The SeFPC case was also transferred after remand following the 2008 D.C. Circuit decision. With the agreement of the parties involved, the court split the litigation into two phases, the first phase dealing primarily with water supply issues at the Buford project and the second phase dealing with environmental issues associated with operation of Jim Woodruff Dam.

On July 17, 2009, the U.S. District Court for the Middle District of Florida issued the phase one ruling. Basic provisions of the ruling included the following:

- The USACE lacked the authority to continue to support the present levels of water supply withdrawals at Lake Lanier and downstream of Buford Dam or to reallocate storage to accommodate those or additional withdrawals. Accordingly, such water supply operations and most withdrawals from Lake Lanier must cease in July 2012. The USACE would be required to update its plans and manuals to implement the operations necessary to comply with the Court's order, which will require a reduction in water supply withdrawals "at the end of three years, absent [c]ongressional authorization or some other resolution of this dispute," or unless the order is overruled on appeal or otherwise modified.
- As of July 17, 2012, water supply withdrawals from Lake Lanier would be limited to the amounts authorized by relocation agreements with the cities of Gainesville and Buford, Georgia. Those agreements, which were executed at the time of the reservoir's construction, authorize withdrawals of 8 million gallons per day (mgd) for Gainesville and 2 mgd for Buford, a combined 10 mgd.
- As of July 17, 2012, "the required off-peak flow [at Buford Dam] will be 600 cfs."

One year later, July 21, 2010, the Middle District of Florida issued a second phase order in *In re Tri-State Water Rights Litigation*, which upheld the RIOP as the Jim Woodruff Dam operation in support of endangered species in the Apalachicola River but determined the NEPA for the RIOP was inadequate. However, because the USACE was already updating its manuals to replace the RIOP and drafting an EIS, the NEPA inadequacies were moot. Both orders were appealed to the U.S. Court of Appeals for the Eleventh Circuit. These appeals were eventually dismissed.

On June 28, 2011, the U.S. Court of Appeals for the Eleventh Circuit issued an opinion that the authorizing documents for the Buford Dam project include water supply as an authorized purpose. The opinion reversed the judgment of the District Court on the phase one ruling, vacated its findings and conclusions of law, and remanded the case *In re Tri-State Water Rights Litigation* to the district court with instructions to remand to the USACE for further proceedings “not inconsistent with this order.” This decision set aside the Army’s 2002 decision to deny Georgia’s 2000 request and ordered a remand to the USACE to reconsider whether it has the legal authority to operate the Buford Project to accommodate Georgia’s request, in light of the legal authority conferred by Congress in the Rivers and Harbors Act of 1946, P.L. No. 84-841 (July 30, 1956) (1956 Act), and the Water Supply Act of 1958. The court of appeals also directed the USACE to consider a number of other issues related to the legal authority to accommodate Georgia’s request, including how to measure the impacts of Georgia’s projected withdrawals and return flows on authorized purposes, and whether compensation to hydropower users is appropriate.

An appeal by Alabama, Florida, and the SeFPC for the case to be heard by the full panel of the U.S. Court of Appeals for the Eleventh Circuit was denied on September 16, 2011. On October 5, 2011, the district court remanded the matter to the USACE in accordance with the appeals court’s instructions. Limited jurisdiction was retained by the Eleventh Circuit pending the submittal by the USACE of its position regarding authority to grant Georgia’s 2000 request. The USACE submitted its Legal Opinion on June 25, 2012, and on July 10, 2012, the appeals court remanded any remaining jurisdiction in the cases to the district court.

The U.S. Supreme Court denied petitions by Alabama, Florida, and SeFPC for *certiorari* to review the Eleventh Circuit’s phase one decision on June 25, 2012.

On January 24, 2013, the district court vacated its phase two ruling on the grounds that the USACE and the service reinitiated consultation while the appeal was pending, thus rendering the appeal moot and making it proper to vacate the underlying order.

Accordingly, there is no active litigation regarding the USACE operation of the ACF Basin.

1.6 The ACF Master Manual

In January 2008 Secretary of the Army Pete Geren directed the USACE to update the Master Manual. The Master Manual was completed in 1958, and while reservoir regulation manuals for the later-constructed projects of West Point Dam, Walter F. George Lock and Dam, and George W. Andrews Lock and Dam were subsequently appended and some reservoir manuals were updated, the Master Manual has not been comprehensively revised since 1958.

The appendices to the Draft 1989 Master Water Control Plan include federal-reservoir-specific water control plans that outline the regulation schedules for each of the five

projects, including operating criteria, guidelines, guide curves, and specifications for storage and releases from the reservoirs.

The operation of federal reservoirs in the ACF system provides benefits including flood risk management (previously referred to as flood control), fish and wildlife conservation, navigation, hydroelectric power generation, water supply, water quality, and recreation. To accomplish the authorized project purposes and to operate the system efficiently to maximize these and other benefits, water must be stored during the wetter times of each year and released from storage during drier periods. Generally, this means that water is stored in the lakes during the spring and released in the summer and fall. However, some benefits such as lakeside recreation, water supply, and lake fish spawning are achieved by retaining water in the lakes throughout the year or during specified periods. The complex hydrology and varied uses of the ACF system require that the USACE operate the system in a balanced operation in an attempt to meet all the authorized purposes while continuously monitoring the total system's water availability to ensure that minimum project purposes can be achieved during critical drought periods.

To help do this, the USACE has defined four Action Zones in the three ACF storage projects—Buford, West Point, and Walter F. George. Action Zone 1, the highest in each lake, defines a reservoir condition in which all authorized project purposes should be met. As lake levels decline, Action Zones 2 through 4 define increasingly critical system water shortages and guide the USACE in reducing flow releases as pool levels drop as a result of drier-than-normal or drought conditions. The Action Zones also provide a guide to the USACE to help balance the remaining storage in each of the three major storage reservoirs.

USACE regulations require developing a water control plan for each reservoir project, as well as a basin Master Water Control Manual (Master Manual) for the coordinated operation of multiple projects within a river basin. Regulations further require that these water control plans and manuals be updated or revised as necessary to conform with changing requirements due to developments in the project area and downstream, improvements in technology, new legislation, and other relevant factors, provided such revisions comply with existing federal regulations and established USACE policy. The water control plans and manuals for the USACE reservoir projects in the ACF River Basin are out-of-date and need to be updated. The last approved Apalachicola River Basin Reservoir Regulation Manual is dated 1958. Although separate water control plans for each federal reservoir project in the ACF River Basin have been prepared and updated since that time, many of them need to be updated. As stated previously, the Draft Water Control Plan for the ACF River Basin was updated in 1989 but never finalized. Although the 1989 draft plan was never finalized, the USACE has continued to operate the ACF in accordance with it, making small changes or adjustments as circumstances required. Coordination and consultation under the ESA has been accomplished for project operations as the need arose, although formal consultation for the basin-wide manual operations has not been completed.

The USACE now intends to proceed with updating those water control plans and the basin manual for the ACF. The proposed updates of the water control plans and manual

are intended to reflect operations as they have evolved due to changing conditions in the basin and will fully comply with agency regulations, federal laws, and the Eleventh Circuit Court of Appeals' order. The states and other stakeholders will be involved in developing the plans. The process of updating the water control plans, subject to the availability of funds, is estimated to take approximately 2½ years. It will include public involvement and analysis under NEPA and consultation under the ESA. Furthermore, to satisfy its obligations under NEPA, the USACE will evaluate present circumstances as part of its EIS, 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. Updating the water control plans and manuals will provide a way to capture the USACE's operating environment.

2.0 Scoping Process Summary

The *National Environmental Policy Act* is a full disclosure law that allows public involvement in the federal agency decision making process. All persons and organizations that have a potential interest in major action proposed by a federal agency—including other federal agencies, state and local agencies, federally recognized Native American Indian tribes, interested stakeholders, and minority, low-income, or disadvantaged populations—are encouraged to participate in the NEPA process.

The CEQ regulations implementing NEPA direct federal agencies that have decided to prepare an EIS to engage in a public scoping process. The purpose of scoping is to determine the range of issues to be addressed and to identify the significant issues to be analyzed in depth with respect to the proposed action and alternatives.

Following the decision to prepare an EIS for implementation of an updated Master Manual, the USACE initiated the scoping process. The USACE 's objectives for scoping were to identify public and agency concerns; clearly define the significant environmental issues and alternatives to be examined in the EIS, including the de-emphasis of insignificant issues; identify related issues that originate from separate legislation, regulations, or Executive Orders (e.g., endangered species or environmental justice concerns); identify state and local agency requirements that must be addressed; and identify available sources of data, studies, or tools that could provide information valuable in preparing the EIS.

In 2008, the USACE's scoping process consisted of the following elements:

- Publishing an NOI to prepare an EIS in the *Federal Register*
- Publishing an announcement of the dates and locations of five public scoping meetings in the *Federal Register*
- Updating the existing mailing list by means of an initial postcard requesting accurate contact information
- Distributing a newsletter and a public notice announcing public scoping meetings and locations to federal, state, and local agencies and officials; stakeholders; and other interested parties
- Preparing and launching a website that described the NEPA process and all the public involvement activities planned during EIS preparation and served as a tool for collecting public comments and updating the project mailing list
- Distributing a press release to media outlets
- Sending agency scoping and tribal consultation letters by email
- Sending agency scoping and tribal consultation letters by the U.S. Postal Service
- Holding a federal agency meeting and web conference to inform the agencies and solicit comments

- Hosting a Stakeholder's Workshop to share the new and improved version of reservoir simulation software called *Hydrologic Engineering Center (HEC)-ResSim* with all stakeholders groups involved with water management issues in the basin
- Holding five public scoping meetings to inform the public about the proposed action and to solicit oral and written comments on the issues that should be addressed in the EIS
- Reviewing and evaluating the oral and written comments received during the open comment period
- Publishing the scoping report on a website
- Distributing a newsletter announcing publication of the scoping report to federal, state, and local agencies and officials; stakeholders; tribes; and other interested parties.

The USACE reopened the scoping process in 2009. The second round of scoping included the following additional elements:

- Publishing an announcement to reopen public scoping in the *Federal Register*
- Distributing a public notice announcing the reopening of public scoping by email and through the U.S. Postal Service for those who did not have an email address or who requested hard-copy notices
- Preparing and launching a website that described the NEPA process and all the public involvement activities planned during EIS preparation and served as a tool for collecting public comments and updating the project mailing list
- Distributing a press release to media outlets
- Reviewing and evaluating the written comments received during the open comment period
- Publishing the scoping report on a website at <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate.aspx>
- Distributing a newsletter announcing publication of the scoping report to federal, state, and local agencies and officials; stakeholders; tribes; and other interested parties.

The USACE's reopened the scoping process a third time in 2012. The third round of scoping included the following additional elements:

- Publishing in the *Federal Register* an announcement to reopen public scoping
- Distributing a newsletter announcing the reopening of public scoping by email and through the U.S. Postal Service for those who did not have an email address or who requested hard-copy notices

- Updating the project website to reflect the 2011 decision and to serve as a tool for collecting public comments and expanding the project mailing list
- Distributing a press release to media outlets
- Reviewing and evaluating the written comments received during the open comment period
- Distributing a newsletter during the public scoping process notifying the public of an extension of the comment period end date by email and through the U.S. Postal Service for those who did not have an email address or who requested hard-copy notices
- Publishing the updated scoping report on the website
- Distributing a newsletter announcing publication of the scoping report to federal, state, and local agencies and officials; stakeholders; tribes; and other interested parties.

2.1 Notices of Intent

On February 22, 2008, the USACE published in the *Federal Register* an NOI to prepare an EIS for the proposed implementation of the updated ACF Master Manual. On September 19, 2008, a supplement to the NOI was published in the *Federal Register* to invite the public to participate in the NEPA scoping process. The supplemental NOI in 2008 provided details on the dates and locations of the five open-house-style public scoping meetings scheduled at various locations throughout the ACF River Basin, and information explaining the various methods to be used to collect comments from the public for consideration in preparing the Draft EIS.

The scoping process has been reopened twice after the initial effort to collect comments in 2008. On November 19, 2009, an NOI was published in the *Federal Register* to reopen scoping to revise the scope of the Draft EIS to account for a July 2009 federal court ruling addressing the USACE's authority to provide water supply benefits through its operation of the Buford Dam/Lake Sidney Lanier project. On October 12, 2012, an NOI was published in the *Federal Register* reopening the public scoping process to revise the scope of the EIS in light of a June 28, 2011 Decision of the United States Court of Appeals for the Eleventh Circuit and a June 2012 legal opinion of the USACE's Chief Counsel regarding authority to accommodate municipal and industrial water supply from the Buford Dam/Lake Lanier project.

All the 2008, 2009 and 2012 notices listed Mr. Brian Zettle (USACE Mobile District) as the point of contact for questions regarding the manual update or the NEPA process. Copies of the *Federal Register* notices are provided in Appendix A.

2.2 Public Notices

The USACE posted press releases on the USACE website, which is at <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate>, to announce all three scoping opportunities (2008, 2009, and 2012). The press releases were also delivered to newspapers and radio and television stations throughout the basin (Tables 2 and 3). In addition to providing information on the USACE website, the USACE also launched a project-specific website in 2008 to provide another avenue for communicating information to stakeholders about the EIS and Master Manual update, as well as to provide for Web-based comment submission during the scoping period. In 2009 the USACE website was used to collect public comments and provide updates on the status of the EIS. In October 2012 the website text was updated to reflect the third round of scoping comment collection and related information and was again used to collect comments <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate.aspx>.

The September 2008 press release summarized the proposed action and the dates, times, and locations of the public scoping meetings held in October 2008. The November 2009 press release announced the revisions that the USACE was making to the EIS according to the July 17, 2009, federal court ruling. The 2012 press release announced the intent to revise the scope of the EIS in light of the June 2011 Decision (Appendix B).

Table 2. Newspapers that Received Press Releases

Publication	Location
<i>Abbeville Herald</i>	Abbeville, Alabama
<i>Albany Herald</i>	Albany, Georgia
<i>Atlanta Journal Constitution</i>	Atlanta, Georgia
<i>Columbus Ledger-Enquirer</i>	Columbus, Georgia
<i>The Decatur Daily</i>	Decatur, Alabama
<i>Dahlonega Nugget</i>	Dahlonega, Georgia
<i>Dothan Eagle</i>	Dothan, Alabama
<i>Eufaula Tribune</i>	Eufaula, Alabama
<i>Forsyth County News</i>	Cumming, Georgia
<i>Georgia Outdoor News</i>	Madison, Georgia
<i>Gainesville Times</i>	Gainesville, Georgia
<i>Gulf County Breeze</i>	Gulf Breeze, Florida
<i>Gwinnett Daily Post</i>	Gwinnett County, Georgia
<i>Jackson County Floridian</i>	Marianna, Florida
<i>LaGrange Daily News</i>	LaGrange, Georgia
<i>Lanette Valley Times</i>	Lanette, Alabama
<i>Montgomery Advertiser</i>	Montgomery, Alabama
<i>Mundo Hispanico</i>	Atlanta, Georgia
<i>Opelika Auburn News</i>	Opelika, Alabama
<i>Pensacola News Journal</i>	Pensacola, Florida
<i>Tallahassee Democrat</i>	Tallahassee, Florida

Table 3. Television and Radio Stations that Received Press Releases

Name	City
WRBL TV (Channel 3, CBS)	Columbus, Georgia
WSB TV (Channel 2, ABC)	Atlanta, Georgia
WTVM TV (Channel 9, ABC)	Columbus, Georgia
WXIA TV (Channel 11, NBC)	Atlanta, Georgia
WGCL TV (Channel 46, CBS)	Atlanta, Georgia
WDUN (550 AM)	Gainesville, Georgia
WMJE (102.9 FM)	Gainesville, Georgia
WGST (640 AM)	Atlanta, Georgia
WSB Radio (98.5 FM)	Atlanta, Georgia

A newsletter containing the same information as the press release (Appendix C) was sent to more than 3,800 stakeholders, including federal agencies, state agencies, federally recognized Native American Indian tribes, local agencies and officials, public interest groups, private organizations, individuals, and other interested parties in 2008. In 2009 a newsletter containing the relevant content of the November 19, 2009, *Federal Register* was distributed to stakeholders. In 2012 a newsletter containing the relevant content of the October 12, 2012 *Federal Register* was distributed to stakeholders. The newsletters were distributed through the U.S. Postal Service and electronically, if an email address had been provided.

The project mailing list was developed from an existing USACE -maintained database of stakeholders with an interest in activities within the ACF River Basin. In 2008, a postcard was sent to stakeholders to give them an opportunity to update their information to include an email address, provide an alternative contact's email address, state whether they would like to continue to receive mail through the U.S. Postal Service, or remove their name from the mailing list.

At this time, there are more than 11,000 stakeholders on the mailing list. As other interested parties have been identified, they have been added to the mailing list, which will be updated continually throughout the development and finalization of the EIS. Anyone requesting information or notice regarding the EIS will be added to the mailing list. Participants in the public and interagency scoping meetings have been added to the project mailing list as well. Requests to be added to the mailing list can be made at <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate.aspx>.

2.3 Native American Indian Tribal Consultation

Government-to-government tribal consultation notices (Appendix D) were sent electronically on October 1, 2008, and through the U.S. Postal Service on October 15, 2008, to 26 federally recognized Native American Indian tribes in the United States. The consultation letters contained information regarding the update of the Master Manual, as well as announcements of the interagency and public scoping meetings. The letters also requested a response with respect to interest in participating in a consultation meeting

regarding the EISs for both the ACF and ACT River Basins. The meeting was planned for November 13, 2008, in Spanish Fort, Alabama, outside Mobile. Mr. Tommy Birchett, an archaeologist with the Mobile District, was identified as the point of contact for responses.

Seven of the 26 tribes responded to the initial electronic mailing, several of which mentioned schedule conflicts. Ultimately, only the Choctaw Nation of Oklahoma expressed interest in attending the meeting November 13, 2008.

A final mailing was sent electronically as a follow-up to ensure that no other tribes were interested in participating in government-to-government consultation at the time. Because of the limited response, the USACE chose to coordinate with the tribes via email and referred the tribes to the various resources available online to find out more about the proposed USACE action.

2.4 Federal Agency Web Conference

On September 26, 2008, the USACE sent an electronic invitation to attend a federal agency web conference to the points of contact previously identified in the ACF River Basin. A follow-up announcement was distributed October 6, 2008, to remind agencies of the meeting and request their participation in a pre-meeting agenda planning tool. An online survey was created to collect input from the agencies, and it was later used to establish the web conference agenda. The web conference was held October 9, 2008, at the Mobile District office in Mobile, Alabama. The purpose of the meeting was to provide background information on and an open discussion about updating the Master Manual. The meeting was also used to gather existing data and additional information that can be used in developing the Draft EIS.

Thirty representatives from 11 federal agencies participated in the web conference. In addition to presenting background information on the update of the Master Manual, the USACE provided information on the NEPA process and discussed the resource areas that would likely be considered in the EIS. A summary of the issues raised during the web conference is provided in Section 4.6 of this report. The meeting agenda and presentation are in Appendix E.

2.5 HEC-ResSim Technical Modeling Workshops

The HEC has developed a new and improved version of its reservoir simulation software called *HEC-ResSim*. Recognizing *HEC-ResSim*'s sophisticated computational abilities and maturity as a generalized model, the Mobile District began working with HEC to modernize its ACT and ACF reservoir modeling applications using *HEC-ResSim*. The more powerful system modeling functions and ability to incorporate custom logic into water management decisions provide improved capability to actual operations and allow greater flexibility for evaluating alternatives.

In the interest of transparency and cooperation, the Mobile District and HEC hosted a workshop to share the new tools and data with all stakeholders groups involved with

water management issues in the basin. The workshop took place at Jim Woodruff Lock and Dam from September 30 to October 2, 2008, and it focused entirely on technical topics. Twenty-eight modelers attended the workshop. Twenty-three of the modelers represented three federal agencies, three state agencies, and one university; the five remaining modelers were private consultants representing the stakeholders.

The session proved very successful in terms of its objectives:

- Introduce the participants to the HEC-ResSim software.
- Initiate technology transfer by providing the participants with a copy of the software and the ACT/ACF models, walk the participants through the model, and answer questions.
- Foster relationships by continuing longstanding technical working relationships with the stakeholders.

Copies of the workshop announcement, agenda, and attendees are in Appendix F. Mobile District and HEC continued to refine the HEC-ResSim models of the ACF system.

On May 3-5, 2011, the Mobile District hosted a follow-up HEC ResSim technical workshop. Representatives from all three states (AL, GA, and FL), Federal agencies, and technical experts from other stakeholders, academia, and consulting firms attended the workshop. The purpose of the workshop was to update the participants on further development and refinement of the HEC ResSim model for specific application to the ACF and to present model results for runs of the baseline (existing) project operations. The workshop served as an excellent vehicle for continued technology transfer and relationship building among the technical experts.

Copies of the workshop announcement, agenda, and attendees are provided in Appendix F.

2.6 Public Scoping Meetings

Public scoping meetings for the ACF River Basin were held on the following dates at the times and locations:

- Monday, October 20, 2008: Franklin County Courthouse, Apalachicola, Florida, 5:00 p.m.–8:00 p.m.
- Tuesday, October 21, 2008: Dothan Convention Center, Dothan, Alabama, 5:00 p.m.–8:00 p.m.
- Wednesday, October 22, 2008: Callaway Center at West Georgia, LaGrange, Georgia, 5:00 p.m.–8:00 p.m.
- Thursday, October 23, 2008: Cobb County Government Civic Center, Hudgins Hall, Marietta, Georgia, 4:00 p.m.–7:00 p.m.
- Wednesday, October 29, 2008: Georgia Mountain Center, Gainesville, Georgia, 5:00 p.m.–8:00 p.m.

The venues were chosen on the basis of accessibility to the public throughout the ACF River Basin. An open house format was used at each meeting, and information stations with displays (Appendix G) and handouts (Appendix H) were available for viewing. Subject matter experts from the USACE and environmental contractors staffed each station, where information about the following was provided:

- The ACF River Basin Master Manual and federal-reservoir-specific water control plans
- Water management and federally authorized project purposes
- Modeling tools
- The NEPA process and EIS development
- Environmental resources
- Socioeconomics

In addition, a welcome station, media station, written comments station, and court reporter were available to provide information and accept oral and written comments.

A total of 1,018 stakeholders participated in the 5 public scoping meetings. Table 4 shows a breakdown of the participation by meeting location.

Table 4. Participants by Scoping Meeting Location

Date	Location	Attendance
October 20, 2008	Apalachicola, Florida	135
October 21, 2008	Dothan, Alabama	24
October 22, 2008	LaGrange, Georgia	365
October 23, 2008	Marietta, Georgia	93
October 29, 2008	Gainesville, Georgia	401
<i>Total</i>		<i>1,018</i>

Following sign-in, a USACE representative offered a brief presentation to introduce participants to the format of the public scoping meeting and to clarify the purpose of the meeting. USACE experts and environmental contractors were available at stations to answer questions and accept comments. Laptop computers were set up to accept comments electronically through the project website; a staff member was on hand to help participants to use the computers. Comment forms were also available at the written comments station. In addition, a court reporter was available at each meeting to accept oral comments. Appendix I contains the oral comment roster. Transcripts of the oral comments are included in Appendix J, which contains all the comments the USACE received during scoping (in their original format).

2.7 Scoping Comments

The public scoping effort for updates to the Master Manual in the ACF River Basin resulted in a total of 3,621 comments from 965 individuals, organizations, and agencies. A total of 2,269 comments were submitted during the formal scoping period that ended November 21, 2008, and 234 during the formal scoping period that ended January 4, 2010. In the 2012 scoping period ending January 14, 2013, an additional 1,118 comments were received. During the 2008 initial scoping period, comments were submitted to the USACE through all available options—U.S. Postal Service, email, website, fax, verbal transcription, or in person at one of the scoping meetings held in 2008. In the 2009 and 2012 scoping periods, comments were submitted to USACE through U.S. Postal Service, email, website, and fax. Copies of all the public and agency comments received in the scoping process are in appendices.

Scoping continues throughout the preparation of an EIS. The USACE will accept and consider all comments regardless of when they are submitted. Comments submitted outside formal scoping periods, however, are not represented in this scoping report.

3.0 Scoping Comment Analysis

The scoping process for the EIS for implementation of an updated Master Manual resulted in the submission of comments from 958 individuals, organizations, and agencies and three petitions. As described in Section 2 of this report, the USACE received oral and written comments by U.S. Postal Service, email, on website forms, and at public scoping meetings. In the next stages of the EIS process, the USACE will use these comments to determine the scope and content of the Draft EIS. Note that the USACE does not endorse or validate the content of the comments received.

During the 2008 initial scoping period, 2,269 comments were received. An additional 234 comments were received in the 2009 reopened scoping period, and an additional 1,118 were received in the 2012 scoping period for 3,621 total comments. The comments were categorized into 12 categories: Water Management Recommendations; Socioeconomics and Recreation; Biological Resources; Drought Operations; Water Quality; Water Supply; NEPA; Data, Studies, and Analytical Tools; Navigation; Hydropower; Flood Risk Management; and Other Resources. Some of the categories were further divided into subcategories to present the stakeholders' issues and recommendations more clearly. Table 5 provides the total number of comments broken down into segments and categorized by issue. All comment letters received were sorted and segmented by comment category. These are in the appendices of the Scoping Report. Each appendix contains all comments from a single round of scoping: 2008 is in Appendix K, 2009 is in Appendix N, and 2012 is in Appendix P.

When considering the numbers represented in Table 5, it is important to note that some comments might be defined by more than one category. Also important to note is that some of the comments received were submitted by entities or organizations representing a specifically identified number of individuals. These letters are accounted for in the same manner as correspondence received from elected officials written on behalf of their constituents; that is, each letter is counted as one submission. Statistically, the petitions were accounted for separately and were not incorporated into the numbers presented in Table 5, as presented in Section 3.13.

Table 5. Comments Categorized by Segment

Category	2008	2009	2012	Total number of comments
Water Management Recommendations	868	53	307	1,228
Socioeconomics and Recreation	404	14	288	706
Biological Resources	284	35	265	584
Drought Operations	191	5	12	208
Water Quality	155	12	22	189
National Environmental Policy Act	79	80	82	241
Water Supply	117	19	13	149
Data, Studies, and Analytical Tools	56	4	37	97
Other Resources	52	6	7	65
Navigation	28	4	9	41
Hydropower	26	0	5	31
Flood Risk Management	9	2	71	82
			<i>Total</i>	<i>3,621</i>

3.1 Water Management Recommendations

Operation of federal reservoirs in the ACF River Basin for their authorized project purposes provides multiple benefits, including: fish and wildlife conservation, flood risk management, hydroelectric power generation, navigation, recreation, water supply, and water quality. In the 2008 scoping period, 868 comments related to the management of project purposes and USACE operations of the ACF River Basin were received, in the 2009 reopened scoping period, 53 comments were received, and in the 2012 reopened scoping period, 307 comments were received for 1,228 total comments. These comments were further divided into six subcategories: (1) Existing Water Management Practices, (2) Water Management Suggestions, (3) Demands and Needs, (4) Conservation, (5) Alternatives, and (6) Other. Figure 2 shows the distribution of comments regarding water management recommendations.

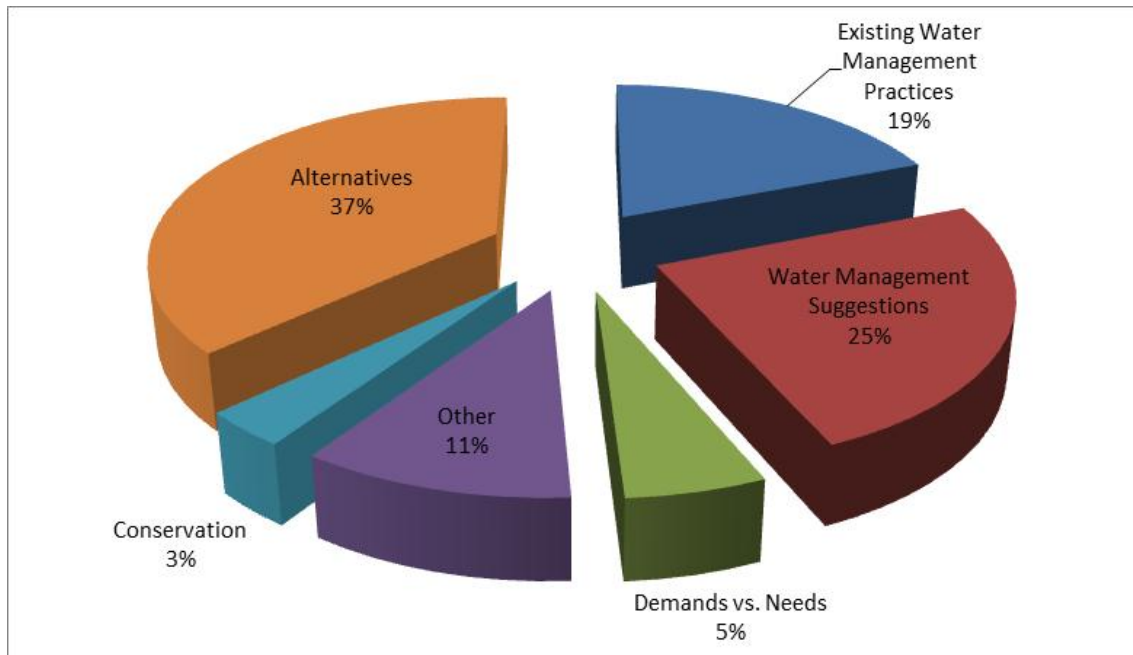


Figure 2. Distribution of comments among Water Management Recommendations subcategories.

3.1.1 Existing Water Management Practices

3.1.1.1 Initial Scoping Period—2008

The USACE received 103 comments critiquing the manner in which the water management activities in the ACF River Basin are carried out. The comments regarding Lake Lanier addressed the low lake levels and their effects on recreation, safety, property values, the environment, and aesthetics. One commenter stated, “Sometimes it’s embarrassing. I have relatives that call from all over the United States and make jokes about do I have water in my lake.” Another said, “We also had dead mussels on the dry land at our house when the water was down.” Others called attention to a gauge error that occurred in 2006, citing the error as a contributor to the low lake levels that followed. Some questioned the USACE’s decisions to make releases from Lake Lanier at the beginning of the drought, given the small drainage area upstream and the known difficulty in refilling. Others questioned why water continues to be released from Lake Lanier even when the pool elevation is 22 feet below normal. A few commenters expressed their perception of preferential treatment of upstream users to the detriment of downstream users. A representative of Gwinnett County, citing paragraph 6d of Engineer Regulation (ER) 1110-2-240, stated, “We do not believe that the present Interim Operations Plan and its modifications follow this USACE rule.” Another commenter stated that downstream lakes have recovered from their low levels, but continued releases from Lake Lanier in excess of inflow have not allowed its recovery.

Those commenting about West Point Lake complained primarily of low lake levels and the impact on recreation and recreational safety. One commenter stated that “[c]onditions

of a low pool are extremely hazardous to those who use the lake for recreation and as a means of daily sustenance.” Others questioned whether the USACE is operating West Point Lake in accordance with the congressional authorization. The West Point Lake Coalition, for example, stated that “the USACE operates West Point Lake specifically and the ACF system in general in a way that ignores the original, PRIMARY congressional authorizations as a group and focuses extensively on flood risk management as well as downstream and upstream demands that do not meet the purposes set forth by Congress. It appears that the USACE has established the flood risk management authorization as THE primary purpose” Some suggested that the USACE needs to take a more proactive approach to the creeks that feed into the lake by dredging them to prevent flooding of low-lying areas.

Some commenters were concerned about flows in the open-river sections downstream of the reservoirs. Some, such as the Alabama Department of Conservation and Natural Resources (ADCNR), expressed concern that “the water management policies of the past have often resulted in a degradation of the ecological integrity of a river ecosystem, which in the case of wildlife has led to a decrease in biodiversity and species sustainability.” ADCNR added, “To protect ecological integrity, we need to mimic components of natural flow variability, taking into consideration the magnitude, frequency, timing duration, rate of change and predictability of flow, and sequencing of such conditions.” Others were concerned that growth in the Atlanta region will cause the USACE to modify its operations of Lake Lanier to the detriment of the downstream uses of water supply and waste assimilation. The Columbus Water Works expressed concern that current operations do not pay adequate attention to Chattahoochee River flows in the middle stretch of the river and the minimum flow obligations of Georgia Power Company projects operating under a Federal Energy Regulatory Commission (FERC) license. A number of commenters were concerned that current operations favor endangered species (mussels) over people.

3.1.1.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, the USACE received an additional 12 comments pertaining to existing water management practices. Regarding Lake Lanier, one commenter stated that “Hall County is being severally restricted from using the water right here in our county so that people downstream of us can use the water from Lake Lanier.” Another commenter opposed using the RIOP as the basis for a new Water Control Plan because it relies solely on augmentation flows from Lake Lanier as the solution to the concerns identified in the Apalachicola River and vicinity. Three commenters provided similar comments regarding existing water management practices at West Point Lake. They suggested that the Flood Control purpose has been overemphasized in the current operations manuals as compared to the other authorized uses such as recreation, and releases are made from West Point Dam at a flow rate that is higher than what would occur naturally in order to satisfy downstream needs such as municipal waste assimilation and “thermo-electric” power. One commenter urged the USACE to abandon its current methodology of calculating basin inflow because the methodology does not accurately reflect inflows to the basin. Another commenter suggested that water management practices should account for following reasonably

foreseeable actions and that “special attention should be paid to USACE policies to hold reservoirs high, operational changes that redistribute and/or store water previously released for navigation support and the effects of thousands of small reservoirs (current and future) in the ACF Basin.”

3.1.1.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received an additional 119 comments pertaining to existing water management practices. These comments are consistent with previous scoping efforts; parties at Lake Lanier and West Point Lake believe lake levels are too low and too much water is released from their reservoirs; users of Apalachicola River and Bay describe how they have been affected by extreme low flows. The comments by basin region follow:

- *Lake Lanier* user comments were focused on the following five points:
 - 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 cannot be expected to because the dams originally proposed on the Flint River were never built.
 - The USACE’s 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 USACE to augment Apalachicola River flows above run-of-river levels, and the practice should not be required because it depletes Lake Lanier unnecessarily.
 - Regular navigation is no longer feasible on the ACF, and the USACE should not try to support it in view of the other demands on Lake Lanier as a resource of last resort.
- *West Point Lake* comments described personal accounts of frustration with fluctuating water levels, low lake levels, effects on personal property (particularly docks), and fisheries because of increased shoreline erosion.
- *Middle Chattahoochee River* comments reminded the USACE of minimum flows necessary for assimilative capacity. In some letters, requests were made to maintain these flows even during droughts and when flow in the Flint River are sufficient enough to lessen the pressure for releases from the Chattahoochee River reservoirs to meet prescribed flow requirements below Jim Woodruff Lock and Dam. The operation of Plant Farley, providing 19 percent of total electricity generated for Alabama Power Company, also depends on adequate flows in-stream.
- *Apalachicola River and Bay* interests were represented by Florida Department of Environmental Protection (FDEP) comments on effects of operations on the Apalachicola River; more detail on its comments is provided in Section 4.3.2.3.

3.1.2 Water Management Suggestions

3.1.2.1 Initial Scoping Period—2008

A total of 132 comments provided suggestions regarding potential modifications to current water management practices and water control plans. The comments from federal, state, regional, and local agencies are discussed in more detail in Section 4. EPA identified a number of issues for inclusion in the updated water control plans, including a discussion of how operations have changed historically, drought contingency operations, compliance with new environmental requirements for water quality and endangered species, use of real-time data, and streamlining data exchange between agencies. The USFWS provided a number of suggestions for consideration in updating the water control plans. The USFWS requested that the USACE develop a summary of the current operating rules for each project, an explanation of their basis in congressional authorization, and a description of the USACE's discretion to change the operating rules. The USFWS recommended a comprehensive process for determining how ecological and social benefits could be increased by modifying the operation of the federal projects and suggested that the USACE consider the impacts of increasing consumptive demands in the ACF River Basin.

The Alabama Office of Water Resources (AOWR) stated that “[u]nless the USACE undertakes the revision to the Water Control Manuals in a manner that is consistent with federal law, including the recent decision of the United States Court of Appeals for the D.C. Circuit, the current effort will not help resolve the long-running controversy over the ACF River Basin.” AOWR further suggested that the update of the Master Manual focus on authorized purposes by assessing whether any changes in baseline conditions are necessary to comply with existing laws and regulations. FDEP stated, “The master manual must clearly describe not only the relative priorities of each of the ACF reservoirs, but also how those priorities and additional uses and demands will be accommodated.” FDEP also suggested that the NEPA process evaluate USACE operations throughout the ACF River Basin. The Georgia Environmental Protection Division (GAEPD) stated, “It should be noted that the issuance of water withdrawal permits from Lake Lanier and the withdrawal and consumption of water from the ACF River Basin are state and local actions, not federal actions, and therefore should not be addressed within the scope of connected, cumulative, and similar federal actions.” The Atlanta Regional Commission (ARC) suggested that the USACE consider all reasonable alternatives; operate the ACF projects in accordance with their congressionally authorized purposes; and address the needs of the middle and lower portions of the basin. Hall County, Georgia, suggested that the updated manuals rely on the most up-to-date factual information examining new and different ways of operating the ACF projects.

The Students of River Basin Management at Florida State University provided several suggestions, including potentially revising the Action Zones, incorporating the RIOP into the updated manuals, defining the process of balancing the reservoirs, and incorporating adaptive management. One commenter was concerned that net local inflow accounts for not only stream flow into the reservoir but also consumptive depletions and evaporation from the reservoirs, which could adversely affect the computed inflows used in the RIOP.

Another commenter encouraged further revision of the RIOP to limit the adverse effect on Lake Lanier. One commenter encouraged the use of HEC-ResSim to assist in developing new operating rules for the ACF projects and suggested that the water control plan consider effects on the Apalachicola River and Bay. The West Point Lake Coalition requested that the “winter drawdown” be no lower than elevation 633 feet.

One commenter suggested that the USACE’s updated Master Manual could be a critical tool in achieving joint agreement in interstate water management. Some commenters suggested that the updated Master Manual must be scientifically based and establish an equitable distribution of the waters of the ACF River Basin. One commenter suggested reducing releases from Lake Lanier when rain occurs in downstream portions of the ACF River Basin. Another commenter observed that the Flint River has not been developed in accordance with the original comprehensive plan for the ACF River Basin and that additional reservoirs would be helpful in solving the interstate water issues.

The Association of County Governments of Georgia (ACCG) stated, “Updating the plan should include new methods of forecasting runoff and modeling to ensure that the USACE ACF reservoirs, particularly Lake Lanier, are allowed to reach full pool no later than June 1st of each year and are as full as practical during drought conditions while still meeting downstream, legally-required flows.” Numerous other commenters agreed with the idea of refilling Lake Lanier by June 1 of each year. Sixty-six comments encouraged balancing of project purposes. They indicated that all interests should be considered and evaluated and that upstream and downstream needs are equally important. One commenter suggested that “[t]here is sufficient water in the basin to meet reasonable needs for municipal and industrial water supply without causing harm to the environment or to other users if, but only if, the reservoirs are managed wisely.”

Fifteen comments encouraged a reduction in dependence on West Point Lake for meeting downstream needs. The Mayor of LaGrange, the West Point Lake Coalition, and the Troup County Chamber of Commerce all stated that “the project has been used as, using the USACE terms, ‘the workhorse’ of the basin. Nowhere in the congressional authorization does Congress empower the USACE to take the resources at West Point and to use them exclusively for purposes other than those set by Congress.” A similar sentiment was expressed by 12 other commenters. One commenter suggested that faster reaction to changing conditions is needed and that there is no time for “lots of studies.” Five comments regarding monitoring were received. EPA suggested that “employing this same type of concept [referring to GAEPD’s process for monitoring water quality] in other areas would greatly enhance the ecological sustainability of the aquatic systems affected by construction, maintenance and operation of federal projects within the ACF watershed basin.” Another commenter suggested real-time monitoring for river flows in the Atlanta area to tailor releases to exactly what is needed. ACCG urged that “any new Water Control Plan not simply tweak or replicate the USACE existing operations. Instead, alternative operating plans must be developed using modern inflow forecasting and modeling to meet the agreed upon performance measures that will manage our shared water resources much more effectively both now and into the future.”

There were five comments regarding sharing the effects of drought throughout the ACF River Basin. One commenter expressed the opinion that “[a]ll communities benefiting from the Lanier withdrawals should be on the same water restrictions as those at Lake Lanier even if they have sufficient water while we are in a draught [sic]!” Another commenter described this notion as “sharing the pain.” Two comments encouraged conservative operations of the reservoirs to maintain higher pool levels. Seventeen commenters suggested conserving storage by reducing releases and withdrawals during drought times. One commenter stated, “Too much water has been allowed to flow downstream. Lake Lanier has been adversely affected by the drought and excessive outflow of lake water.” Another commenter suggested that releases above natural river flows should not be made when the lakes are in Action Zones 2–4. All 17 commenters shared the view that releases should be reduced until Lake Lanier has recovered.

3.1.2.2 Reopened Scoping Period—2009

A total of 16 comments provided during the 2009 reopened scoping period offered suggestions regarding potential modifications to current water management practices and water control plans. Two commenters suggested keeping Lake Lanier as full as possible. Another commenter suggested that the critical yield analysis should acknowledge that the entire conservation pool (from 1,035 to 1,070 msl) at Lake Lanier is available to meet hydropower and other downstream demands. The National Park Service (NPS) stated that the preservation of base flows in the Chattahoochee River is critical for ecological and recreational purposes and that a minimum flow in the river of no less than 1,000 cfs would preserve water quality and ecological and recreational uses of the river below Buford Dam. The NPS also suggested that the USACE consider modifying the release schedule from Buford Dam to allow for more gradual increases and decreases in water levels to mitigate the effects of sudden and dramatic changes in river levels.

One commenter suggested that the USACE consider the ongoing FERC relicensing of the Bartlett’s Ferry facility and the operations of other non-USACE facilities during the Master Manual update. The Lake Lanier Association suggested that the water control plans include remediation measures rather than relying on augmentation flows as the solution to the system’s problems. To accomplish this, the Association suggested that the USACE not use the RIOP as the presumptive basis for the new WCP and that mitigation factors be considered as alternatives to minimum flows for support of threatened and endangered species. Such factors include remediating the Apalachicola River channel, modifying or closing flows in the Chipola Cutoff, and modifying or closing Sikes Cut. The Association also suggested that the USACE consider alternatives to certain provisions of the RIOP, including the required minimum flows of 5,000/4,500 cfs and existing trigger criteria, prescribed storage/release thresholds, determining minimum flows on the basis of composite storage zones and “basin inflow,” rise rates and fall rates, minimum seasonal flows and begin/end dates (e.g., for spring spawning), and percentage of Basin Inflow available for storage.

With regard to West Point Lake, one commenter encouraged the USACE to manage West Point Lake consistent with the congressional authorization for recreation and sport fishing and wildlife development and to manage the ACF System in a truly balanced

manner based on the latest science and technology available. The commenter suggested that a revised rule curve should be implemented with action zones limited to a 3-foot variance from full pool.

The Apalachicola Riverkeeper provided information in a comment letter regarding pre-dam flows in the Apalachicola River. The Riverkeeper suggested that the unimpaired flow data set should be calibrated to achieve a comparable representation of the pre-dam flows to ensure that the data accurately reflect what would occur under natural conditions. The Riverkeeper also commented that the USACE must analyze whether and how the proposed alternative management regimes could affect past, present, and reasonably foreseeable future reservoir and dam operations. The Riverkeeper further urged the USACE to fully consider increasing storage capacity by such means as dredging sediments captured by the lakes, raising the tops of the dams, and acquiring flood-prone areas and reducing flood control. One commenter suggested that the WCP update should comply with ER 1110-2-240.

3.1.2.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received an additional 153 comments pertaining to water management suggestions. The comments by basin region follow:

- *Lake Lanier* should be kept at 1,071 feet or increased to 1,073 feet.
- *Chattahoochee River National Recreation Area* comments along this reach focused on decreasing peaking discharges to improve public safety, decrease sediment transport, and maintain a water level in Morgan Falls Dam of 864 feet.
- *West Point Lake* levels should be maintained between 632.5 and 630.0 msl and the guide curve raised to 632.5 msl in the winter.
- *Middle Chattahoochee River* minimum flows should be maintained as follows: weekly average 1,850 cfs and a daily average 1,350 cfs at Columbus, Georgia, and a daily average of 2,000 cfs at the Columbia, Alabama. SeFPC also asked USACE to consider operational improvements that would resolve head limits at the Walter F. George and Jim Woodruff Projects. A request was made to maintain Walter F. George Lake at 187 feet or greater.
- *Apalachicola River and Bay* should be receiving sufficient flows to inundate floodplains for 3 to 6 weeks per year, and USACE should establish ecological flows to the system considering studies and modeling work performed by others.

Other comments that described broader basinwide actions were provided by federal, local, and state agencies including EPA, NPS, GAEPD, FDEP, ARC, and the Gwinnett County Board of Commissioners. These comments are summarized in Section 4. One comment suggested that the USACE should explore interbasin transfers from the Tennessee or Tallapoosa Rivers.

3.1.3 Demands and Needs

3.1.3.1 Initial Scoping Period—2008

Forty-six comments fell into the Demands and Needs category. Of these, 31 comments expressed concern regarding the ability of the federal projects in the ACF River Basin to meet downstream needs. Among the needs identified were minimum flow needs in the middle Chattahoochee portion of the basin; the needs of industry, such as the Farley Nuclear Plant; and ecosystem needs in the Apalachicola River and Apalachicola Bay. Some commenters believed that upstream needs for water supply and recreation should receive greater emphasis than downstream needs. Others were concerned that the Apalachicola River and Apalachicola Bay should be protected with adequate water flow.

Twelve commenters were concerned about the adequacy of water resources to meet future water needs. One commenter stated, “The new Water Control Plan should be designed to accommodate withdrawals consistent with projections contained in the Metropolitan North Georgia Water Planning Districts Water Supply and Conservation Plan.” Another suggested, “Consideration should be given [to] looking at future population projections and water demands from the river.” Three comments addressed the subject of growth management. One commenter observed that “[t]he man made problems of uncontrolled development which requires more water than is available without the least bit of concern for others in continuing development is more than we should or can be expected to swallow.” Another commenter asked “future growth and development in Atlanta to demonstrate where water supply will come from to support planned growth.”

3.1.3.2 Reopened Scoping Period—2009

Three comments from two commenters regarding demands and needs were provided during the 2009 reopened scoping period. Both commenters suggested that the USACE analyze the impacts of the proposed alternative management regimes together with reasonably foreseeable future water withdrawals from the Apalachicola, Chattahoochee, and Flint Rivers from federal, non-federal, and private projects and actions.

3.1.3.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received 18 comments pertaining specifically to demands and needs. AOWR indicated that the Draft EIS must consider the municipal, industrial, and agricultural water supply needs of Alabama. Comments were also received from homeowners in the Middle Chattahoochee River reminding the USACE to address homeowner needs for water in the water control manual (WCM) update. FDEP comments indicate that the WCM must recognize the limits on reduced inflows to the Apalachicola River. The Apalachicola Riverkeeper recommended that USACE first establish ecological flow requirements before determining storage allocations. In its view, continuously increased water use upstream will occur if there is no determination on limits to that use. Comments of many private citizens expressed concern about the ever-increasing demand for water in light of limited supplies in the basin. Georgia Power also recommended that USACE assess water use, with the focus on

maintaining power generation, as the need for electricity increases as growth in the region continues to occur. Other private citizens recommend that USACE provide advocacy and leverage to influence demands for water conservation and distribution of water for equitable balance, and that it consider opportunities in the Flint River.

3.1.4 Conservation

3.1.4.1 Initial Scoping Period—2008

The USACE received 27 comments related to water conservation. One commenter observed that conservation measures in the Atlanta area were effective. Another suggested that the “Metropolitan North Georgia Water Planning District is far ahead of the rest of the basin in these efforts and is currently revising its Water Supply and Conservation Plan to be even more aggressive.” Several commenters encouraged implementation of basin-wide conservation measures. Another commenter suggested that conservation measures should be developed for water uses in addition to water supply. According to one commenter, conservation measures should be incorporated into the Master Manual update.

3.1.4.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, the USACE received five comments related to water conservation. One commenter questioned whether the citizens downstream in Alabama and Florida are under the same water use restrictions as those in the Atlanta region. Another commenter observed that the Atlanta region is reluctant to “embrace” water conservation. A further commenter urged the USACE to require implementation of aggressive conservation measures that could reduce withdrawals and depletions from the ACF system.

3.1.4.3 Reopened Scoping Period—2012

During the 2012 reopened scoping period, the USACE received 10 comments specific to conservation. EPA recommended that before new water supply sources or storage contracts are issued, the applicant be required to demonstrate water efficiency/conservation implementation (including water reuse). FDEP asked USACE to promote conservation in the basin. Metropolitan North Georgia Water Planning District (MNGWPD) describes existing conservation measures in place in its planning district.

3.1.5 Alternatives

3.1.5.1 Initial Scoping Period—2008

There were 440 comments that suggested alternatives to be considered as part of the update of the Master Manual. Many of the comments received were associated with maintaining or raising full pool water levels at Lake Lanier and West Point Lake. Specifically, commenters would like Lake Lanier to remain at 1,071 feet or to be raised to 1,073 feet. Comments regarding West Point Lake requested eliminating the winter drawdown and maintaining the lake at between 633 and 635 feet. Other commenters

suggested adopting “management triggers” for Lake Lanier, stating that “[t]he new WCP should incorporate specialized provisions for managing Lake Lanier that reflect its distinctive characteristics and management needs. Without them, Lake Lanier is destined to be disproportionately impacted by draw-downs for downstream management, without an ability to remain near full pool or to refill.”

Twenty-four commenters suggested construction of additional reservoirs to meet future water supply and other water resources needs. Five commenters encouraged restoring a historical flow regime to the Apalachicola River. One commenter suggested that some control of inter-basin transfers is needed. Four commenters suggested desalination as a potential source for future water supply, and four suggested a pipeline to bring Tennessee River water to the Atlanta area as a potential solution. Three commenters suggested that closing Bob Sikes Cut should be part of a solution to salinity problems in Apalachicola Bay.

Many of the alternatives suggested are outside the existing authority of the USACE and could not be implemented without additional congressional authority. Suggestions that are outside the existing USACE authority may be considered by conducting a feasibility study and making appropriate recommendations to Congress for their authorization. One authority for conducting such a feasibility study is Section 216 of the *Flood Control Act of 1970*, which authorizes studies to review the operation of completed federal projects and recommend project modifications "when found advisable due to significantly changed physical or economic conditions ... and for improving the quality of the environment in the overall public interest." Such studies are conducted under the USACE's General Investigation program and require cost-sharing from a local sponsor.

3.1.5.2 Reopened Scoping Period—2009

Comments on water management alternatives received during the 2009 reopened scoping period were very similar to those received during the 2008 scoping period. Four of the 12 comments received suggested raising the level of Lake Lanier to 1,073 feet as a means of obtaining additional water supply in the Atlanta region. Two commenters again suggested eliminating the winter drawdown at West Point Lake and maintaining the lake at between 633 and 635 feet. One commenter pointed out that constraints on water management in the ACF system stem from the lack of sufficient water storage capacity (or infrastructure) in the Flint River Basin and suggested broadening the scope of the EIS to encompass a preliminary engineering study that would define the benefits of additional storage facilities on the Flint River. Other water management alternatives suggested include refurbishing Jim Woodruff Lock and Dam to increase the "head limit" and operating Lake Lanier to provide water supply for the 2035 demand as defined in the MNGWPD *Water Conservation and Water Supply Plan of 2009*.

3.1.5.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received two comments specific to water management alternatives that were not otherwise categorized as water management

suggestions. AOWR provided comments that asked USACE to consider adjusting action zones so that a lower percentage of conservation storage is in Action Zone 4.

3.1.6 Other

3.1.6.1 Initial Scoping Period—2008

The USACE received 119 comments regarding water management that did not clearly fall within other subcategories and therefore were categorized as “Other”. These comments were wide-ranging and cannot be easily summarized. A couple of commenters encouraged the USACE to conduct a thorough update, stating that “[o]nly the most thorough study and vetting resulting in a cultural change in the USACE understanding and management of the system will assure a basin that meets the needs for future generations.” Another commenter expressed frustration with the time required to update the Master Manual. Other commenters described the scoping process as a waste of time and money.

3.1.6.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, five comments regarding water management were categorized as *Other*. One commenter suggested that the USACE host a watershed summit to present good, better, best options for water management. Another commenter stated that the baseline in the EIS should document and evaluate the historical changes in the ACF River Basin with respect to changes in stream flows, including the amount, timing, and quality of flows in pre-dam and reservoir flow regimes. Another commenter stated that an accurate critical yield is an essential component of the Master Manual and water control plans for federal reservoirs and encouraged the USACE to seek public comment before finalizing its new critical yield analysis.

3.1.6.3 Reopened Scoping Period—2012

The USACE received five comments regarding water management that did not clearly fall within other subcategories and therefore were categorized as *Other*. AOWR defines flaws in modeling assumptions that account for water returns and for how those return flows affect modeling at Peachtree Creek. AOWR asked the USACE to not assume direct returns from water withdrawals at Lake Lanier and indicated that the USACE must consider allocation of conservation storage at Lake Lanier if releases are made for downstream water supply. AOWR also described the effects of increased water supply on hydropower and indicated that unless the USACE lowers elevations at Lake Lanier, effects on hydropower will be much greater during critical drought periods. AOWR goes on to calculate an expected change to conservation storage at Lake Lanier and recommended that USACE should not proceed with the assumption that congressional approval will not be required.

The Douglasville-Douglas County Water and Sewer Authority also commented on its concern for the effects of the WCM update on its future water, wastewater, and watershed management plans.

3.2 Socioeconomics and Recreation

Socioeconomics (the study of the relationship between economic activity and social life) and Recreation received 404 comments during the 2008 initial scoping period, 14 comments during the 2009 reopened scoping, and 288 in the 2012 reopened scoping period, for 706 total comments. The comments were sorted into six subcategories: (1) Economics and Recreation; (2) Safety Hazards; (3) Environmental Justice; (4) Population Growth; (5) Shoreline Management; and (6) General Socioeconomic Issues. The percentage of comments assigned to each subcategory is shown in Figure 3.

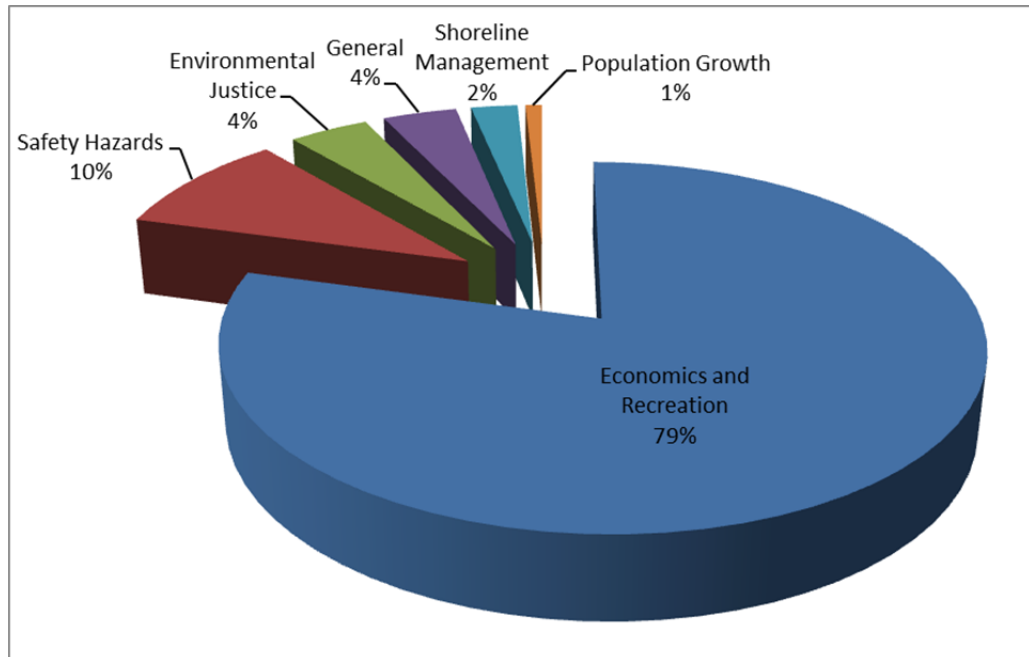


Figure 3. Distribution of comments among Socioeconomics and Recreation subcategories.

It is important to note that concerns regarding socioeconomics—employment, lost revenue, economic growth, property values, recreation, environmental justice, public safety—are the underlying message in far more than the 706 comments directly attributed to this category. Though more comments were assigned to the Water Management Recommendations category than to this category, a large percentage of those recommendations were centered on achieving more favorable socioeconomic conditions for stakeholders throughout the ACF River Basin. Summaries of the issues raised, by subcategory, are provided in the following subsections.

3.2.1 Economics and Recreation

3.2.1.1 Initial Scoping Period—2008

Recreation is a major economic driver for many of the communities in the ACF River Basin. In fact, recreation and economics are so closely intertwined in the comments

provided by stakeholders that the two topics could not be disentangled. Of the 293 comments assigned to this subcategory, about 80 percent regarded the effects of low water levels in Lake Lanier and West Point Lake; the remaining 20 percent addressed the effects of low water flows in the Chattahoochee River south of West Point Dam.

Stakeholders in Georgia raised numerous issues regarding the adverse impacts that prolonged low and inconsistent water levels in lakes Lanier and West Point have had on the local, regional, and state economies. The issues raised include job and income losses for water-dependent and recreation/tourism-based businesses, sharp declines in property values, lost recreation opportunities and declining quality of life, and lost opportunities for economic growth. Many contended that the USACE has failed to take socioeconomic impacts into account in its water management practices. Several comments expressed a belief that the USACE is knowingly managing its dams to meet the downstream water flow needs of natural resources without regard for the socioeconomic impacts on the people of Georgia. Many of the comments were submitted on behalf of large organizations or associations that represent the concerns of thousands of stakeholders.

Stakeholders in the middle and lower regions of the ACF River Basin submitted more than 30 comments, which addressed the adverse economic and recreation impacts of low river flows in the Chattahoochee River south of West Point Dam. Alabama stakeholders raised issues regarding downstream flow requirements to meet hydropower project purposes and industrial users—critical components of the regional and state economy. Recreation is also a large economic driver in the eastern regions of the state, and low reservoir levels and river flow have affected the economy and quality of life for Alabamians. Florida stakeholders expressed great concern for the future of their seafood- and fishing-based economy, as well as the businesses that support that economy, including tourism, if adequate water flow into Apalachicola Estuary and Bay is not maintained. Florida stakeholders expressed grave concerns that if minimum flows for the survival of the Apalachicola estuarine ecosystem are not maintained, the economy of the Apalachicola Bay region will collapse, with no possibility for recovery.

Stakeholders offered an extensive list of basin-wide recommendations and actions that they believe the USACE should consider in updating the Master Manual and supporting EIS. The recommendations include the following:

- Develop an economic study on the impact of various water levels on each region of the ACF River Basin.
- Update the reservoir fisheries performance measures developed for the 1998 draft EIS for ACF storage allocation (based on the findings of Ryder et al. [1995]) in light of any new information developed in the past 10 years, and use them to evaluate the relative impacts on reservoir sport fisheries of alternative operating plans.
- Fully analyze the relationship between recreational use of the lakes and the direct and induced economic impacts.
- Show scientific and economic facts to support flow requirements for downstream hydropower, endangered species habitat, and health of the seafood/oyster industry.

- Charge market-based fees for the use of USACE -owned recreational facilities and retain the revenues to fund project operation and maintenance.

Recommendations regarding Lake Lanier include the following:

- Assess the negative impact of questionable water supply on future economic development efforts in Atlanta.
- Provide federal assistance to lake property owners affected by cove erosion due to low lake levels.
- Consider all options for alleviating adverse economic impacts on water-dependent businesses in the Lake Lanier/Atlanta region.
- Develop a new water control plan that ensures the best and highest use of Lake Lanier to protect the regional economy.

Recommendations regarding West Point Lake include the following:

- Do not consider use of West Point Lake to support downstream navigation in any alternative operation plans without adequate study of the environmental and socioeconomic damages that could occur due to fluctuating water levels in the lake.
- Include the results of the West Point Lake independent economic study in the EIS as support for developing alternative water control operations at the lake.
- Restore and maintain all USACE -owned and -operated recreational facilities at West Point Lake.
- Maintain West Point Lake at full pool during peak recreational times.
- Perform a risk/benefit analysis of economics versus flood control for West Point Dam management practices.
- Change the start of winter drawdown of West Point Lake from November to January to improve the economic situation.
- Install mooring balls in West Point Lake for overnight fishing or camping as another source of revenue for the USACE. Lease the areas where mooring balls are located to local marinas to develop this resource.

Recommendations regarding economic and recreation issues in the middle and lower reaches of the Chattahoochee River and Apalachicola Bay include the following:

- Monitor boating access sites and strive to maintain water levels for recreational boating access.
- Consider the positive socioeconomic and environmental benefits to the Apalachicola River and Bay that would result from maintaining flows in the Chattahoochee River to support navigation.
- Include in the EIS an analysis of the economic value of the vast ecosystem services and cultural values provided by adequate flow to Apalachicola Bay.

- Conduct a comprehensive analysis of the economic, environmental, and social and cultural impacts tied to the loss of the traditional livelihoods of rural riparian counties and communities.
- Examine the irreversible adverse economic impacts of the loss of the oyster fishery due to low river flows.

3.2.1.2 Reopened Scoping Period—2009

Three comments were received during the 2009 reopened scoping period. The commenters reiterated the importance of the benefit to local and regional economies from recreational use of the lakes. Because of the mild climate in the south, recreational use of the lakes occurs in all seasons, so the communities around the lakes can receive economic benefits year-round if the lake water levels are maintained at recreational-use levels. One commenter pointed out that the “economic benefit of West Point Lake has been estimated at approximately five times the economic benefit” of an automaker’s manufacturing plant in the same county.

A Florida stakeholder requested that the EIS address the economic impact of Apalachicola Bay salinity and nutrient composition on the bay’s seafood industry.

3.2.1.3 Reopened Scoping Period—2012

Two hundred sixty-four recreation or economic comments were received in the 2012 reopened scoping period. Stakeholders throughout the system describe the devastating impacts of low water levels on recreation and the regional economy. They asked the USACE to honor the congressionally authorized project purposes at West Point Lake for Recreation and Sport Fishing/Wildlife Development and recommend the need for dependable and reliable lake levels to provide for economic development. Commenter’s documented specific events canceled because of low lake levels and associated economic effects on small business owners. Boat owners and property owners expressed frustration over declines in property values associated with dramatically fluctuating water levels, asserting that a lake with normal fluctuations and generally higher levels maintains higher property values and results in more public use. Higher property values increases the tax base, and more use equates to increased revenues for area businesses and more tax revenue for state and local governments.

Economic concerns were also expressed by water suppliers and the effect that future regulations might have on the current or future properties in their service area and tributaries of the Chattahoochee River.

Users of the Chattahoochee River National Recreation Area (CRNRA) described the economic value of the area to recreational fisheries, including trout, and rowing, where the largest rowing regatta in the Southeast is held. The 2012 two-day, “Head of the Hooch” regatta hosted more than 7,000 rowers of all ages, from 30 states and four foreign countries.

Comments and information on the regional economic benefits of lake and river recreation were offered by some stakeholders. Each year more than 2.2 million visitors come to

West Point Lake for recreational purposes, accounting for \$112 million in local economic impact. According to comments, USACE estimated the economic impact of the recreation industry at Walter F. George as more than \$25 million a year and at West Point Lake as more than \$16 million a year. Alabama has invested in the Lakepoint Resort State Park on Walter F. George, and Georgia has made similar investments there. Low pool levels in that reservoir have a negative impact on tourism at the facilities in that state park. The Apalachicola Bay is identified one of the most productive estuaries in the northern hemisphere, and its commercial fishing industry contributes \$200 million annually to the regional economy and directly supports up to 85 percent of the local population according to comments received. Recreational fishing in the Apalachicola River and Bay contributes an additional \$191 million to the local economy each year. The ecosystem services provided by the river and bay have been valued at \$5 billion a year.

Generally, scoping comments strongly recommended that the USACE incorporate and evaluate all the potential economic impacts associated with the alternatives that it considers, including those related to recreation, tourism, property values, providing for adequate water supply, commercial fishing in the bay, and others.

3.2.2 Safety Hazards

3.2.2.1 Initial Scoping Period—2008

Stakeholders submitted about 50 comments regarding the safety hazards encountered by recreational users when reservoir levels are not maintained at adequate levels. Commenters point out that low water levels result in exposed or near-surface objects that pose great danger to boaters, as well as damage to recreational equipment. Some commenters also state that low water levels are to blame for drowning due to sudden drop-offs or changes in terrain. Commenters recommended that the USACE keep the reservoirs at full pool to avoid recreational safety hazards. One commenter suggested that the USACE “[p]ermit dredging and removal of hazardous shallows/shoals in the primary thoroughfares, thereby adding additional water capacity to the lake and making the lake safer for navigation.”

3.2.2.2 Reopened Scoping Period—2009

One comment on safety hazards was received during the 2009 reopened scoping period. The commenter noted that “[a]dditionally, low flows restrict the ability of law enforcement and emergency personnel to utilize the river for patrol and rescue operations.”

3.2.2.3 Reopened Scoping Period—2012

Sixteen comments on safety hazards were received in the 2012 reopened scoping period. Comments described concerns for public safety because of low lake levels at Lake Lanier, West Point Lake, and Walter F. George Lake. They also described safety concerns because of peaking discharges downstream of Buford Dam. EPA recommended that the USACE improve warning systems to enhance the recreation and public safety of regulated rivers.

3.2.3 Environmental Justice

3.2.3.1 Initial Scoping Period—2008

Approximately 25 comments regarding socioeconomic impacts on low-income and minority populations were submitted. Individuals and organizations in and around West Point Lake expressed concern for the low-income and minority populations and communities that rely on the lake for recreation as well for supplemental sustenance. Comments from the nonprofit organization 100 Black Men of West Georgia stated that “[a]ctions which result in lower elevations of West Point Lake represent a potential or threat of denial of access to recreational resources for minority and low income populations in the West Georgia and East Alabama.” The organization further stated that the USACE is ignoring the original authorized purpose of recreation “[a]nd the needs and expectations of minority and lower income households in west Georgia and east Alabama.”

The 100 Black Men of West Georgia asked the USACE to “[e]ngage far more intensely and with a great deal more thoroughness in addressing environmental justice issues at West Point Lake.” The West Point Lake Advisory Council requested that the USACE ensure recreational access for low-income families. One commenter contended that the “[i]ssue of ensuring recreational access for low income and minority families that the West Point Lake Advisory Council is attempting to push is ridiculous.” The comment went on to say that the population affected is those wealthy enough to own a house with boat dock on the lake, not the poor, and the rich are trying to use the Environmental Justice issue to help themselves. In addition, several comments were made regarding the loss of income for many low-income families that rely directly on the lakes and rivers for their income. Commenters raised concern that decreased water flow in the middle regions of the ACF River Basin and in Apalachicola Bay could have severe economic impacts for entire low-income or minority communities.

3.2.3.2 Reopened Scoping Period—2009

Environmental justice comments received during the 2009 reopened scoping period focused on the use of the USACE lakes by low-income and minority populations for sustenance and recreation. Several comments were specific to West Point Lake. In general, the commenters stated that low lake levels result in muddy shorelines or even closed parks, limiting or restricting access to the water, which make the lakes undesirable for recreational use and hampers the ability to catch fish for food. One commenter requested that “Any contemplation of a revised or new operations manual must provide for stable, higher lake elevations to satisfy the needs of these populations and this must be studied and understood as required by Executive Order 12898.”

3.2.3.3 Reopened Scoping Period—2012

Two comments were received from EPA in 2012 regarding environmental justice and use of the USACE lakes by low-income and minority populations for sustenance and recreation.

3.2.4 Other Socioeconomic Issues

3.2.4.1 Initial Scoping Period—2008

Population Growth. Six commenters addressed the issue of future population growth as a factor the USACE must consider in the Master Manual and supporting EIS. Commenters want the USACE to include population projections in any consideration of alternative operational practices and to consider them a factor in management of the ACF River Basin as a whole.

Shoreline Management. Thirteen comments were submitted by individual stakeholders requesting that the USACE consider revisions to dock permitting policies, better manage shoreline debris, perform annual shoreline allocation reviews, and provide for better enforcement of existing shoreline management policies.

General Comments. About 20 comments addressed socioeconomics but did not clearly fit into the other subcategories. These comments include a number of statements regarding the personal enjoyment of living on the water, the importance of ensuring that the resources in the ACF are protected for future generations, and the disappointment and anger many stakeholders feel about the current low water levels in Lake Lanier and West Point Lake.

3.2.4.2 Reopened Scoping Period—2009

Population Growth. No comments were received.

Shoreline Management. One shoreline management comment was received during the 2009 reopened scoping period, noting that an increase in Lake Lanier's water level could adversely affect the shoreline and structures close to the shoreline. The commenter suggested that "Stimulus money could be used to make shoreline improvements to adjust for the rise in water level."

General Comments. Of the seven general comments received during the 2009 reopened scoping period, three comments were directed toward the use of Lake Lanier water supply and how it should be addressed in the EIS. Two commenters said the issue must be addressed in the EIS, whether it be as indirect or cumulative effects, because of the enormous impact (including economic and social impacts) that would result from stopping the use of Lake Lanier for water supply. One commenter said that "the USACE cannot ignore the enormous environmental, social, and economic costs that would result from ceasing to provide water supply to the millions of Georgians that have depended on Lake Lanier for decades by merely declaring that its 'no action' alternative will not include water supply." However, an Alabama stakeholder said the USACE should not base ACF operational decisions on the potential economic impact from uses that are not congressionally authorized: "To the extent economic factors exist that are unrelated to the [c]ongressionally authorized purposes of these revisions, Alabama believes they are irrelevant and cannot be considered as a basis for operational changes in the [b]asin."

Other general comments of a socioeconomic nature were related to West Point Lake and adverse impacts on low-income and minority populations; the social and economic

importance of the ability to continue to fish the Apalachicola River and Bay Basin; the need to address reasonably foreseeable commercial, residential, and road construction in the cumulative impacts analysis; and the opinion that the EIS should assess impacts such as the effect on human and commercial resource services.

3.2.4.3 Reopened Scoping Period—2012

Population Growth. No comments were received.

Shoreline Management. Three comments were submitted by individual stakeholders describing the effects of low lake levels on exposed shorelines.

General Comments. Three comments addressed socioeconomics but did not clearly fit into the other subcategories. The Atlanta Junior Rowing Club comments describe the benefits of the club to middle and high school students in the Atlanta area. W.C. Bradley Farms provided comments on the importance of water supply for agricultural use in the basin. The Apalachicola Riverkeeper reiterated the need for the Draft EIS to include the socioeconomic effects on specific users and ecosystems in the ACF Basin.

3.3 Biological Resources

The USACE received 284 comments in the Biological Resources category in the initial 2008 scoping period. An additional 35 comments were submitted in the 2009 reopened scoping period, and an additional 265 were submitted in the 2012 reopened scoping period for 584 total comments. The Biological Resources comments were divided into four subcategories: Fisheries, Threatened and Endangered Species, Flow Concerns for Apalachicola Bay, and Other Biological Issues. Figure 4 shows the distribution of comments categorized as Biological Resources.

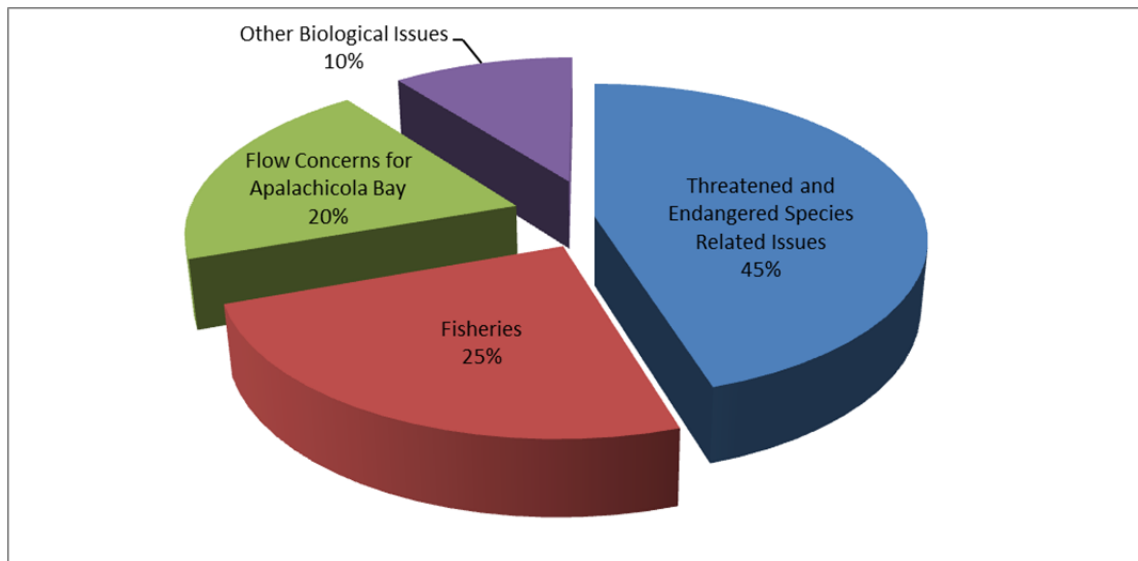


Figure 4. Distribution of comments among Biological Resources subcategories.

3.3.1 Threatened and Endangered Species

3.3.1.1 Initial Scoping Period—2008

The USACE received 165 comments related to threatened and endangered species. Commenters noted that water availability for people should be considered a priority over the protection of mussels and that Lake Lanier should not be drawn down to provide for this species. Others stated that navigation should be abandoned as a project purpose because of its detrimental effect on endangered species. Commenters stated that the Interim Operating Plan (IOP) and RIOP are “flawed” because of a lack of studies on the endangered species at West Point Lake. Some commenters said that more research needs to be conducted on endangered wildlife in the ACF River Basin. EPA recommended that the USACE address and fully document the effects of any proposed actions on threatened and endangered species when considering alternatives for the EIS.

Comments with recommendations for threatened and endangered species in the ACF River Basin include:

- Revisit the list of threatened and endangered species periodically during the planning process and verify the accuracy of the species/habitats list when beginning to prepare a Biological Assessment.
- Participate with the USFWS and other federal and state agencies in efforts to locate and monitor extant populations in the remaining un-impounded portions of the Chattahoochee River and its tributaries.
- Conduct an EIS to determine the amount of water needed for mussels and other endangered species downstream to survive.
- Address the same ESA-protected resources for the Master Manual update as for the RIOP—the Gulf sturgeon (*Acipenser oxyrinchus desotoi*), fat three ridge (*Amblema neislerii*), Chipola slabshell (*Elliptio chipolaensis*), and purple bankclimber mussel (*Elliptoideus sloatianus*), all of which have designated critical habitat within the action area.
- Ensure that a sufficient quality and quantity of water is provided in such a manner as to resemble the natural riverine flow regime. This flow regime should provide aquatic habitat conditions that support a diversity of endemic aquatic species (including fish, plants, mussels, and other invertebrates) and their life-cycle requirements. As a function of the natural flow regime, both intra- and inter-annual variations of flows should be implemented to sustain biological diversity and a balanced community of organisms.

3.3.1.2 Reopened Scoping Period—2009

The USACE received 10 comments related to threatened and endangered species during the 2009 scoping period. Comments with recommendations for threatened and endangered species in the ACF River Basin include:

- A minimum flow of 5,000 cfs is more than necessary to protect endangered species; it should be 2,500 cfs or less. USFWS should be required to document the minimum flow required for endangered species. The USACE used what it called a "baseline" flow, which was actually flow produced by reservoir operations from 1975 to 2007. The correct baseline flow for endangered species protection is run-of-the-river flows. Augmentation flows that disproportionately affect Lake Lanier are not required by the ESA and should not be imposed by the new WCP. As a result of using the wrong environmental baseline to evaluate the RIOP, USFWS confused natural mortality with "take" caused by the RIOP.
- Analyze threats to endangered and threatened species, critical habitat, Apalachicola Bay-specific threats, and threats to fisheries in the Apalachicola River. Also, evaluate all available means to maximize the likelihood that endangered and threatened species will recover to the point of de-listing by implementing recommendations in recovery plans.
- The manual update process should also evaluate the USACE's compliance with existing environmental laws because since the reservoirs were constructed, Congress and the affected states have enacted new environmental protection laws and regulations.

3.3.1.3 Reopened Scoping Period—2012

The USACE received 88 comments related to threatened and endangered species. A large percentage of these comments were received from citizens with an interest in West Point Lake. They indicate the need to study the necessity of a 5,000 cfs minimum flow requirement for endangered species in the Apalachicola River; questioning the listing of species, if they exist in deeper waters than previously thought, and if they could be relocated to other areas.

3.3.2 Fisheries

3.3.2.1 Initial Scoping Period—2008

The 60 Fisheries comments were further divided into the following subcategories: Wildlife and Fisheries, Improvement of Lake Fisheries, Commercial Fisheries, and the Facilitation of Migratory Fish Passage. Most comments about fisheries in the ACF River Basin were related to the drawdown of freshwater throughout the entire system. Commenters noted that at Lake Lanier, fish, clams, mussels, and the like are suffering because of the low water levels. At West Point Lake, bald eagles and other wildlife are being injured because of the low water levels. Trees and fish habitat in the lower Apalachicola River and Bay are being affected by low water flow and an increase in salinity, which could cause long-term ecological damage. Commercial fisheries are in a decline, and mortality rates could be directly related to a reduction of freshwater inflow.

The USFWS commented that when considering alternatives for an EIS, the USACE should consider the major wildlife presence at Eufaula National Wildlife Refuge and all migratory species inhabiting that area during certain seasons. Recreational users

commented that critical recreational species directly affected by changes in water level, as well as by potential storage allocation changes, should be identified when evaluating alternatives in the EIS. 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. Commercial fisheries, such as oysters, crab, shrimp, pinfish, and the like, should be protected when addressing freshwater needs in an EIS, and impacts on these species should be taken into careful consideration.

Commenters strongly encouraged fish passage operations at Jim Woodruff Lock and Dam. ADCNR recommended that the USACE establish a goal to develop a fish passage plan for all USACE locks and dams in the ACF River Basin. The fish passage plan should identify key species that need upstream and downstream movement. A lock passage program similar to the one currently employed by the USACE at Woodruff Lock and Dam would be a good starting point. Potential impacts on migratory fishes related to USACE operations also should be considered.

Recommendations for fisheries in the ACF River Basin include the following:

- Conduct an assessment alongside the EIS to study the effects of low water flows on fisheries in the ACF River Basin.
- Apply a spatially explicit hydrodynamic model of the Apalachicola Bay to assess the effects of alternative operations on salinity regimes and, in turn, on the relative distribution of salt marshes, submerged grass beds, and oyster beds in the bay (USFWS suggestion).
- Conduct monitoring studies to determine the present state of aquatic life and to develop new water control plans that reflect the wildlife conservation actions identified in Alabama's Comprehensive Wildlife Conservation Strategy (ADCNR suggestion).
- Coordinate with wildlife agencies from Alabama, Georgia, and Florida to explore ways to incorporate the draft Standard Operating Procedures with new alternatives.
- Conduct an assessment with the EIS to evaluate species reductions in crab, shrimp, and oyster populations in Apalachicola Bay.

3.3.2.2 Reopened Scoping Period—2009

Five comments were received during the 2009 reopened scoping period. The commenters' recommendations for fisheries in the ACF River Basin include the following:

- Establish the proper baseline to examine the effects of varying flow regimes on fish species.
- In the EIS, analyze flow impacts on marine species and habitats, including the Gulf striped bass and sturgeon.

3.3.2.3 Reopened Scoping Period—2012

The USACE received 78 comments related to fisheries in the ACF Basin. Numerous comments described the negative effects of fluctuating lake levels on fish spawning in West Point Lake. Other comments focused on the importance of the trout fishery below Buford Dam. One comment asked that natural warm water habitats be restored to the Chattahoochee River below Buford Dam. A number of comments identified factors affecting fisheries throughout the ACF Basin, including Apalachicola Bay: adequate (or inadequate) flows, dissolved oxygen, water temperature and sedimentation from erosion. The Georgia Department of Natural Resources, Wildlife Resources Division, also encouraged the USACE to continue operating the lock at Jim Woodruff Lock and Dam to support spring passage of migratory fish.

3.3.3 Flow Concerns for Apalachicola Bay

3.3.3.1 Initial Scoping Period—2008

Thirty-six comments were related to flow concerns for Apalachicola Bay. Salinity in the bay has increased and is affecting the species in the bay, allowing saltwater predators to move into the estuary. Commenters noted that the contributions of the Apalachicola estuary to the commercial seafood industry are significant and should be protected. Sustained minimum flows, as defined by the RIOP, will not sustain the commercial seafood industry in Apalachicola Bay. Dredging and shipping interests have created more avenues for salt water to enter the estuary. Statistical data available through the Florida Fish and Wildlife Service show reduced landings of crab, shrimp, oysters, pinfish, and the like, and the data should be taken into consideration when evaluating alternatives for the EIS.

3.3.3.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, eight comments were received regarding Apalachicola Bay flow concerns. Commenters expressed the need for the USACE to conduct a comprehensive and robust analysis of the environmental consequences of potential management regimes and to establish ecologically sound in-stream flows. One commenter stated that the USACE needs to develop and implement a fundamentally new approach to managing the ACF that will protect and restore the ecological health of the entire ACF system to make up for the degradation that has resulted from the construction and operation of the ACF reservoirs, the impoundment of water, consumptive water uses, and navigational dredging.

3.3.3.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, 73 comments were received concerning flow in Apalachicola Bay. The following three requests were made by several private citizens:

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 basinwide sustainable water management plan that protects the Apalachicola River and Bay and equitably shares the water of this basin

FDEP asked that the USACE consider flow metrics to establish a holistic approach to protecting the river-floodplain-estuarine ecosystem of the Apalachicola. It described the negative effects of low flows last year on the lowest recorded oyster harvest in the Apalachicola Bay. Private citizens also commented on the importance of freshwater flows for oysters, critical to the economy surrounding Apalachicola Bay.

3.3.4 Other Biological Issues

3.3.4.1 Initial Scoping Period—2008

Twenty-three comments were categorized as Other Biological Issues. Commenters noted that the potential impact of increased municipal and agricultural withdrawals for future management of the reservoirs should also be included in the EIS. The USACE must avoid operations that will violate or lead to violations of water quality standards. The USACE should ensure that even under drought conditions, sufficient flow is maintained below each dam so that water quality standards and endangered species are protected. The USACE should coordinate with the USFWS, EPA, and appropriate state agencies in Alabama, Florida, and Georgia to ensure that the Master Manual and water control plans are compliant with the ESA and the *Clean Water Act*.

Comments with recommendations for other biological resource areas in the ACF River Basin include the following:

- The EIS should include a discussion of secondary effects (actions that happen later in time) on major water chemical, physical, and biological characteristics. The discussion on the chemical characteristics could relate both the water velocity and volumes to, at least, temperature, dissolved oxygen, and conductivity. Detailed discussions on major physical characteristics could include the frequency of riparian habitat inundation, the distribution or redistribution of sediment particles based on sediment particles and flow energy (size/load related to velocity), and maintenance of benthic habitat.
- Include a Biological Assessment of effects on these species and their designated critical habitats, as required by the implementing regulations (at Title 50 of the *Code of Federal Regulations* [CFR], section 402.12) for Section 7 of the ESA.
- Noxious growths of various exotic species, such as hydrilla and Eurasian milfoil, have become a constant management concern at the ACF federal reservoirs, especially at Lake Seminole and Lake Eufaula. The USACE should investigate the feasibility of occasional drawdowns for controlling aquatic plants.
- The USACE should evaluate the effects of past and proposed project operations on flood durations and floodplain habitats.

- ADCNR recommended the development of a new Master Manual for the ACF that reflects the wildlife conservation actions identified in Alabama's Comprehensive Wildlife Conservation Strategy where appropriate.
- ADCNR recommended that the USACE establish a goal to develop a fish passage plan for all USACE locks and dams in the ACF. The fish passage plan should identify key species that need upstream and downstream movement. With those species in mind, evaluate viable fish passage methods. A lock passage program similar to the one employed by the USACE at Woodruff Lock and Dam would be a good starting point. This would greatly benefit adult migratory fish such as striped bass, Alabama shad, American eel, Gulf sturgeon, and many other fish species.

3.3.4.2 Reopened Scoping Period—2009

Twelve comments were received during the 2009 reopened scoping period. The commenters' recommendations for other biological resources in the ACF River Basin include the following:

- The USACE should evaluate the effects of past and proposed project operations on flood durations and floodplain and wetland habitats.
- The EIS should document and evaluate the historical changes in the ACF River Basin to establish the proper baseline.

3.3.4.3 Reopened Scoping Period—2012

Twenty-three comments were received in the 2012 reopened scoping period that did not clearly fit in other subcategories and therefore were categorized as Other. The following comments were received:

- AOWR commented on the importance of the Eufaula National Wildlife Refuge and asked the USACE to account for its needs in the Draft EIS
- A call to improve management of oyster harvesting in Apalachicola Bay
- Consideration should be given to effects on bird populations at
 - West Point Lake and their ability to nest during low lake levels
 - Apalachicola Bay where the state-listed American oystercatcher, and other shorebirds, dependent on oysters and similar species as a food source
- A lack of seasonal flooding is affecting biological resources in the Apalachicola River
- EPA pointed to the need for the USACE to manage flows for magnitude, seasonality and variability to mimic natural conditions to allow rivers access to floodplains

3.4 Drought Operations

Management of water resources during the current drought conditions—specifically, water releases to achieve certain project purposes or benefits at the potential expense of other project purposes or benefits—is of major concern to the commenters throughout the ACF River Basin. Current drought conditions in the Lake Lanier watershed, along with drought conditions in previous years throughout the basin, make the allocation of water difficult. The USACE received 191 comments in the 2008 initial scoping period related specifically to drought operations and 5 more comments in the 2009 reopened scoping period, and 12 more in the 2012 reopened scoping period for 208 total comments.

3.4.1 Initial Scoping Period—2008

The commenters made the following recommendations applicable to the basin:

- Prioritize reservoir purposes during extreme drought events by defining which project purposes are most important.
- Update the critical yield analysis with an opportunity for public input.
- Use conservative reservoir operations during drought by reducing releases to a minimum (inflow equal to outflow).
- Include in the Master Manual emergency drought measures that provide for reducing releases during drought.
- Water supply conservation measures are necessary during drought.
- In extreme drought, let the flow of the river determine flows into Apalachicola Bay. Do not support Apalachicola River flows by releases from reservoirs above the inflows.

Some recommendations were specific to Lake Lanier:

- Establish and use management triggers (pool elevations at which predetermined actions would be taken) during drought, especially at Lake Lanier.
- Draw down Lake Lanier last when drought occurs, recognizing the small drainage area supplying the lake.
- During drought, reduce the releases from Lake Lanier in the winter to meet the reduced flow target at Peachtree Creek, 650 cfs.

Commenters in the headwaters maintained that to protect Lake Lanier during droughts to preserve its utility for water supply and recreation, the lake should be disengaged from the current practice of operating with all reservoirs as part of a system. Commenters in the lower portion of the basin, on the other hand, stated that too much water is being retained upstream and that natural flows are not being adequately mimicked to protect species and the Apalachicola Bay. There were six comments regarding sharing the effects of drought. Some suggested that water conservation measures, such as water use restrictions, should be implemented throughout the ACF River Basin so that the effects of drought are not focused on one region or part of the basin.

EPA encouraged the development of an adaptive management plan to address the uncertainty associated with in-stream flow. The need to evaluate future climate changes in climate was specifically referenced in eight of the comments received. Commenters asked that the USACE recognize that the dry weather patterns that 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. One commenter recommended that predictions for both increased drought and increased heavy rain events be factored into the USACE's Master Manual planning process. The USFWS recommended that the USACE consider how climate change might affect ACF flow regimes and how to best adapt reservoir operations to the most likely foreseeable changes. The effects of a given set of operating rules will vary depending on whether the basin's climate becomes drier, wetter, more variable, or less variable. In particular, it is vitally important to adapt the level set as the top of conservation pool to the long-term hydrology of the basin and the essential purposes the projects serve. The USACE already practices this concept, with occasional variances from the guide curves to store water above the top of conservation pool elevation during dry periods. The USFWS recommended that the USACE explicitly address climate-based operational flexibility in the Master Manual update and in the analyses of the EIS.

3.4.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, the USACE received five comments pertaining to drought operations. The Apalachicola Riverkeeper observed that Apalachicola River flows during recent droughts were significantly reduced even though the droughts were no worse than the previous droughts. Another commenter suggested that the USACE should evaluate the impacts of more severe and/or extended droughts in the future and should consider implementing drought management plans with reasonable triggers to declare drought conditions. Another commenter stated that the USACE must consider the amount of water that might be lost from the basins through inter-basin transfers and consumptive uses and should consider appropriate limitations on any such losses, particularly under drought conditions. This commenter further suggested that Lake Lanier operations should take advantage of the entire conservation pool down to elevation 1,035 feet, consistent with the critical yield analysis.

3.4.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received 12 comments pertaining to drought operations. The comments received regarding drought operations varied across the basin. Users expressed concern that selected portions of the basin suffer more than others during drought conditions. Comments requested USACE reconsider conditions that define Emergency Drought Operations; proposed approaches including using adaptive management practices, planning ahead with drought prediction information and tools, and balancing flows to the Apalachicola River from the Chattahoochee and Flint Rivers.

3.5 Water Quality

The USACE received 155 comments during the 2008 initial scoping period addressing water quality issues in the ACF River Basin. Drinking water throughout the entire basin is an extreme concern to citizens and to local, state, and federal government agencies. Twelve more comments regarding water quality issues were received during the 2009 reopened scoping period, and 22 were received in the 2012 reopened scoping period for 189 total comments.

3.5.1 Initial Scoping Period—2008

Comments from citizens near West Point Lake stated that “[w]ater quality has suffered greatly as a result of frequent fluctuations in West Point Lake, which supplies water to the City of LaGrange.” Record low water levels at West Point Lake were also cited as causing algae blooms due to high nutrient levels in the water. The need for improved treatment of sewage from Atlanta to prevent pollution of waters downstream and to ensure that water quality standards are met was also expressed in the comments received. These concerns are associated with the need to maintain water quality for recreational activities, such as swimming and fishing. There is also a concern that reductions in stream flow would result in MeadWestvaco’s shutting down operations to avoid violations of its National Pollutant Discharge Elimination System permit. Commenters also expressed concern regarding poor water quality due to raw sewage being released from houseboats directly into the river. Above all, citizens expressed the need for the USACE to avoid operations that will violate or lead to violations of water quality standards. Specifically, they recommended the following:

- Examine the effects of reservoir operations on water quality, at projects and in the tailrace, in the Master Manual update, including ongoing and potential future effects on dissolved oxygen, temperature, pH, conductivity, nutrient and organic material dynamics, and various industrial and municipal discharges.
- Maintain water quantity stations above and below all dams, and support flow stations below each lock and dam (ADCNR recommendation).
- Adjust West Point Lake operations to ensure adequate inflow of water and lake elevations to dilute nutrient loading into the lake.
- Adopt a permanent water quality minimum flow of 650 cfs at Peachtree Creek, where the USACE has already granted this flow reduction based on water quality data and assurances from GAEPD.

3.5.2 Reopened Scoping Period—2009

Recommendations made during the 2009 reopened scoping period regarding water quality in the ACF River Basin included the following:

- The USACE should ensure that operational changes meet water quality standards, “even under drought conditions.”

- The effects on water quality from erosion caused by exposed shoreline should be analyzed.
- Adopt a permanent water quality minimum flow of 650 cfs at Peachtree Creek, where the USACE has already granted this flow reduction based on water quality data and assurances from GAEPD.

This comment was based on assumptions prior to the July 17, 2009, court ruling. In the reopened scoping based on changes due to the court ruling, commenters requested that the current minimum flow target of 750 cfs at Peachtree Creek not be abandoned. Specifically, water quality below Buford Dam should be analyzed to ensure water quality standards are not violated. Results of the BacteriALERT program “highlight the importance of releases from Buford in maintaining water quality in the Chattahoochee River National Recreation Area.”

- All reasonably foreseeable actions associated with changes in point source and nonpoint source discharges and their assimilation due to changes in stream flow should be included in the analysis.
- Analyze the impacts on water quality and salinity in the Apalachicola River and Bay and in surrounding floodplain habitats and sloughs.

3.5.3 Reopened Scoping Period—2012

Twenty-two comments were received regarding water quality. Recommendations made in the 2012 reopened scoping period included the following:

- Maintaining flow for assimilative capacity of wastewater discharges at locations throughout the basin Peachtree Creek in Atlanta, Georgia; Douglas County, Georgia; between West Point Dam and Walter F. Georgia Lake; Columbus, Georgia; and Columbia, Alabama
- Considering management practices in lake operations to manage shoreline erosion and stormwater
- Improving operations to meet water quality standards for dissolved oxygen downstream of dams, even in drought conditions.
- Operations to improve water temperatures for trout in critical summer months
- Considering the effect of turbidity on the cost of water supply and to fishery habitats
- Considering public health of recreational uses and the effects of bacteria
- Suggested using water quality parameters in establishing endpoints or performance measures in assessing alternatives

3.6 Water Supply

Several suppliers of municipal and industrial water supply rely on operations throughout the ACF River Basin to meet their water supply needs. The USACE received 117

comments regarding water supply within the ACF River Basin in 2008, 19 comments during the 2009 reopened scoping period, and 13 during the 2012 reopened scoping period for 149 total comments.

3.6.1 Initial Scoping Period—2008

During the 2008 scoping period, 19 commenters expressed the opinion that water supply is more important than downstream uses. These commenters tended to live in the upstream portions of the ACF River Basin. They depend on a reservoir or river flow for their drinking water, and they pointed out that there are no alternative sources of supply. These commenters consider drinking water for human consumption and survival of greater importance than fish and wildlife concerns.

Thirty of the comments received discussed the socioeconomic importance of water supply to the Atlanta region. These commenters, who live in the upstream portion of the basin, expressed concern regarding future economic development efforts if water supplies are uncertain. Sixteen comments were related to concerns over the future availability of water supply in the Atlanta region. GAEPD, for example, pointed out that water supply options are limited almost exclusively to surface water. Others who live in the lower portions of the basin expressed the opinion that continued population growth in the Atlanta region should not occur if adequate water supplies are not available. Commenters also called upon the USACE to consider the water conservation measures that can be taken or have already been taken, as well as to include considerations from the MNGWPD's Water Supply and Water Conservation Plan. Four commenters pointed out that water supply is not an authorized purpose for Lake Lanier and that only Congress may change the original authorized purposes. One of the comments received expressed concern over contaminants (oil) in the water supply due to piping water during times of drought.

Some alternatives for water supply other than Lake Lanier were suggested:

- Adding storage capacity on the Flint River, which would increase the total water storage capacity in the ACF River Basin
- Desalination
- Additional groundwater
- Tennessee River.

Two comments on water supply were received from the LaGrange area. They stated that releasing water from West Point Lake to supplement lost or reduced flows from agricultural demands in the Flint River Basin is not a congressionally authorized function of West Point Lake.

3.6.2 Reopened Scoping Period—2009

The comments received in 2009 regarding water supply were focused on different areas from the comments received in 2008, although some of the suggested alternatives for

water supply remained the same. Comments in 2009 asked that the USACE assess the impact of potential new reservoirs on existing federal reservoirs, as well as regulate restrictions on water withdrawals for a variety of uses. The State of Georgia also noted that “since the NEPA regulations instruct the USACE to consider alternatives that are beyond its authority, a federal district court ruling that the USACE lacks authority to operate Lake Lanier for water supply should not alter the scope of the EIS.” It was also pointed out that studies completed by the ARC, Metro Water Planning District, and Georgia’s Water Contingency Task Force found “that there is no reasonable replacement water source available to metro Atlanta.” Other options presented by Georgia’s Water Contingency Task Force include:

- Pump-storage reservoirs along tributaries to the Chattahoochee River
- Deviation from Georgia’s interim in-stream flow policy and Peachtree Creek flow target
- Inter-basin, intra-basin, and interstate water transfers
- Aquifer storage and recovery.

Upstream water users are very concerned about how the Court’s order will affect their water supply. The City of Cumming is “vehemently opposed to the revisions to the Master Water Control Manual, especially as disclosed in subsection (b) on the Notice received on November 24, 2009,” after the investment made in expansions approved through various permitting agencies. Forsyth County described its claimed right to water from the Chattahoochee River, which has been restricted by the construction of Buford Dam, and requested that consideration be given to the County’s obtaining a “reasonable share of water from the lake equal to the supply that would have been available from the river” (if the dam had not been built). Forsyth County also associates growth in the area with the presence of the lake and believes that water supply from Lake Lanier should be allowed to support the water demands the lake’s presence has created.

3.6.3 Reopened Scoping Period—2012

Thirteen comments were received specific to water supply; many were from state and local agencies. Forsyth County reiterated its needs to use an updated water intake and, as an existing user, be allowed an updated storage allocation contract. Douglasville-Douglas County Water and Sewer Authority expressed concern over the effects of USACE action on flow releases from its water supply reservoir and its future withdrawal and discharge permits. Several comments defined Georgia’s water supply needs on the basis of its 2000 request and for the USACE to consider the return flows in the WCM update. Comments also requested that the USACE perform a full analysis (including national and regional economic development benefits) of alternative sources to meet Georgia’s water supply needs if Lake Lanier and the Chattahoochee River cannot meet those needs.

Governor Nathan Deal of Georgia also sent comments to the Honorable Jo-Ellen Darcy referencing the USACE 2012 legal opinion. The governor noted that operating Lake Lanier as Georgia has requested represents the highest and best use of the lake and included an affidavit by the director of the GAEPD. The affidavit contained updated

demographic and water demand data confirming the continued need for Georgia's water supply request; 705 mgd would be sufficient to meet Georgia's water needs from Lake Lanier and the Chattahoochee River to approximately 2040.

3.7 National Environmental Policy Act

The USACE received 79 comments related to the NEPA process during the initial scoping period in 2008. The comments were further sorted into the following subcategories: (1) Scoping and Public Involvement, (2) Baseline Conditions, (3) Proposed Action and Alternatives, (4) Mitigation, (5) Schedule, (6) Other Applicable Regulations, (7) Cooperating Agencies, and (8) General. In the reopened scoping period in 2009, the USACE received another 80 comments regarding the NEPA process, and 82 were received in the reopened scoping period in 2012. Those comments were sorted in the same subcategories. The percentage of comments assigned to each subcategory during both scoping periods is shown in Figure 5. The USACE received a combined total of 240 comments related to the NEPA process during the 2008, 2009, and 2012 scoping periods: 79 in 2008, 80 in 2009, and 82 in 2012.

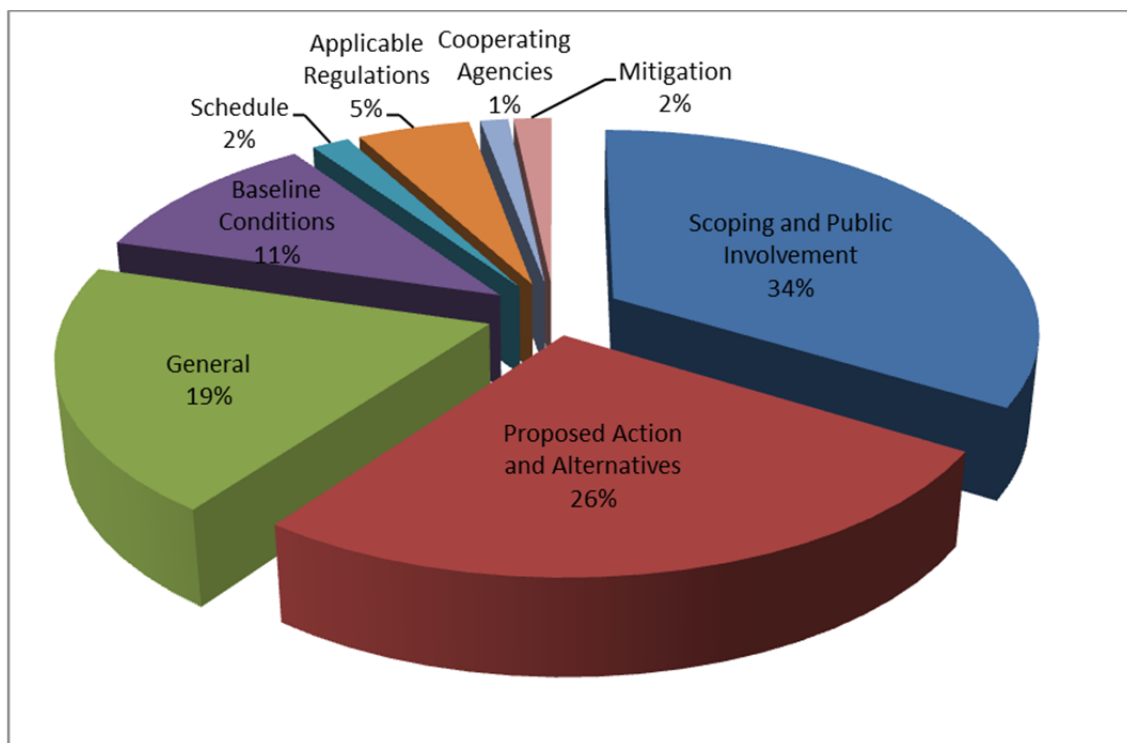


Figure 5. Distribution of comments among NEPA subcategories.

3.7.1 Scoping and Public Involvement

3.7.1.1 Initial Scoping Period—2008

Twenty-five comments focused on issues related to the scoping process and public involvement opportunities were submitted. Several stakeholders said they welcomed the

opportunity to work with the USACE. Opinions concerning the single scoping meeting in Florida were mixed: Some commenters expressed dissatisfaction with the size of the meeting facility (too crowded to allow interaction with USACE representatives), whereas others were grateful for the opportunity to gain more information about the ACF River Basin and NEPA process. One commenter noted that many people in the Apalachicola Bay area feel there is a bias in favor of upper-basin needs. Some commenters expressed dissatisfaction with the scoping meeting format (no opportunity for public hearing-type comments); others found the meetings informative and professionally conducted. One commenter expressed dissatisfaction with the Web-based comment tool. Several stakeholders criticized the USACE for not providing more information to the public at the scoping stage, claiming that the paucity of details about the proposed action, alternatives, and identified issues hampered meaningful opportunity to provide input. Some commenters asserted that the scoping process conducted by the USACE was inadequate and did not meet the guidelines for scoping under NEPA, the public participation requirements of the *Water Resources Development Act* (WRDA), or the USACE's own implementing regulations for either act. (Refer to agency comment summaries in Section 4.0.)

Stakeholders offered the following recommendations that the USACE should consider to provide more meaningful communication and cooperation between the USACE and stakeholders as the project moves forward:

- Provide a clear statement of the purpose of and need for the proposed action.
- Provide a summary of the current operating rules for each project, an explanation of their basis in congressionally authorized purposes, and a description of how much discretion the USACE has to change the rules. Post the summary on the District's website for use by other agencies and the public early in the Master Manual update work schedule.
- Develop a flowchart or some other form of audit trace to demonstrate the influence of the stakeholder concerns on the Master Manual.
- Hold a joint meeting with all stakeholders to discuss the findings of the scoping process.
- Implement scoping and alternatives development procedures similar to those used by the USACE to update the WCMs in the Missouri River Basin.
- Provide for a more formalized stakeholder process to work through the goals of the basin study and alternatives to be considered.
- Provide a third-party mediator at future public meetings.
- Establish a Lake Lanier *crisis team* of USACE employees who are clearly available to stakeholders.

3.7.1.2 Reopened Scoping Period—2009

Twenty-seven comments pertaining to the scoping process and public involvement were submitted during the reopened scoping period. Many of the comments contained general

introductory remarks regarding the submission of comments and reiteration of the general requirements for scoping and public involvement required under NEPA. Several commenters, including the USFWS, GAEPD, Upper Chattahoochee Riverkeeper, Apalachicola Riverkeeper, Tri-Rivers Waterway Development District, and Lake Lanier Association, stated that comments submitted by their respective agencies/organizations during the 2009 scoping period were in addition to their original scoping comments provided in 2008. A couple of commenters provided additional documents to be considered in the EIS and Master Manual development process.

GAEPD commented that “the revised scope is neither a necessary nor appropriate reaction to the July 17, 2009 ruling. Moreover, the revised scope violates the letter and spirit of NEPA and is contrary to the public interest and common sense.” FDEP contended that current scoping efforts do not meet WRDA and NEPA requirements and that the USACE must provide additional scoping once the proposed action is more adequately defined. FDEP also stated that “the USACE should release its draft critical yield analysis for the ACF Basin, transparently describe the critical yield formula, the underlying data, and its corresponding methodologies and assumptions, and afford opportunity for public review and comment.” The AOWR commented on the requirement to choose a resource area from those on the online comment form, which it felt was overly restrictive.

The Apalachicola Riverkeeper requested “a peer review by the National Academy of Sciences for the Draft EIS and Water Control Manuals [water control plans] for the ACF [River] Basin pursuant to 33 U.S.C. § 2343(a)(3)(A)(iii).” He also commented that “The Draft EIS must ensure that high quality environmental information is available to public officials and citizens before decisions are made and actions are taken so that information can help the USACE make decisions regarding the Water Control Manuals [water control plans] that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.”

3.7.1.3 Reopened Scoping Period—2012

Many of the 30 comments contained general introductory remarks regarding the submission of comments and reiteration of the general requirements for scoping and public involvement required under NEPA. Specific comments encouraged opportunities to engage the public throughout the NEPA process to ensure all stakeholder interests are represented and allow for completion of the public process before substantive changes are made to operations. A request was also made to allow for independent external peer review by the National Academy of Sciences.

3.7.2 Baseline Conditions

3.7.2.1 Initial Scoping Period—2008

Eight comments pertained to establishing a *baseline* set of conditions against which the USACE will analyze the proposed action and alternatives in the EIS.

FDEP believes that the 1958 Water Control Manual should be used as the baseline (as opposed to the 1989 draft plan or current existing operations) and that the NEPA process must evaluate all changes in the USACE's reservoir operations and their impacts since that time. This opinion was echoed in the comments provided by both Representative Allen Boyd and the Apalachicola Riverkeeper.

The AOWR asserted that the USACE must use the currently approved water control plans for each reservoir to establish a baseline. The AOWR stated that “draft manuals, the use of action zones or other proposed operations that have never been subject to the public scrutiny demanded under NEPA and the USACE's implementing regulations should not be used as a starting point of the USACE's review or effort to update the manuals.” Similar comments were made by Georgia Power and on behalf of the SeFPC customers.

Comments submitted on behalf of West Point Lake stakeholders contended that “the USACE cannot select the Interim Operating Plan, the Revised IOP, or designate any baseline year as the foundation for development of the new WCMs and associated EIS.” They continued by recommending that the USACE begin the Master Manual process with a “clean slate.”

3.7.2.2 Reopened Scoping Period—2009

Three comments regarding the baseline were submitted. The Apalachicola Riverkeeper commented that

[t]o establish the proper baseline, the Draft EIS should document and evaluate the historical changes in the ACF Basin with respect to the following indicators:

- Historical flows
- Acres of river and floodplain wetlands lost
- Acres of native upland habitats lost
- Miles of streambed lost or modified
- Changes in stream flows
- Changes in ground water elevations
- Changes in the concentrations of indicator water quality constituents
- Changes in the abundance, distribution, and diversity of indicator fish communities
- Changes in rainfall, and reasonably foreseeable future changes

FDEP commented that “[a]n analysis that compares proposed WCM revisions to anything other than a baseline that does not include water supply withdrawals and releases from Lake Lanier would be inappropriate, unlawful and in direct contravention of the Phase 1 Order.” The Tri Rivers Waterways Development Association echoed FDEP’s sentiment that the water supply withdrawals from Lake Lanier are not authorized and therefore must not be considered in the baseline.

3.7.2.3 Reopened Scoping Period—2012

Fifteen comments were received on the baseline used in evaluating alternatives in the WCM update. These comments varied in requests to define baseline conditions as run-of-river, 1958 operations from the last manual update, or to account for key operational assumptions (existing operations, storage needed for water supply, and such). Interests focused on conditions in the Apalachicola River and Bay suggested that baseline should not include interim operating procedures at Woodruff Dam, but should instead be based on observed inflows or mimic historic flows. Comments requested that the USACE update data, including the unimpaired flow data set to an October 2012 data set developed for the ACF stakeholders.

3.7.3 Proposed Action and Alternatives

3.7.3.1 Initial Scoping Period—2008

Nineteen comments were assigned to this subcategory, but the proposed action and alternatives to be considered were at the heart of a vast number of comments assessed in other categories. Comments regarding the proposed action were somewhat general in nature, with most of the comments focused on the alternatives to be considered. Comments provided by several Georgia stakeholders (GAEPD, ARC, Association of County Commissioners of Georgia, MNGWPD, Hall County Government Board of Commissioners, and one individual) expressed concern that the revised water control plans and EIS would merely document existing operations and not consider potentially viable alternatives. One commenter pointed out that the USACE must show that the EIS actually informed decision-making rather than justifying a decision already made. GAEPD expressed opposition to making any version of the IOP and RIOP part of the proposed action, noting that instead there should be a range of reasonable and feasible alternatives for the continued operation of the federal reservoirs.

Comments provided by Tri-Rivers Waterway Development District and MeadWestvaco urged the USACE to include in its environmental documentation “a clear explanation of the federal ‘action’ which the USACE is evaluating for purposes of NEPA” and that the proposed action “should be defined as the operation of ACF reservoirs according to their authorized purposes.” FDEP reminded the USACE to “clearly describe all decisions, particularly in the water control plans and their reservoir regulation schedules, so that all parties can easily understand the USACE’s proposed action and that action can be reasonably evaluated under NEPA.”

The issue of what alternatives the USACE should consider is complex, as demonstrated by the very wide array of comments and recommendations made by stakeholders at every level of state and local government, public interest groups and organizations, private citizens, and other federal agencies. Many of the comments and recommendations were captured in Section 3.1, Water Management Recommendations. In addition, summaries of the detailed comments and recommendations made by federal, state, and local government agencies with regard to the proposed action and alternatives are also provided in Section 4 of this report. The following discussion addresses the comments categorized under NEPA during the comment-sorting process.

Some of the more general comments made regarding alternatives included requests that the USACE consider alternative operating plans to balance water supply needs and economic impact with downstream needs. The Cobb Chamber of Commerce urged the USACE to consider making changes to improve the balance among project purposes, even if doing so requires congressional approval. Another commenter urged that the USACE not limit itself to considering alternatives believed to be within its current authority because doing so could overlook alternatives that would achieve the highest and best use of the federal projects. Several comments urged the USACE not to limit alternatives to only those that mimic the manner of operations of the RIOP. One organization suggested that the USACE prioritize reservoir purposes during extreme drought events, making the protection of wildlife the top priority.

FDEP recommended that the USACE assess an alternative based on true basin inflow, an alternative that uses the entire conservation pool in Lake Lanier, a strong water conservation alternative, and a species recovery-based alternative.

GAEPD recommended consideration of separate alternatives based on reallocation of storage for water supply, rule curve changes at all projects in the ACF River Basin, different methods for optimizing the ACF system, and optimal operations for meeting endangered species needs other than those in the RIOP. They also reminded the USACE that the "no-action" alternative should be interpreted to mean "no change" from the current management direction or level of management intensity; consequently, it would be "a useless academic exercise" to consider as the no-action alternative returning a resource to its earlier, unaltered state.

The USFWS would like the USACE to consider changes to minimum releases and winter drawdown windows for the benefit of downstream species; an alternative that addresses increases in consumptive water demands in the basin; ways that standard operating procedures for fish spawning could be included among the mix of alternatives; and an alternative that allows Lake Eufaula (Walter F. George Lake) to behave more like a river and then compare these with the existing operating regime and other alternatives.

Comments submitted on behalf of West Point Lake stakeholders asked that the USACE assess a full-pool (633–635 feet msl) "run of the river" alternative; an alternative that eliminates or significantly reduces Action zones at West Point Lake; and an operations alternative that ensures that water quality standards are met and that the standards are at proper levels for the project. The stakeholder also stated that the USACE should not

consider any alternative that uses the water in West Point Lake to provide minimum flows for waste assimilation or municipal or industrial needs downstream, or support downstream navigation without an adequate study of the ecological and environmental damages caused by lake fluctuations to support that activity.

Tri-Rivers Waterway Development District and MeadWestvaco noted that the USACE should begin by “setting forth a set of operations that fulfills the authorized purposes of the reservoirs, according to the primary legal authorities.” They added that [a]ny alternative that differs from optimal operation of the reservoirs for primary authorized purposes should be clearly identified as such; the need and/or legal basis to deviate from operation of the reservoirs for optimal fulfillment of the primary authorized purposes should be clearly explained; and that the USACE should clearly explain applicable limitations on any deviation from operations for primary project purposes, such as a time limit and the circumstances under which the USACE will restore primary operating parameters.”

3.7.3.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, 23 comments were submitted regarding the proposed action and alternatives. In its comments, the USFWS asserted that “alternative sources of water supply for the Atlanta metro area need to be considered including the anticipated short and long-term impacts to surface and groundwater resources as a consequence of the revised scope. We recommend that the USACE’s alternatives analysis include the cumulative effects of the proposed action and the expected proliferation of multiple surface and groundwater projects that may also affect the operation of the federal reservoirs and ultimately flows to the Apalachicola River.”

FDEP provided the following comments with respect to the proposed action and alternatives:

- Fully examine direct, indirect, and cumulative impacts to Apalachicola River and Bay.
- Consider all reasonable alternatives, even those outside the agencies’ jurisdiction, and clearly explain in the EIS any alternatives that were considered but eliminated from detailed analysis.
- Review alternatives to maintaining reservoir levels for recreation/sportfish management.
- When considering alternative plans, assume that the entire conservation pool of ACF reservoirs is available.

The AOWR stated, “Alabama does not believe the USACE can, or should, make any assumptions in the manual update process regarding possible future [c]ongressional action that might expand its current authority.” AOWR further stated that the USACE must focus the EIS and Master Manual on only the authorized purposes within its authority, noting that to do otherwise would be a waste of time and taxpayer money.

AOWR identified a number of objectives that the scope of the Master Manual should address the following:

- Determination of the critical yield of each reservoir using the most current hydrologic and climatic conditions
- Adherence to the operational baseline as set forth in detail in the July 17, 2009, court order
- Use of the agreed-upon HEC-5 model or development of a new model that is agreed upon by the USACE and the states
- Assessment of whether any changes in the baseline conditions are necessary to comply with existing laws and regulations
- Analyses of any proposed modifications against the baseline set forth in the court order and other legal requirements to develop the proposed operations for Lake Lanier, West Point Lake, and Lake Walter F. George (Lake Eufaula)

AOWR also expressed concern “that some proposed reservoir projects under consideration in Georgia may have impact upon inflows into the federal reservoirs in the ACF Basin, including inflows from the Flint River,” and requested that the USACE fully assess within cumulative impacts any water that might be lost through transfers or consumptive uses.

GAEPD, the ARC, and Gwinnett County Department of Water Resources submitted separate letters that reflected similar comments. The comments contended that the USACE must include water supply in Lake Lanier as an alternative, noting that to do otherwise would be “arbitrary and capricious.” Gwinnett County Department of Water Resources said “At minimum, the USACE should study whether and to what extent water supply impacts reservoir operations at various levels to accommodate whatever ruling may ultimately issue in the pending litigation.” Other alternatives requested for consideration included “water supply at the current levels,” “water supply being provided to Buford and Gainesville (10 mgd) with the off-peak flow at 600 cfs,” and “water supply being authorized at the level of yield for the year 2035 found in the Metropolitan North Georgia Water Planning District’s Water Conservation and water Supply Plan of 2009.” The ARC further contended that the EIS “should assist decisionmakers in determining whether to seek additional authority for water supply operations at Lake Lanier.” The ARC also stated that “[t]he EIS should therefore be broad enough to acknowledge the current legal reality while, at the same time, accommodating the possibility that the current reality might change.” GAEPD asserted that the no-action alternative must be based on current conditions, which include water supply in Lake Lanier.

The Apalachicola Riverkeeper commented that the EIS must rigorously explore and objectively evaluate all reasonable alternatives, even those outside the agencies’ jurisdiction. In addition, the Riverkeeper requested that the EIS consider an alternative that “manages the ACF system to ensure the maintenance of ecologically sound in-stream flows that will protect and restore the chemical, physical, and biological integrity of the Apalachicola River and its floodplain, the Chattahoochee River, the Flint River, and the

Apalachicola Bay; and will recover threatened and endangered species and species at risk in those waters.” Last, the Riverkeeper reminded the USACE that the “recommended alternative must protect and restore the ecological health of the Apalachicola River and Bay and the entire ACF system and comply with environmental protection laws.”

The Upper Chattahoochee Riverkeeper asked that the USACE consider an alternative that integrates non-USACE, federally licensed reservoirs into a meaningful drought contingency plan.

Other comments included a request that the EIS address the freshwater needs of the Apalachicola River, estuaries, and bay.

3.7.3.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, 21 comments were submitted regarding the proposed action and alternatives. Some of these comments included explicit detail of alternatives developed by their agency or in support of another agency’s alternatives. A summary of comments follows:

- EPA comments recommended alternatives to maximize the use of existing infrastructure to minimize effects on aquatic resource including wetlands and streams; require the implementation of water efficiency or conservation measures; and analyzes the effects of the WCM operations on water quality standards. EPA also recommended that the socioeconomic, environmental, and human health impacts on low-income and minority populations be identified, analyzed, and addressed. Innovative procedures to enhance warning systems to improve public safety and recreation throughout the system should be considered.
- USFWS provided an alternative for monthly target and minimum flow support. The alternative would avoid or minimize some adverse effects of the current Revised Interim Operating Plan (RIOP), which uses system storage primarily to support the 5,000 cfs minimum release. An outline of this alternative is presented in Section 4.1.3.3.
- AOWR commented that Atlanta-area interests should not drive the evaluation of alternatives. The USACE must also recognize that water supply accommodation for the Atlanta area is not an all-or-nothing proposition where all the area’s water supply needs are met from the federal reservoirs or none at all.
- MNGWPD offered four key recommendations for the USACE to consider in the WCM update:
 1. Evaluate of alternative levels for the rule curves and action zones in the ACF projects
 2. Reconsider its policy of balancing the volume of water stored among the reservoirs based on percent of action zone
 3. Reconsider Woodruff Dam release requirements, including minimum flows

4. Develop forecast-based operating rules that can improve the benefits derived from reservoir operating rules for all purposes
- The Chattahoochee Riverkeeper provided a report defining conservation and other measures for consideration in the WCM update. The comments asked the USACE to consider options that are more equitable in terms of drought mitigation by considering emergency conservation measures or reallocating more composite conservation storage to West Point Lake and other downstream reservoirs to alleviate the adverse effects of drought. It also asked USACE to place public safety at the forefront in its reevaluation of operations.
 - The Apalachicola Riverkeeper commented that the Draft EIS must evaluate alternatives that will maintain ecological flows for the ACF system, including establishing minimum stream flow necessary to address water quality, fish and wildlife, recreation, and aesthetic considerations when developing WCMs, even where maintenance of minimum flows is not an authorized project purpose. These comments were reiterated by the National Wildlife Federation.
 - ARC comments support the Georgia water supply request and suggest an evaluation of the national and regional economic development benefits in granting that request. They also reiterated comments received earlier to consider structural alternatives in updating the WCMs. These include either closing Sikes Cut or installing a lock at Sikes Cut, restoring the channel below Woodruff Dam, refurbishing the intake at Plant Farley, and renovating projects to reduce releases necessitated by head limits.
 - The Chattahoochee RiverWarden documents flow regimes for the FERC Middle Chattahoochee Project License (P-2177-053) and indicate that they should be part of the WCM update.
 - The ACFS identified 14 areas of stakeholder interest in the ACF system and have identified six major objectives to be considered in the WCM update:
 1. Maintain adequate water supplies for public supply, municipal uses, and wastewater assimilation.
 2. Maintain existing, and promote future, water availability and access for water-dependent industries, power generation and recreational interests.
 3. Promote optimizing the use of water for agricultural irrigation including types of irrigation technology, selection of crops, sustainable and resource-based permitting and water withdrawal monitoring.
 4. Determine the nature and extent of commercial navigation that the ACF Basin can effectively support.
 5. Protect the natural systems and ecology of the ACF Basin by defining and implementing desired flow regimes and lake levels, water quality enhancements, including wastewater and storm water management and best management practices to maintain a healthy natural system and support a productive aquatic ecosystem in the basin and estuary.

6. Create and support relationships with local governmental institutions and other public bodies in the ACF Basin to promote sustainability of the water resources and to enhance the historical and cultural resources of the basin related to managing its water resources.
- Comments from Georgia Power indicate its support of an expanding range of water supply alternatives associated with Buford Dam.
 - Other private citizens suggested that the USACE consider alternatives that would raise lake levels (to 1,072 at Lake Lanier) and to make no changes, a *no change of action*.

3.7.4 Additional NEPA Topics

3.7.4.1 Initial Scoping Period—2008

Mitigation. FDEP stated that key mitigation elements must include conservation and water transfers.

Schedule. The USACE received three comments regarding the timeline for completing the Master Manual update and the accompanying EIS. The commenters stressed that time is of the essence, and one added that the EIS cannot be “all things to all people.”

Compliance with Other Regulations. Three comments were made regarding the requirement that the USACE meet all applicable laws in its water management operations. Specific laws mentioned include the *Coastal Zone Management Act*, *Clean Water Act*, and ESA.

Cooperating Agencies. A comment from the Apalachicola Riverkeeper suggested that the USACE consider engaging EPA as lead agency—with the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, USFWS, the USACE, and others in cooperating roles—all overseen by the National Research Council. A comment from Representative Boyd encouraged the USACE to continue working with the National Research Council as the project moves forward.

General NEPA Comments. Eighteen of the comments submitted addressed NEPA but did clearly not fit within the defined NEPA subcategories. Some of the comments were included in the general introductory language provided as a lead-in to more specific comments that have been addressed elsewhere in this report. Several commenters thanked the USACE for the opportunity to participate in the process or offered their assistance as the project moves forward. Some comments were pleas to the USACE to help their communities, “do the right thing,” and ensure the protection of both the human and natural environment for future generations. A few commenters expressed doubt that the long-standing battle over water can be resolved, admonished politicians and “big government;” or conveyed an overall tone of disappointment or disgust with management of the ACF River Basin.

3.7.4.2 Reopened Scoping Period—2009

Mitigation. Three comments were submitted regarding mitigation. The ARC asserted that the USACE needs to consider mitigation measures to mitigate the catastrophic environmental and economic impact of the operational alternative defined in the November 19, 2009, *Federal Register* notice. The ARC further stated that the EIS should assess various mitigation options proposed by Gwinnett County to address Florida's concerns in the Apalachicola River and Bay.

FDEP contended that “the USACE should consider additional system-wide mitigation with regard to water quantity and flows in the ACF Basin.” It further stated that the USACE should “analyze increased wastewater recycling and reuse, coupled with wastewater treatment and water conservation measures, as an alternative and as a means to mitigate any impacts associated with the USACE's proposed action and cumulative impacts of new sources of water supply in the ACF Basin.”

Schedule. One commenter requested that the USACE get the Master Manual update done “soon.”

Compliance with Other Regulations. Five comments were made regarding the requirement that the USACE meet all applicable laws and regulations in the development of the updated Master Manual and EIS. Gwinnett County Department of Water Resources asserted that NEPA, properly applied, requires the USACE to include water supply at and above current uses in its EIS. FDEP reminded the USACE that “the Apalachicola River and Bay—and indeed, the entire State of Florida—are protected by the enforceable policies of the federally approved Florida Coastal Management Program.” FDEP further stated that regardless of the Phase 1 Order, the USACE must comply with NEPA, the Water Supply Act of 1958, the Flood Control Act, the ESA, and the Coastal Zone Management Act. The Apalachicola Riverkeeper echoed a similar sentiment, reminding the USACE that the alternative ultimately recommended by the Draft EIS must also comply with the full suite of federal laws and policies designed to protect the environment. The NPS made the USACE aware that the EIS must be mindful of the Chattahoochee River National Recreation Area and the protections it is afforded by various laws and regulations.

Cooperating Agencies. No comments were received.

General NEPA Comments. Eighteen comments were categorized within this subcategory. FDEP commented that the EIS should assess a full range of alternatives and associated impacts on Florida and the Apalachicola River and Bay. The USACE also should make any updated critical yield analysis and new model for the ACF River Basin available to Florida for review and comment. In addition, cumulative impacts analysis must consider the following reasonably foreseeable actions:

- All depletion of water within the entire ACF River Basin, including metro Atlanta uses, irrigation in the Flint River Basin, and reservoir evaporation
- Depletion of water from population growth in metro Atlanta

- Modifications to seasonal or altered timing of flows caused by federal and non-federal reservoir operations
- Point and large-scale nonpoint source pollutant discharges
- Effects of flow alterations and continued loss of aquatic habitats in Apalachicola River and Bay
- Implementation of drought management plans and triggers
- Occurrence of more severe and extended droughts in the future.

FDEP further stated that “the cumulative impacts of proposed reservoirs [in Georgia], and any additional water supply sources or diversions necessitated by the Phase 1 Order, must be evaluated by the USACE as part of the WCM EIS process.” It added, “The USACE also should evaluate the impacts of growth induced by providing new sources of water supply in the ACF Basin.”

The AOWR echoed FDEP’s concerns, stating that “in assessing the cumulative impacts associated with the operation of the ACF Basin, the USACE must consider the amount of water that may be lost from the basins through inter-basin transfers and consumptive uses and should consider appropriate limitations on any such losses, particularly under drought conditions.”

The ARC “firmly believe[s] that any objective analysis will show that there is enough water in the ACF Basin to meet the reasonable needs of all stakeholders if the reservoirs are operated properly.” GAEPD commented that to not consider water supply in the EIS would be a waste of resources and taxpayer dollars. GAEPD further stated that “the USACE cannot ignore the enormous environmental, social, and economic costs that would result from ceasing to provide water supply to the millions of Georgians that have depended on Lake Lanier for decades by merely declaring that its ‘no action’ alternative will not include water supply.”

The Apalachicola Riverkeeper made several comments including the following:

- Define and utilize the historical flow conditions of the Apalachicola, Chattahoochee, and Flint rivers as the baseline, with particular attention to the historical flow regime of the Apalachicola River.
- Comprehensively analyze the direct, indirect, and cumulative impacts of the proposed alternatives. As CEQ has made clear, in situations like those in the ACF where the environment has already been greatly modified by human activities, it is not sufficient to compare the impacts of the proposed alternative against the current conditions. Instead, the baseline must include a clear description of how the health of the resource has changed over time to determine whether additional stresses will push it over the edge.
- “Cumulative effects analysis must address impacts from past, present and future actions through the basin including, but not limited to water withdrawals through basin from federal and non-federal activities; reservoir and dam operations;

navigational dredging activities; commercial, residential, and infrastructure development; changes in rainfall, water quantity, salinity, wetland losses, sea level rise, and storm events from climate change; and improvements in water conservation.”

- Evaluate alternatives that will protect and restore the ecological health of the Apalachicola River and Bay, and the entire ACF system. The EIS must also state how alternatives considered in it and decisions based on it will or will not achieve policy goals established under NEPA and other applicable environmental laws and policies.

One commenter urged the USACE to include in the Record of Decision a thorough explanation of its modeling and analysis of proposals and alternatives, as well as its reasons for accepting or rejecting them. Another commenter urged the USACE to consider the impacts of its actions basin-wide, including the Apalachicola Bay. Gwinnett County Water Department restated the USACE’s legal obligations under NEPA.

3.7.4.3 Reopened Scoping Period—2012

Mitigation. No comments were received.

Schedule. No comments were received.

Compliance with Other Regulations. Four comments were made regarding the requirement that the USACE meet all applicable laws and regulations in developing the updated Master Manual and EIS. EPA submitted three comments that made reference to Clean Water Act sections 401 and 404. The comments indicate that holistic management should be considered to minimize effects on entities seeking storage allocations with the least environmental damage. Gwinnett County indicated that Section 1.2 of this report be updated to include the 1956 Act per the Eleventh Circuit decision.

Cooperating Agencies. The National Park Service indicated that it welcomes the opportunity to work as a cooperating agency in the WCM update.

General NEPA Comments. Eleven comments were categorized in this category. They were generally related to direct, indirect, and cumulative effects. Chattahoochee Riverkeeper and the Southern Environmental Law Center encourage the USACE to coordinate with other agencies to consider direct, indirect, and cumulative effects. Comments focused on cumulative effects indicate that the USACE should evaluate the effects of planned water supply sources and consider effects that would occur without the availability of storage at Lake Lanier for water supply. These comments generally indicate a need to cover a full range of effects from headwaters to the mainstem considering past, present, and reasonably foreseeable future conditions.

3.8 Data, Studies, and Analytical Tools

Fifty-six comments received during the 2008 initial scoping period were assigned to the category Data, Studies, and Analytical Tools. Four more comments were received in the

2009 reopened scoping period and 37 were received in the 2012 reopened scoping period for 97 total comments. The comments are summarized below.

3.8.1 Initial Scoping Period—2008

The highest number of comment submissions requested that impact analysis and studies be conducted for the ACF River Basin. Commenters stated that the USACE's EIS should address the accumulation of scientifically based data on the available water and current water withdrawals along the ACF system. The EIS should quantify the relationship between increasing consumptive demands in the ACF River Basin and the benefits from various project purposes. In assessing the cumulative impacts associated with the operation of the ACF River Basin, the USACE needs to consider the amount of water that might be lost from the basins through inter-basin transfers and consumptive uses and should consider appropriate limitations on any such losses, particularly under drought conditions. Any raw data input should be measured using modern technology.

Commenters asked that a clear discussion and delineation of the pertinent water management responsibilities of federal and state agencies be included as a part of the EIS. The USACE has no authority to make decisions on matters of water supply planning and must defer to the states on such issues. However, commenters saw the need for the USACE to examine water supply withdrawals (or the lack thereof), and the consequences of them, as impacts of the proposed federal action. Furthermore, the EIS should document the volume of storage that has been contracted for water supply or has been proposed in each project and any limitations due to the hydrologic conditions of meeting the contracts.

Commenters asked that when compiling an EIS, the USACE use the new HEC-ResSim model software to the maximum advantage in developing new operating rules and that data from other modeling software be accepted or rejected but not ignored. Commenters also asked the USACE to examine the location of water withdrawals and discharges along the Chattahoochee River to ensure their accuracy: "The HEC-ResSim model places certain water withdrawal and wastewater discharge points in the wrong location along the Chattahoochee River. Because of these errors, the predicted release from Lake Lanier necessary to meet the 750 cfs flow requirement at Peachtree Creek is less than what is actually needed."

Additional studies and analyses recommended by commenters include the following:

- Interagency technical workgroups could assist the USACE in compiling the information necessary to craft a balanced set of alternatives and to analyze their effects on resources.
- The National Research Council should be permitted to do a study of all basins throughout the three states so that science, rather than politics, can dictate appropriate water policy.
- An assessment of water availability, supply options, demand-management alternatives, and socioeconomic factors that influence uses in the ACF system would be useful.

- EPA encouraged including in the EIS a discussion that connects management plans to reallocation of water storage. Of special interest are the effects of management plans on discharge rates (including velocities) and river elevations (including volume).
- The USACE should evaluate the effects on Apalachicola Bay and Estuary salinity and nutrient composition (to evaluate salt marshes, submerged grass beds, oysters, floodplain habitats, channel morphology, and bank erosion).
- A thorough evaluation of project-related flow regime alterations and the potential benefits of restoring features of the pre-project flow regimes, specifically the approach described by Richter and Thomas (2007), should be conducted.

3.8.2 Reopened Scoping Period—2009

In the initial scoping period, commenters asked that when compiling an EIS, the USACE use the new HEC-ResSim model software to the maximum advantage in developing new operating rules and that data from other modeling software be accepted or rejected but not ignored. In the 2009 reopened scoping period, state agencies asked that all three states (Alabama, Florida, and Georgia) have the opportunity to become acquainted with HEC-ResSim and requested that it be used only if the three states and the USACE agree on its use in modeling updates.

3.8.3 Reopened Scoping Period—2012

Thirty-seven comments were received regarding data, studies, and analytical tools in the 2012 reopened scoping period. These comments provided reference to studies covering a range of resource areas to be more fully considered in the NEPA analysis including economic studies, biological studies, environmental justice analyses focused on areas with higher concentrations of minority or low-income populations, drought studies, and a study supporting raised pool levels in the winter in West Point Lake. Stakeholders suggested using updated population and land use data with more recent technology in storm tracking to improve the flexibility of water management. States, private citizens, and special interest groups presented data analysis and the results of their modeling effects for consideration in developing alternatives.

Commenters conducted alternative analyses using HEC-ResSim and provided those results with suggested alternatives to the USACE. AOWR provided comments on the HEC-ResSim modeling and suggested updates to the model to improve its ability to match historical flows. Stakeholders requested critical flows to be recalculated, a recalculation of unimpaired flows, model sensitivity analysis, refinements of HEC-ResSim in modeled segments in the Atlanta area to better represent water withdrawals, and consideration of water lost from evaporation in reservoirs. Models representing salinity in Apalachicola Bay were referenced and provided for use in evaluating necessary basin inflows. Several stakeholders provided performance measures for the USACE to use in WCM updates. Hydropower interests provided suggestions to updates used in calculating benefits to hydropower.

3.9 Navigation

The USACE received 28 comments on navigation during the 2008 initial scoping period. Four more comments were received during the 2009 reopened scoping period, and 9 more comments were received in the 2012 reopened scoping period for 41 total navigation comments. Navigation comments are summarized below.

3.9.1 Initial Scoping Period—2008

Of the 28 comments the USACE received regarding navigation, there were an equal number of those in favor and those opposed to navigation. One comment also focused on the environmental impacts of dredging in the Apalachicola River. The following is a summary of the comments regarding navigation:

- Navigation is no longer a high priority and might be altering the natural environment.
- Navigation is no longer a viable means of transportation.
- Revisions to the manual must recognize navigation as a primary project purpose and reflect the statutory intent to support downstream communities by resuming channel maintenance in the Apalachicola River acceptable to FDEP and by providing adequate flow to support navigation.
- Navigation is an important economic driver in this region, but releases should not be made from Lake Lanier to support navigation.
- The USACE is responsible for operating and maintaining the authorized navigation channel. Commenters urged the USACE to “explain in its revised manual and the accompanying environmental documentation how it intends to provide for the needs of the communities and industries located in the middle and lower portions of the ACF River System.”

The Tri-Rivers Waterway Development Association and industries located on the Chattahoochee River, such as MeadWestvaco, encouraged the USACE to continue to support navigation on the system by pursuing water quality certification from FDEP for maintenance dredging and by managing reservoir releases to support navigation. Such commenters cite the original congressional authorization as the basis for their position. Those who do not favor continued support of navigation point to the lack of navigation traffic on the system and the adverse environmental effects of dredging in the Apalachicola River. One such commenter suggested that the USACE abandon navigation as a function of the ACF system.

3.9.2 Reopened Scoping Period—2009

The USACE received four comments regarding navigation during the 2009 reopened scoping period—three supportive of navigation and one focused on the environmental impacts of dredging in the Apalachicola River. The themes of the comments were very similar to those of the 2008 scoping period. One commenter mentioned the importance of the USACE providing navigation support for businesses and industries on the

Chattahoochee River, for transportation purposes and for meeting water elevation and flow needs. That commenter stated he has no objection to the use of “action zones” as long as those zones adequately provide for the flood control, navigation, and hydropower authorized purposes of the ACF system. The commenter further stated that drought contingency operations factored into the development of action zones must not unduly burden West Point Lake and Walter F. George Lake in favor of excess conservation upstream in Lake Lanier. Two commenters suggested that the USACE revise the scope of its EIS to ensure that reliable, year-round navigation on the ACF system is a required alternative and is fully provided for in the revision of water control plans and manuals. One of these commenters urged the USACE to work cooperatively with FDEP and other appropriate stakeholders, including navigation interests, environmental interests, and local governments, to obtain state water quality certification. Should those efforts not be successful, this commenter suggested, the USACE has sufficient federal preemptive authority to maintain the federal navigation project in the absence of state water quality certification.

3.9.3 Reopened Scoping Period—2012

The USACE received nine comments regarding navigation in the 2012 reopened scoping period. These comments requested that the USACE maintain the project purpose and support navigation on the Apalachicola, Chattahoochee, and Flint rivers. They suggest consideration of seasonal navigation that coincides with high spring releases for aquatic species and for the Draft EIS to include the economic effects of navigation-based facilities. Those facilities made it possible for local communities to sell and ship products (agricultural, silvicultural, mineral, and such), supply raw materials for industry along the river, and move oversized equipment to Plant Farley.

3.10 Hydropower

The USACE received 26 comments on hydropower during the 2008 initial scoping period. No more comments were received in the 2009 reopened scoping period, but 5 more comments were received in the 2012 reopened scoping period for 31 total hydropower comments. Hydropower comments are summarized below.

3.10.1 Initial Scoping Period—2008

The USACE generates power at dams on the Chattahoochee River and markets the power through the Southeastern Power Administration. Of the 26 comments received related to management for hydropower during the 2008 initial scoping period, the number of comments that called for hydropower production as a priority was the same as the number that called for hydropower production to be reduced in times of drought conditions. The following is a summary of the comments regarding hydropower:

- Hydropower customers are willing to forego their authorized storage as long as proper compensation is provided.
- Hydropower is one of the original authorized project purposes for Lake Lanier, and it provided the economic justification for the project.

- Any changes in the plan that creates operational restrictions, or redistributes project benefits, should be accompanied by a reallocation of project costs and compensation to the affected [project] purpose.

The commenters that favored hydropower operations at the ACF projects tended to be marketers or users of power, such as SEPA, power cooperatives, Georgia Power Company, or industries. These commenters cited the original congressional authorization, together with the fact that sale of hydropower repays a portion of project costs, as justification for their position. According to SEPA, “[a]ny change in the plan which creates operational restrictions, or redistributes project benefits, should be accompanied by a reallocation of project costs and compensation to the impacted purpose.” A representative of the SeFPC suggested that “the hydropower customers are willing to forego their authorized storage at the projects as long as there is proper compensation.” Those commenters who did not favor hydropower operations at the ACF projects believe that other purposes, such as water supply, are of higher priority. Those holding this viewpoint tended to reside in the upstream portion of the basin.

3.10.2 Reopened Scoping Period—2009

No hydropower-related comments were received during the 2009 reopened scoping period.

3.10.3 Reopened Scoping Period—2012

Five hydropower-related comments were received from SeFPC, SEPA, Atlanta Rowing Club, and a private citizen. The private citizen requested hydropower releases during drought. The Atlanta Rowing Club requested operational consideration to maintain daily average power generation while reducing the peak of discharges from Buford Dam. SEPA indicated that power customers have expressed concern about the increasing cost of federal power and the reduction of benefits due to competing purposes. They suggested that the WCM updates consider a methodology to minimize the effects on power production, or equitably redistribute, project costs to other purposes benefiting from operational changes and storage use. SeFPC comments focused on USACE calculations hydropower effects, suggesting the USACE should not limit the analysis to lost energy on a project-by-project basis. They suggested the loss of hydropower in the Draft EIS should focus on identifying the lost peak hydropower production rather than a generalized decrease in energy production.

3.11 Flood Risk Management

In cases of extreme wet-weather conditions, the USACE manages operations at federal reservoirs to reduce damage caused by flooding. Given the drought conditions, only a limited number (nine) of the comments received during the 2008 initial scoping period were related to flood risk management. Only two more comments concerning flood risk management were received during the 2009 reopened scoping period but 71 more were received during the 2012 reopened scoping period for 82 total comments. The comments are summarized below.

3.11.1 Initial Scoping Period—2008

Comments regarding flood risk management came primarily from residents near West Point Lake. The flood risk management operation of this lake involves lowering the pool level during the winter months to provide additional flood storage. There were comments on both sides of this issue. Those residing on the lake or using it for recreation generally supported reductions in the drawdown of the reservoir in winter to provide flood risk management in the future. The West Point Lake Association and the City of LaGrange, for example, supported drawing West Point reservoir no lower than elevation 633, as opposed to the current operation of drawing down to 628. The larger response associated with flood damage reduction requested the removal of this project purpose in favor of higher water levels to support recreation, citing the greater perceived economic impact associated with recreation as compared to flood damage reduction. Those residing downstream, however, predictably held a different viewpoint, citing their dependence on West Point Lake for flood protection. These commenters pointed out that flood risk management was an original purpose for constructing the reservoir and that downstream residents still rely on that protection.

3.11.2 Reopened Scoping Period—2009

During the 2009 reopened scoping period, the USACE received two comments regarding flood risk management. The City of Lagrange, Georgia, commented that flood concerns north of West Point should be addressed by providing additional flood storage in Lake Lanier along with reduced lake elevations there for winter flood storage, not by relying on increased storage capacity in West Point Lake. With reference to a flood event in fall 2009, the City suggested that practices used by the USACE during that event worked well and should be incorporated into operating plans and that “set aside” flood storage at West Point should be reduced accordingly, especially during winter months.

3.11.3 Reopened Scoping Period—2012

In the 2012 reopened scoping period, the USACE received 71 comments regarding flood risk management. These comments were from citizens surrounding West Point Lake requesting that West Point Lake be maintained at a minimum 632.5 msl year round. They believe that increased storage, along with better management would reduce flooding. The Columbus Water Works encouraged the USACE to review its flood management procedures to consider modifications to take advantage real time USGS gages to improve reservoir release response times.

3.12 Other Resources

In the 2008 initial scoping period, 52 comments related to other resource areas—air quality, cultural resources, geology and soils, and hazardous, toxic, and radioactive waste—were received. Six more comments were received in the 2009 reopened scoping period, and seven more were received in the 2012 reopened scoping period for 65 total comments. These comments on other resource areas are summarized below.

3.12.1 Air Quality

3.12.1.1 Initial Scoping Period—2008

Three comments were related to air quality. They noted that the USACE should address and fully document the effects of proposed actions on air quality. The commenters noted that trees are dying due to drought conditions. The absence of trees can significantly affect the natural cycle, which (when functioning properly) can chemically break down air pollution. More water would ensure the ecological balance needed for better air quality.

3.12.1.2 Reopened Scoping Period—2009

No comments were received.

3.12.1.3 Reopened Scoping Period—2012

No comments were received.

3.12.2 Cultural Resources

3.12.2.1 Initial Scoping Period—2008

Seven comments regarding cultural resources were submitted. According to the commenters, Florida's historical heritage is at risk due to declining environmental conditions and the toll taken on the commercial fisheries industry for which the Apalachicola River is known. The community of Franklin County is dependent on the Apalachicola River and Bay for its livelihood and culture. Commenters asked that the USACE consider the loss of the cultural heritage of the Apalachicola oysterman if river flows are too low to maintain the fishery at adequate levels to make it economical for oyster harvesting to continue, and they asked that the USACE provide a better guide for protecting cultural resources in the Master Manual.

3.12.2.2 Reopened Scoping Period—2009

One cultural resources comment was received during the 2009 reopened scoping period. The commenter stated that the EIS should consider the impacts of "rapidly fluctuating water levels" on archaeological and historic sites within the Chattahoochee River National Recreation Area. The commenter is concerned that accelerated erosion due to bank scouring caused by the fluctuating releases from Buford Dam negatively affect the Ivy Mill ruins in Roswell, Georgia, which are listed on the National Register of Historic Places, as well as other archaeological sites in the Chattahoochee River National Recreation Area.

3.12.2.3 Reopened Scoping Period—2012

One cultural resources comment was received in the 2012 reopened scoping period from the National Park Service reiterating its comments from 2009 in Section 3.12.2.2.

3.12.3 Geology and Soils

3.12.3.1 Initial Scoping Period—2008

Twenty-nine of the comments received were related to geology and soils. Commenters expressed concern about bank erosion at Lake Lanier and how it could diminish the future storage capacity of Lake Lanier. Some commenters pointed out that bare soil near the banks will eventually wash into the nearby creeks and tributaries, creating a water quality issue. A few commenters feel that development should be limited around Lake Lanier to prevent erosion and to control the drawdown of the lake for drinking water.

Other commenters pointed out that West Point Lake has severely eroded along the shoreline and caused silt buildup near private docks. The commenters feel the USACE could minimize erosion and soil deposition in the lake by keeping lake levels at or above 633 feet msl.

3.12.3.2 Reopened Scoping Period—2009

Five comments on geology and soils were received during the 2009 reopened scoping period. They concerned changes in flow and the corresponding impact on the riverbeds, erosion, and siltation. One commenter requested that the EIS address the “significant physical impacts” resulting from the abrupt water level changes in the Chattahoochee River due to releases from Buford Dam. The commenter said the abrupt changes in flow result in bank erosion and siltation in the Chattahoochee River and its tributaries.

Three of the geology and soils comments were related to the Apalachicola River. One commenter said that the construction and operation of the Jim Woodruff Dam has deepened and widened the Apalachicola River channel below the dam through the deposition of dredged material in the floodplain, degrading the condition of the riverbed. The commenter asked that the USACE consider repairing the riverbed below Woodruff Dam and suggested non-flow measures such as the “mechanical removal of vegetation on the banks, the reshaping of the riverbed and banks, and the placement of appropriately sized gravel.” The second commenter asked that the EIS address changes in the river channel morphology due to altered flows, including bank erosion. The third comment about the Apalachicola River concerned Swift Slough and Chipola Cutoff, two of the river’s distributaries (streams that branch off and flow away from the main stream channel). The commenter expressed concern that Swift Slough is threatened due to channel incising and sedimentation, whereas Chipola Cutoff is increasing in size and is “claiming an ever-increasing share of the mainstream of the river, now up to 40 percent.” The commenter asked that the USACE study alternatives to address these problems.

One comment pertained to geology and soils in the ACF River Basin as a whole. The commenter requested that the EIS document, as part of the baseline conditions, the miles of streambed lost or modified due to the historical changes that have occurred in the ACF River Basin.

3.12.3.3 Reopened Scoping Period—2012

Three comments on geology and soils were received from the Atlanta Rowing Club and National Park Service. These comments focus on turbidity and sedimentation in the CRNRA and Bull Sluice Lake. The NPS comment that the Draft EIS should quantify the environmental, social, and economic effects of stream banks erosion. Bank undercutting and erosion increase siltation having long-term effects on aquatic habitats. The Draft EIS should evaluate the effect of operations on species that benefit from gravel or rocky substrate. The Draft EIS should include economic effects from the loss of property from eroding bank along with considering the future effects of stream bank erosion.

3.12.4 Hazardous, Toxic, and Radioactive Waste

3.12.4.1 Initial Scoping Period—2008

The USACE received 13 comments regarding the recently permitted Turkey Run Landfill, which will be constructed near a tributary that feeds into West Point Lake. Commenters expressed concern that contaminants from the proposed landfill could leach into West Point Lake and groundwater supply sources, thereby polluting their drinking water. Commenters also pointed out that recreation on West Point Lake could be adversely affected if the landfill were to reduce the water quality and cleanliness of the lake.

3.12.4.2 Reopened Scoping Period—2009

No comments on hazardous, toxic, and radioactive waste were received.

3.12.4.3 Reopened Scoping Period—2012

No comments on hazardous, toxic, and radioactive waste were received.

3.13 Petitions

3.13.1 Initial Scoping Period—2008

Two petitions were received:

- West Point Lake Advisory Council Needs Your Show of Support (SOS)
- Comments on the Potential for the Turkey Run Landfill to Pollute Groundwater and Surface Waters in Violation of GAEPD Solid Waste Management Rules and Landfill Permit.

The West Point Lake Advisory Council submitted a petition signed by 30 persons at the LaGrange public meeting and later mailed in an additional 2,779 signatures. The petition calls for all levels of government to ensure that five concerns are heard:

1. Maintain a minimum lake level of 633–635 feet msl.
2. Maximize positive economic impact.

3. Return to managing the lake consistent with congressionally authorized purposes.
4. Restore and maintain recreational facilities.
5. Ensure recreational access for low-income and minority families.

These comments were also received in conjunction with other comments and were categorized appropriately in previous sections of this report.

The second petition, related to the Turkey Run Landfill, had been signed by 58 persons. The area of concern is adjacent to West Point Lake, and the comments indicate a need to address adverse water quality impacts on the City of LaGrange's water supply that might occur because of the landfill. Although the landfill is not within the USACE's regulatory authority for the Master Manual, under the NEPA process it may be considered in various aspects of documenting activities within the area of influence of the USACE's reservoirs. Copies of the petitions are provided in Appendix L.

3.13.2 Reopened Scoping Period—2009

No petitions were received.

3.13.3 Reopened Scoping Period—2012

The LaGrange-Troup County Chamber of Commerce distributed a petition "U.S. Army Corps of Engineers: Change operation rule curve for West Point Lake" signed by 2,985 individuals. The petition described the local economic effect of West Point Lake and the economies dependence on lake water levels. They request that the USACE change the guide curve at West Point Lake in the late summer/early fall. These petitions were received in conjunction with other comments categorized appropriately in previous sections of this report.

4.0 Federal, State, and Local Agency Responses

This section summarizes the comments that federal, state, and governmental agencies submitted through letters to the USACE Mobile District during the 2008, 2009, and 2012 scoping periods. Comments from the federal agencies (EPA, SEPA, and the Department of the Interior's USFWS) are summarized first, followed by state agency comments (in alphabetical order) and finally local government input. Copies of all the public and agency comments received during the scoping process are provided in Appendixes J (2008 comments), M (2009 comments), and Appendix P (2012 comments).

4.1 Federal Agencies

4.1.1 EPA Region 4

4.1.1.1 Initial Scoping Period—2008

Comments from EPA Region 4 were received December 8, 2008, in a letter signed by Mr. Heinz Mueller. EPA noted that it understands that the updated Master Manual will identify all constraints, including authorized project purposes, power contract commitments, hydrologic and climatologic factors, downstream lake and basin-wide conditions, and potential threats of flood and drought, and will include the resultant lake levels required to satisfy all these various requirements.

Master Manual. In comments regarding the Master Manual update, EPA suggested that the manual include sections on current project operations and a historical review; operational changes necessitated by drought contingency requirements and data supporting such changes; updated data reflecting current basin conditions; proposed new environmental requirements for meeting water quality standards; how compliance with endangered species law/fish spawning needs will be accomplished; procedures for capturing/using real-time data provided by additional gauges; results of recent computerized modeling; and proposed improved streamlining of data exchange between agencies.

NEPA. With respect to NEPA, EPA noted that adverse impacts from any proposed action should be avoided, minimized, and/or mitigated. EPA's specific recommendations follow:

- Address and fully document effects on threatened or endangered species, cultural resources, air quality, and wetlands. Ensure that the proposed action complies with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Fully document that no unacceptable adverse cumulative or secondary impacts will result.
- Address and fully document the effects of the proposed action on water quality, including effects on Total Maximum Daily Load implementation and impaired waters. Include information on the impairment status and Total Maximum Daily Loads of all ACF system water bodies.

- Consider the consequences of any major changes to conservation storage at lakes Lanier, West Point, and Walter F. George.
- Make the best management practices that will be implemented to control sediment runoff and manage stormwater at the lakes part of the Master Manual.

Water chemical, physical, and biological characteristics. EPA comments related to water chemical, physical, and biological characteristics noted that the EIS should

- Include discussion connecting management plans to reallocation of water storage. Of special interest are effects of management plan changes on discharge rates and river elevations. Discuss the secondary effects on major water chemical, physical, and biological characteristics.
- Discuss major biological characteristics, including potential alterations to aquatic species that require flow in their habitat. In evaluating alternatives, describe their impact on the sustainability of the aquatic environment and related human benefits.
- Discuss ACF adaptive management plans (AMPs), which should address the uncertainty associated with in-stream flow prescriptions and should include conservation and resource-protective flow standards based on available information; identify monitoring programs; and identify an effective revision procedure.
- Employ in the ACF River Basin a concept similar to that described in the GAEPD request for flow reductions in the Chattahoochee River, which relies on a series of predictive models. Monitor identified flow-related sensitive endpoints and use a notification procedure when certain conditions that require flow change exist.

4.1.1.2 Reopened Scoping Period—2009

No comments were received.

4.1.1.3 Reopened Scoping Period—2012

EPA Region 4 submitted comments in a letter signed by Mr. Heinz Mueller and dated January 14, 2013. Comments were organized in five categories.

- ***Wetlands and Streams.*** EPA recommended that management activities focus on using existing infrastructure to meet the needs of water supply. Its comments describe concern that additional water supply infrastructure could fragment aquatic ecosystems and by maximizing the use of existing infrastructure these effects could be avoided. EPA also recommends management for variable flows to ensure connectivity between riverine, wetland, and floodplain environments.
- ***Water Supply Efficiency/Conservation.*** EPA requested that, in review of permit requests, the USACE consider demonstrated compliance with mitigation sequencing and that applicants consider a range of alternatives. One such alternative should demonstrate water efficiency and conservation measures without consideration of changes to storage use. Further, USACE should consider

efficiency and conservation measures in the reservoirs to minimize effects on quality resources. Analysis should also consider future trends in basin inflow.

- **Water Quality.** EPA recommended that operational changes consider water quality endpoints like dissolved oxygen, biological endpoints that effect sensitive aquatic species and physical endpoints that protect designated aquatic life use. USACE activities should provide reasonable assurance that water quality standards will not be violated and the flows will be provided to protect aquatic life. The latest science should be considered in alternative development; understanding that a range of flows is important for maintaining “aquatic ecosystems rather than regulating a river to meet a static low flow target.”
- EPA also recommended that drought contingency plans be formally coordinated with dischargers and water withdrawers and that best management practices for sediment and stormwater be included when analyzing management activities.
- **Public Safety and Recreation.** EPA recommended that USACE consider procedures to improve public safety through warning systems and to improve recreation in the entire system. It cited use of warning safety enhancement plans and recreational flow releases in other areas of the Southeast.
- **EJ/Socioeconomic.** EPA recommended that the EIS include the effect of actions on minority and low-income populations. It also indicated that USACE should continue to engage the community throughout the NEPA process.

4.1.2 Southeastern Power Administration

4.1.2.1 Initial Scoping Period—2008

Comments from SEPA were received November 21, 2008, in a letter signed by Mr. Herbert R. Nadler. The comments included the following points:

- Project repayment costs were developed and assigned based on authorized purposes receiving certain benefits from the projects. Such costs are to be repaid by the purposes through the use of project features, such as available storage.
- Plan changes that create operational restrictions or redistribute project benefits should be accompanied by reallocating project costs and compensating the affected purpose. It is not fair or equitable to expect an authorized purpose to be responsible for costs that do not correspond to the level of benefits received. Reduction in the availability of power affects SEPA’s preference customers.
- Municipalities and cooperatives that benefit from project generation depend heavily on their government allocation of capacity and energy to meet their peak loads. Reductions in the level of benefits available should be accompanied by appropriate compensation.

4.1.2.2 Reopened Scoping Period—2009

No comments were received.

4.1.2.3 Reopened Scoping Period—2012

A letter dated November 28, 2012, and signed by Mr. Herbert R. Nadler was submitted with comments from SEPA. The comments reiterated points made in 2008 with the following additions:

- Power customers have expressed concern about the increasing cost of federal power and the reduction of benefits from competing purposes.
- WCM updates should adopt a methodology that minimizes effects on power production or equitably redistributes project costs to other purposes benefiting from operational changes and storage use.

4.1.3 U.S. Fish and Wildlife Service

4.1.3.1 Initial Scoping Period—2008

Comments from USFWS were received November 21, 2008, in a letter signed by Ms. Gail A. Carmody. Regarding the Master Manual, USFWS requested a summary of the current operating rules for each project, an explanation of their basis in congressionally authorized purposes, and a description of how much discretion the USACE has to change the rules. USFWS recommended posting the summary on the District's website.

Regarding resources, USFWS recommended the following:

- *Threatened and endangered species.* Address the same ESA-protected resources for the manual update as for the RIOP. The EIS should include a Biological Assessment of effects on these species and their designated critical habitats.
- Contact the states directly and obtain current lists of resources of concern to the state fish and wildlife agencies that could be affected by project operations. Participate with USFWS and other federal and state agencies in efforts to locate and monitor extant populations in the unimpounded portions of the Chattahoochee River and its tributaries.
- *Reservoir fisheries.* USFWS cooperated with the USACE for the 1998 draft EIS for ACF storage allocation to develop a reservoir fisheries performance measure. USFWS recommends that the USACE update this performance measure and use it to evaluate the relative impacts of alternative operating plans on reservoir sport fisheries.
- *Fish passage.* Continue to support and facilitate research on fish passage at Jim Woodruff Dam, and at other ACF federal dams as appropriate, with a goal of identifying and implementing operations that would allow riverine species to travel their historic migratory pathways. Incorporate such procedures into the manual, as appropriate.
- *Water quality.* In the manual, closely examine the effects of reservoir operation on water quality, including ongoing and potential future effects on dissolved oxygen, temperature, pH, conductivity, nutrient and organic material dynamics, and various industrial and municipal discharges.

- *Invasive aquatic plants.* Investigate the feasibility of occasional drawdowns for controlling aquatic plants as part of the manual update.
- *Floodplain habitats.* Evaluate the effects of past and proposed project operations on flood durations and floodplain habitats.
- *Apalachicola Bay habitats and fisheries.* Apply a spatially explicit hydrodynamic model of the bay to assess the effects of alternative operations on salinity regimes and, in turn, on the relative distribution of salt marshes, submerged grass beds, and oyster beds in the bay.

With respect to the alternatives, USFWS recommended the following:

- *Minimum releases.* Use the Master Manual update to comprehensively evaluate storage options in the context of the impacts of altered flow regimes at the ACF dams and the benefits of restoring more natural patterns to the monthly, daily, and instantaneous releases from the ACF dams. Consider how providing windows of more stable flows during critical periods might increase the abundance and diversity of native fishes and other aquatic resources in tailwaters.
- *Winter drawdown.* 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. Consider other alternatives to achieving flood protection.
- *Climate change.* Consider how climate change might affect ACF flow regimes and how to best adapt reservoir operations to the most likely foreseeable changes. Address climate-based operational flexibility in the manual update and in the analyses of the EIS.
- *Consumptive water demands.* Consider the impacts of increasing consumptive water demands in the basin.
- *Fisheries management.* With USFWS and the wildlife agencies of the three states, explore ways to incorporate the draft standard operating procedures into the mix of alternatives evaluated in the manual update.
- *National wildlife refuge.* Use an annual pattern cycling between the highest levels in late winter/early spring and the lowest levels in the late summer. Consider how the benefits and impacts of such a scheme compare with the existing operating regime and other alternatives.

In addition, USFWS noted that it strongly supports the idea of organizing interagency technical workgroups, which would assist the USACE in compiling the information necessary to craft a balanced set of alternatives and to analyze their effects. USFWS is willing to participate in such workgroups.

4.1.3.2 Reopened Scoping Period—2009

Comments from USFWS were received December 17, 2009, in a letter signed by Ms. Sandra Tucker. The comments included the following points:

- The cover letter stated that the previous comments submitted (November 21, 2008) are still relevant and should be addressed under this revised scope.
- In addition, alternative sources of water supply for the Atlanta metro area, including the anticipated short- and long-term impacts on surface and groundwater resources as a consequence of the revised scope, need to be considered.
- USFWS recommended that the USACE's alternatives analysis include the cumulative effects of the proposed action and the expected proliferation of multiple surface and groundwater projects that also affect the operation of federal reservoirs and ultimately flows to the Apalachicola River.
- The previous comments from November 21, 2008, were attached to the USFWS' cover letter.

4.1.3.3 Reopened Scoping Period—2012

Comments from USFWS were received January 11, 2013, in a letter signed by Ms. Sandra Tucker. The letter notes that the recommendations provided in the June 2011 *Draft Fish and Wildlife Coordination Act Report* are still relevant and should continue to inform the scope of the Draft EIS. Comments included the following:

- USFWS submitted a concept for an alternative to receive full consideration in the Draft EIS. This alternative would support flows in the Apalachicola and Chattahoochee Rivers for the fish and wildlife purpose of the ACF projects. USFWS' primary interest is in improving flows and levels for fish and wildlife resources, for which this alternative appears promising.
- The alternative supports monthly target and minimum releases from the system in a manner that is balanced with other project purposes and that avoids or minimizes some. The USFWS indicate its intent to minimize adverse effects of the RIOP. The alternatives includes 11 governing features:
 - Operate the system for target and minimum releases from Buford and Woodruff Dams, consistent with project-specific rules for flood-control, hydropower generation by storage zone, head limits, and maximum fall rates.
 - The targets and minimum releases are month- and zone-specific (Tables 1 and 2).
 - Target releases are subject to zone-specific augmentation limits (Table 3).
 - Storage zones (1-4) are redefined for Lanier, West Point, and George, relative to the authorized top and bottom of the conservation pool.
 - Each storage zone contains a consistent year-round percentage of the total conservation storage at a project, but these percentages vary among the projects (Table 4).

- Release decisions for Buford and Woodruff Dams are based on the composite storage zone (sum of storage in Lanier, West Point, and George), month, and the previous 7-day basin inflow.
- If basin inflow exceeds the month/zone target, release the target flow from Buford and Woodruff Dams. Basin inflow exceeding the target is available for storage.
- If basin inflow does not exceed the month/zone target minus the zone augmentation limit, the release from Buford and Woodruff Dams are the greater of (a) the month/zone minimum, or (b) basin inflow plus the zone augmentation limit.
- Each project makes daily releases to support its local operating requirements or to replenish storage in the project downstream, whichever is greater, so that all projects remain in the same operating zone.
- Maximum fall rates and flow support for Woodruff Dam releases greater than 5,000 cfs are suspended when storage declines to zone 4, and resumed when storage returns to a specified zone (drought relief end zone).
- When flows at Woodruff Dam have been less than 7,000 cfs for more than 30 days, maximum fall rates are suspended and resumed when flows have been greater than 10,000 cfs for 30 days.
- The alternative was tested with a hydrologic model of the basin comparable to the ACF HEC-ResSim model using the USACE's 1939–2008 unimpaired flows and existing consumptive water demands.
- The USFWS comments describe analysis it has done on the above alternative and its issues with an alternative developed by GAEPD and the Atlanta Regional Commission. USFWS indicate that it is conducting a mussel sampling program using side-scan sonar and bathymetry data to determine mussel distribution.

4.1.4 National Park Service, Chattahoochee River National Recreation Area

4.1.4.1 Initial Scoping Period—2008

Ms. Denesia Cheek, NPS Southeast Regional Hydrologist, submitted comments in an e-mail on November 21, 2008. The comments included the following points:

- Manage water and balance the lakes in the ACF system during times of drought, navigation, hydropower, recreation, water supply, water quality, and other project purposes.
- The NPS expressed concerns regarding any decision to reduce flows at Peachtree Creek to less than 750 cfs, the level the NPS sees as a meaningful threshold for preserving water quality and biological health in the river. Historical research indicates that 750 cfs provides better support for recreation and resources than would lower flows. As a federal land management agency responsible for managing a significant percentage of the Chattahoochee River, the NPS continues

to recommend an instantaneous flow of 750 cfs at Peachtree Creek under drought conditions; such a flow is needed to protect resources (fish, wildlife, and recreation) within the Chattahoochee park unit.

4.1.4.2 Reopened Scoping Period—2009

Mr. Daniel Brown submitted comments in a letter on behalf of the NPS and CRNRA with comments on the planned update to the USACE's water control plan for Buford Dam. The comments included the following points:

- In summary, the national importance of the Chattahoochee River corridor as an ecological, recreational, and historic resource has been established by its inclusion in the National Park system. To ensure park resources are “preserved and protected from developments and uses which would substantially impair or destroy them,” the NPS would like to work cooperatively with the USACE to manage flows within the Chattahoochee River. The preservation of base flows in the Chattahoochee for ecological and recreational purposes is critical. The NPS would like to see a minimum flow in the river established at no less than 1,000 cfs to ensure that both ecological and recreational uses of the river are preserved. In addition, the NPS encourages the USACE to evaluate the possibility of establishing a flow standard within the central reach of the park (i.e., at the Norcross or Roswell gauge) to ensure that water quality and minimum flows are preserved throughout the recreation area. Finally, the USACE should consider modifying the release schedule from Buford Dam to allow for more gradual increases and decreases in water levels to mitigate the effects of sudden and dramatic changes in river levels. As the USACE prepares the EIS and updated Master Manual, the NPS requests that NPS input and impacts on the CRNRA be fully evaluated and considered.
- *Ecological issues.* The Chattahoochee River supports many species of fishes, including both rainbow and brown trout. Several past scientific studies examined the effects of varying flow regimes on fish species. One study on trout reproductive success (Nestler 1985) was completed by the USACE during an evaluation of a proposed reregulation dam at river mile 342. The report found that rainbow and brown trout habitat was optimal at flows of 1,000–1,500 cfs. A more recent report by Peterson and Craven (2007) stated that “discharge characteristics affected riverine fishes recruitment ... during both spawning and rearing periods.” The study found that during the spring spawning period, higher discharges (> 3,500 cfs) positively influenced reproductive success and concluded that reproductive success could be increased if suitable discharges were maintained during critical periods. The report also found, however, that high flow pulses that do not mimic natural seasonal precipitation events have substantial negative influence on fish species, particularly during the summer rearing period. The high velocity of currents created by the pulses of water is detrimental to the survival of juvenile and young-of-year fishes because of the increased metabolic rate associated with swimming in these currents.

- *Recreational issues.* Recreation and navigational uses of the river benefit from moderate and more consistent flows. According to a Recreation Flow Preference Report completed by CH2MHILL in 2000, the preferred recreation flows for wade/float fishing, rowing, and power boating is 1,000–1,200 cfs. This report further documented that the ideal recreational flow of 1,000–1,200 cfs was available less than 1 percent of the time during the summers of 1997 and 2000 (period studied). The Nestler report (1985) identified optimal canoeing conditions for all user levels as occurring at between 1,250 cfs and 7,000 cfs. Both of these studies provide strong support for considering baseline flows above 1,000 as crucial to support the recreational uses envisioned by Congress when the CRNRA was established.
- *Cultural resource issues.* Cultural resources in the CRNRA are similarly affected by water releases from Buford Dam. The Ivy Mill ruins in Roswell date back to the 1830s and are on the National Register of Historic Places. Ivy Mill is prone to flooding during protracted high water releases from Buford Dam, and the flooding has contributed to site degradation. In addition to Ivy Mill, the NPS has documented dozens of archaeological sites within the CRNRA, many of which occur adjacent to the Chattahoochee River and its tributaries. These archaeological sites are at high risk of damage from accelerated erosion due to the bank-scouring effects caused by fluctuating releases from Buford Dam. A number of historic fish weirs within the CRNRA are also threatened or have been lost because of siltation, erosion, and flooding related to the current water regime (Gerdes and Messer 2007). The EIS should consider the impacts of rapidly fluctuating water levels on archaeological and historic sites within the CRNRA.

4.1.4.3 Reopened Scoping Period—2012

Comments were received from Mr. Gorgon Wigginger, Acting Regional Director for the NPS Southeast Region, by letter dated January 14, 2013. The cover letter requested to participate as a cooperating agency in developing the Draft EIS for all phases of the study that could affect the CRNRA. Specifically, NPS would like cooperating agency status in developing the Draft EIS and WCM to ensure that pertinent NPS mission statements, legislative authorities, and policies are duly considered when developing any alternatives, related management actions, or options that could affect units of the NPS. These comments are intended to be supplementary to the comments submitted in 2008 and 2009. In general, NPS feels that preserving base flows in the Chattahoochee River for ecological and recreational purposes is critical. NPS encouraged USACE to evaluate the possibility of establishing a flow standard in the central reach of CRNRA to ensure that water quality and minimum flows are preserved. USACE should also fully consider changes to Buford Dam operation to allow for more gradual increases and decreases in water levels or to mitigate the effects of sudden and dramatic changes in river levels. NPS requests that impacts of the updated WCM on CRNRA be fully evaluated and considered.

CRNRA Legislation and Authority. The Chattahoochee River forms the backbone of the park, and CRNRA has a vested interest in Buford Dam operations because the timing of the water releases and related flows in the river directly affect the park managers' ability

to preserve the natural, scenic, recreation, historic, and other values of the park as mandated by Congress when the park was created in 1978. NPS has identified and defined values of special significance in the recreation area that serve as priorities for management action and protection. These encompass seven categories of resources, many of which are directly affected by the operation of Buford Dam. NPS provided scoping comments in six of its categories of resources.

Water Quantity. NPS seeks to optimize flows below Buford Dam to protect and enhance the entire riverine ecosystem. The primary interests of NPS with respect to developing the new WCM are to seek and evaluate operational alternatives that mitigate the extreme nature of short-term (daily/hourly) flow fluctuations and ensuring ample minimum flows to maintain water quality, waste assimilation, and improve conditions for aquatic flora and fauna. NPS would also like the Draft EIS to evaluate operational measures that could be adopted to ensure that increasing incidence of regional drought or growing demand for water in the Chattahoochee Basin does not result in unexpected or unavoidable dips in flow in the CRNRA. NPS recommends that the Draft EIS evaluate establishing a flow standard or modeling node in the central reach of the CRNRA to ensure that Buford Dam is operated to maintain sufficient flows throughout the recreation areas.

Ecology. The Draft EIS should evaluate opportunities for varying discharges from Buford Dam to support a broad range of species in CRNRA. Shoal bass, for examples, are native in the Chattahoochee and Flint rivers only and have been reduced to a handful of isolated populations mainly from developing and operating dams throughout the basin that have fragmented habitat and altered flows. Low temperatures correlated with releases from Buford Dam have a negative effect on recruitment and survivorship of young shoal bass.

Water Quality. Any alternative contemplating a reduction of the current mandated minimum flow of 750 cfs at Peachtree Creek should clearly and credibly evaluate the effects on water quality in CRNRA. If dam operations are modified to institute or accommodate lower base flows (Buford Dam, for instance, has historically been managed to release base flows of up to 1,500 cfs) water quality in CRNRA would likely deteriorate (because of a reduction in positive influence of clean water release from Buford Dam). This would damage already struggling waters such as the portion of the CRNRA that is 303(d)-listed for fecal coliform.

Other water quality concerns include the increasing number and capacity of wastewater treatment plants operating in the boundaries of CRNRA. If the Draft EIS considers the potential for lower baseline releases, there needs to be a corresponding evaluation of the potential negative effects of wastewater discharges on water quality in CRNRA.

Dissolved oxygen levels downstream of Buford Dam are also a concern—this area is designated as a secondary trout stream, and the state water quality standard for dissolved oxygen must be maintained. At a downstream trout hatchery, dissolved oxygen levels have been lower than the state standard in periods of low or minimum flows. These low levels of dissolved oxygen can negatively affect the health of fish and other aquatic organisms. These have secondary effects on recreational users and local economies. The Draft EIS should analyze the impact of low dissolved oxygen on recreational and

ecological conditions in the upper Chattahoochee River and evaluate operational changes that could elevate seasonal dissolved oxygen levels in the tailwater.

Recreation. NPS' principal concern related to recreational use of the river is public safety. CRNRA attracts more than 3 million visitors a year, approximately a third of whom engage in some form of water-based recreation. USACE and NPS have worked together with other stakeholders to improve safety in CRNRA by raising awareness of the hazards associated with the release of high flows from Buford Dam. A decrease in documented incidents and accidents in 2012 suggests that this effort might be working. The Draft EIS should address the safety of water-based recreation in CRNRA, including an evaluation of alternatives for modifying dam operations to improve public safety. Past studies have provided strong support for higher baseline flows (during summer season especially) would enhance the recreational values envisioned by Congress when CRNRA was established. It is also important for the Draft EIS to evaluate the possibility of supplemental releases to support weekend recreational activities.

Geology. The operation of Buford Dam results in abrupt and dramatic changes in water levels for short periods. This has resulted in severe bank erosion and collapse along the mainstem of the Chattahoochee River and in tributary confluences because of backwash effects. The Draft EIS should evaluate the geomorphological effect of frequent but short-term, high-flow conditions with emphasis on accelerated erosion of river and tributary banks. The environmental effects of severe bank undercutting and erosion include increased siltation, which can lead to long-term habitat alterations that can negatively affect aquatic species. The Draft EIS should evaluate the effects of dam operations on organisms that benefit from a gravel or rocky substrate. Rapid bank erosion has socioeconomic effects—CRNRA has worked with a growing number of municipalities, businesses, homeowner associations, and individual property owners to stabilize banks along the Chattahoochee River and its tributaries to prevent loss of property. The Draft EIS should consider future impacts of bank erosion and the growing cost of measures taken to protect private and public property and facilities.

Culture and History. Cultural and historic resources in the CRNRA are affected by water releases from Buford Dam. Cultural and archaeological sites along the Chattahoochee River and its tributaries are at high risk of damage from accelerated erosion caused by the fluctuating releases from Buford Dam. Historic fish weirs are also threatened or lost because of siltation, erosion, and flooding related to the current water regime. The Draft EIS should consider the effects of rapidly fluctuating water levels on archaeological and historic sites in the CRNRA.

4.1.5 National Oceanic and Atmospheric Administration – National Marine Fisheries Service

4.1.5.1 Initial Scoping Period—2008

No comments were received.

4.1.5.2 Reopened Scoping Period—2009

No comments were received.

4.1.5.3 Reopened Scoping Period—2012

Comments were received from NOAA's National Marine Fisheries Service out of the Southeast Regional Office on January 14, 2013. The letter was signed by Ms. Virginia M. Fay, Assistant Regional Administrator of the Habitat Conservation Division. NMFS supports the recommendations by the USFWS and other agencies presented in the 2011 *Draft Fish and Wildlife Coordination Act Report* to increase flows in the Apalachicola River above the minimum 5,000 cfs. NMFS believes this could be done by developing a water control plan that more fully integrates all water storage projects in the ACF Basin rather than relying almost exclusively on Lake Lanier. The greater flows would be more supportive of essential fish habitat in the Apalachicola estuary. Additionally, improved river flows during the migratory season for diadromous fish species (January to May) would also support restoration of spawning areas used by Alabama shad, Gulf sturgeon, and striped bass.

4.2 Political Entities

4.2.1 U.S. Congress: Georgia Delegation

4.2.1.1 Initial Scoping Period—2008

Representatives Tom Price, John Linder, Paul Broun, and Nathan Deal submitted a letter dated September 18, 2008, to Secretary John Paul Woodley. The letter states the following:

- Water quality and supply should be an expressed priority of the USACE in this process.
- The Master Manual should be made current, taking into account the water supply shortage many Georgia communities face. Consider a plan that accounts for the complex dynamics of the 3.5 million people in metro Atlanta that depend on Lake Lanier for drinking water, and keep in mind that Lake Lanier provides the bulk of the storage for the entire ACF River Basin.
- The USACE should conduct a thorough analysis of operation of the ACT and ACF basins, looking for alternative methods to improve water management of these precious water resources.

4.2.1.2 Reopened Scoping Period—2009

No comments were received.

4.2.1.3 Reopened Scoping Period—2012

No comments were received.

4.2.2 U.S. Congress: Florida Delegation

4.2.2.1 Initial Scoping Period—2008

Senator Bill Nelson and Representative Allen Boyd from Florida submitted comments in a letter received November 21, 2008. The comments included the following:

- The EIS must be truly comprehensive and must affect the Master Manual.
- The CEQ's guidance states that real problems should be identified early and properly studied. Appropriate related analyses should be identified and considered. The scoping process should consider all aspects of the "affected environment" in the ACF.
- The updated manual must establish a scientifically based and equitable distribution of the waters of the ACF system. Accumulate data on the available and current water withdrawals.
- In-stream flow requirements should be sufficient to fulfill authorized uses. Assess the impact of variations of freshwater flow on the ecology of the Apalachicola River and downstream coastal ecosystems. In the assessment, compare the unimpaired flow regime, historical flow records, and flows imposed in the current RIOP.
- Assess water availability, supply options, demand-management alternatives, and socioeconomic factors.
- Continue working with the National Research Council to facilitate a complementary study to the USACE's EIS.

4.2.2.2 Reopened Scoping Period—2009

No comments were received.

4.2.2.3 Reopened Scoping Period—2012

Senator Bill Nelson of Florida and Senator Richard Shelby of Alabama cosigned a letter to the Honorable Jo Ellen Darcy and Lt. General Thomas P. Bostick received October 12, 2012. The letter contained the following points:

- Expectance that the USACE to adhere to its pledge of neutrality in this process and believe that the responsibility for achieving a permanent resolution of the controversy rests with the three governors.
- Concern that the USACE is increasingly exceeding the limits of its discretion to reprioritize water project purposes without Congress' involvement. In updating the manual, the USACE must not make material changes to the uses for specific purposes of water resources projects. That is the proper domain of the Congress, not the USACE.

- Encouragement to hold a robust public notice and comment process and to give full and careful consideration to the comments and concerns of the states and other stakeholders who depend on reliable downstream flows.
- Expectance of no substantive changes to the operation of the ACF system until the USACE completes the public process.

4.2.3 U.S. Congress: Alabama Delegation

4.2.3.1 Initial Scoping Period—2008

No comments were received.

4.2.3.2 Reopened Scoping Period—2009

No comments were received.

4.2.3.3 Reopened Scoping Period—2012

Senator Richard Shelby and Jeff Sessions signed comments shared with Florida's Senator dated October 12, 2013. These are summarized in Section 4.2.2.3.

4.2.4 Georgia House of Representatives

4.2.4.1 Initial Scoping Period—2008

Mr. Carl Von Epps of the Georgia House of Representatives submitted comments in a letter received June 2, 2008. His comments focused on Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and included the following:

- Lowering lake levels at West Point Lake represents a potential for denial of access to recreational resources for minority and low-income populations in West Georgia and East Alabama. Potential impacts on “consistent consumption of fish and wildlife” also must be considered. A significant amount of shoreline used for recreational activities has been affected. Mr. Von Epps questioned the magnitude of the study and suggested managing the project in a manner that would ensure minimal impact on the affected communities.
- West Point Lake was assigned a cost allocation of 44.3 percent of its allocated investment to recreation and sportfishing and wildlife development. This is the highest cost allocated to any of the congressional purposes authorized for the lake.
- The USACE uses West Point Lake “as its workhorse” to provide for other demands throughout the river basin, while ignoring the original authorized purpose of recreation, as well as the needs and expectations of minority and low-income residents.

- The USACE is required to determine the effects on minority and low-income populations, to coordinate research and data collection, to conduct public meetings, and to develop inter-agency model projects.
- The USACE should reconsider and fully address the impacts that have resulted thus far under the IOP, especially during the summers of 2006 and 2007.
- The project should be managed so usable winter and summer pool elevations more closely approximate the initial recreational impact level of 632.5 feet msl, ensuring recreational use of the lake.

4.2.4.2 Reopened Scoping Period—2009

No comments were received.

4.2.4.3 Reopened Scoping Period—2012

Representative Randy Nix of District 69 wrote as the Georgia General Assembly member who represents most of West Point Lake. Representative Nix noted that the current management plan is destroying West Point Lake and requested that the USACE reconsider and be fair to all stakeholders, businesses, residents, and species in the new plan. Representative Nix submitted comments on behalf of LaGrange, Georgia, making the following points:

- West Point Lake is a key and critical economic driver for LaGrange, and all of Troup County and surrounding area. Without adequate lake levels, economic opportunities are lost. There is direct economic damage through low fish spawns and lost fish tournaments. But the larger economic damage to the area is evident in the lack of any new developments that are in any way dependent on the lake.
- West Point Lake was the first USACE project to have a specific authorization by Congress for recreation, sport fishing, and wildlife development. The constant fluctuation of winter and spring lake levels over the past several years has had devastating effects on the annual bass spawn and other fish populations. The reduction of fish spawn directly affects the fish take and, therefore, the reputation of West Point Lake as a sport fishing destination.

A change to the West Point Lake rule curve for the winter to an elevation of 632.5 msl would provide many advantages for the region, and ACF Basin as a whole. The additional storage provided would enhance and support the congressional authorizations of the lake, in particular recreation, sport fishing, and wildlife development. The availability of additional water could also support navigation windows as deemed necessary by the USACE.

- Further study is requested for the requirement of 5000 cfs at the Florida line, as is mandated by the Endangered Species Act and USFWS. This study should include accurate population counts of the three endangered species of mussels to determine if each should still be included on the endangered species list. If inclusion is still directed, a comprehensive recovery plan for each should be an integral part of the study.

- Congressional authorizations for West Point Lake should be carefully and thoroughly considered. 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.

4.2.5 Georgia Senate

4.2.5.1 Initial Scoping Period—2008

No comments received.

4.2.5.2 Reopened Scoping Period—2009

No comments received.

4.2.5.3 Reopened Scoping Period—2012

On December 12, 2012, Georgia State Senator Mike Crane of District 28 submitted comments stating that he was in full support of the comments submitted by Representative Randy Nix on behalf of LaGrange. He specifically requested information regarding the 5,000 cfs requirement at the Florida line because he felt the requirement extremely detrimental to water levels at West Point Lake and wanted to see data that supports that continued flow demand.

4.2.6 Georgia Office of the Governor

4.2.6.1 Initial Scoping Period—2008

No comments received.

4.2.6.2 Reopened Scoping Period—2009

No comments received.

4.2.6.3 Reopened Scoping Period—2012

On January 11, 2013, Nathan Deal, Governor of Georgia, sent comments to the Honorable Jo-Ellen Darcy referencing the USACE 2012 legal opinion that the USACE has the legal authority to grant Georgia's request to allow withdrawals and make release from Lake Lanier to meet Georgia's projected water supply demands of 705 mgd. The governor noted that operating Lake Lanier as Georgia has requested represents the highest and best use of the lake. The governor included an affidavit by Judson H. Turner, director of the GAEPD, containing the updated demographic and water demand data that confirm the continued need for the action Georgia has requested. The letter also contained an updated analysis of the impact of granting Georgia's request on other project purposes and waters downstream. Georgia believes that 705 mgd would be sufficient to meet Georgia's water needs from Lake Lanier and the Chattahoochee River to approximately 2040.

4.3 State Agencies

4.3.1 Alabama Office of Water Resources

4.3.1.1 Initial Scoping Period—2008

Mr. Brian Atkins, director of the AOWR, on behalf of the State of Alabama, submitted comments by email November 21, 2008. The comments included the following:

- To satisfy the USACE's obligations under federal law, including NEPA, the USACE must focus on the authorized purposes of Lake Lanier (hydropower, navigation, and flood control) and establish a scope for the manual update that addresses five objectives:
 1. The USACE should determine the critical yield of each reservoir using the most current hydrologic and climatic conditions.
 2. The USACE should establish the baseline for any proposed changes to the water control or master manuals, and the baseline should be based on authorized project purposes.
 3. The USACE should use the agreed-upon HEC-5 model developed during the Comprehensive Study or develop a new model that is agreed upon by the USACE and the states.
 4. The USACE should assess whether any changes in the baseline conditions are necessary to comply with existing laws and regulations, including those designed to protect the environment.
 5. The USACE should analyze any proposed modifications to the baseline and other legal requirements to develop the proposed operations for Lake Lanier, West Point Lake, and Lake Walter F. George.
- Each objective is critical to the update process, and the order in which the steps are completed is significant. It is impossible to evaluate and assess proposed changes to the water control plans unless the critical yields have been calculated and the baseline is established. Refusing to undertake a complete review and assessment of these objectives will ensure that valid water control plans will never be developed and that additional conflicts over the USACE's operations of the federal reservoirs in the ACF River Basin will follow.

4.3.1.2 Reopened Scoping Period—2009

Mr. Brian Atkins, Director of the AOWR, on behalf of the State of Alabama, submitted additional comments on December 31, 2009. These comments are summarized below:

- Alabama agrees with the USACE's decision to reopen the EIS scoping process for the Master Manual update in the ACF River Basin in light of the July 17, 2009, federal court order. The USACE should strictly adhere to the operational directives contained in the order in revising the Master Manual.

- Per the court order, the USACE should focus on the authorized purposes of Lake Lanier—(hydropower, navigation, and flood control. The scope for the manual update should address the following objectives: Determine the critical yield of each reservoir using the most current hydrologic and climatic conditions; adhere to the operational baseline as set forth in the July 17, 2009, order; use the agreed-upon HEC-5 model developed during the Comprehensive Study and used in the negotiations under the ACF River Basin Compact or develop a new model that is agreed upon by the USACE and the states; assess whether any changes in the baseline conditions are necessary to comply with existing laws and regulations, including those to protect the environment; and analyze any proposed modifications against the baseline set forth in the court order and other legal requirements to develop the proposed operational updates.
- Thorough and accurate revised critical yield analyses are essential to determine the amount of water that is available to address competing demands for water and water storage in the driest of conditions and to develop water control plans that satisfy the authorized project purposes. The USACE should use the existing droughts of record to calculate the critical yields, including the most recent drought of record. Critical yield calculations should consider all water withdrawals and returns, as well as downstream minimum flow requirements.
- The critical yield should be determined in an open and public process that includes input from stakeholders throughout the ACF River Basin. Before the critical yields are finalized, the USACE should provide opportunities for public input, particularly any modeling or operating assumptions used to make such calculations.
- After critical yields of the federal reservoirs are determined, the USACE must evaluate proposed modifications to the water control plans against an appropriate baseline, which is operation as outlined in the July 17, 2009, order. Proposed modifications to the baseline condition must address whether, and to what extent, such modifications would prevent the USACE from fully satisfying the authorized project purposes.
- The scoping notice states that the USACE will “evaluate present circumstances as part of its EIS, while acknowledging that it currently lacks authority to continue to accommodate present levels of water supply at Lake Lanier beyond July 17, 2012.” The USACE should not evaluate operations that have been found to exceed its legal authority. The USACE should not make any assumptions in the manual update process regarding possible future congressional action that might expand its current authority.
- The manual update process should evaluate the USACE’s compliance with existing environmental laws. The USACE should ensure that, even under drought conditions, sufficient flow is maintained below each dam, so that water quality standards are met and endangered species are protected.
- The USACE and the states should agree upon the computer model that will be used to evaluate the impact of any changes to the baseline operations. Alabama

- understands from previous scoping efforts that revisions to the Master Manual will be evaluated using the HEC-ResSim model. The HEC-ResSim model should replace the HEC-5 model only after the technical staffs of the three states and the USACE agree that it is a better tool to evaluate the ACF system. The USACE should not use the HEC-ResSim model without input from the states on the assumptions underlying the model and sufficient time for each of the states to develop the experience and expertise required to evaluate the model results.
- The USACE must assess any potential reservoir construction within the ACF River Basin that might affect inflows into those federal reservoirs. The USACE should evaluate whether the potential efforts in Georgia to increase the amount of water storage available for water supply would require reallocation of storage in federal reservoirs.
 - Some proposed reservoir projects in Georgia might affect inflows into the federal reservoirs in the ACF River Basin, including inflows from the Flint River. A detailed assessment of the environmental and operational impacts of such proposed projects on future operations of federal and non-federal projects in the basin is needed. Both the individual and cumulative effects of such projects, along with other foreseeable projects, should be addressed. Losses due to inter-basin transfers and consumptive uses and appropriate limitations on any such losses, particularly under drought conditions, should be considered.
 - The updated manuals should establish some degree of certainty in drought conditions. The update should recognize that releases from conservation storage at Lake Lanier for protection of downstream flows and water quality are necessary and expected and that impacts on recreation and recreation facilities are temporary but unavoidable during dry conditions.
 - The USACE should not base any operational decisions in the ACF on projections of economic impacts related to reductions in water supply or recreation opportunities.

4.3.1.3 Reopened Scoping Period—2012

Mr. Brian Atkins, Director of AOWR, on behalf of Alabama, submitted additional comments on January 14, 2013. These comments supplement the previous comments submitted by AOWR. The new comments are summarized below:

- It is essential that the USACE use an accurate model, accurate data, and an accurate critical-yield calculation. If any of these are flawed, the outcome of the process will be flawed. Alabama is concerned that there are major problems with the model, the underlying data, and the critical-yield calculation. Alabama's analysis of the output of the HEC-ResSim model USACE is using raises serious concerns about its accuracy. Alabama believes that there are issues in the model between Buford and Atlanta either with the unimpaired flows or with data related to demands in ACFHEC_1 O.dss that were used as model inputs. Once these serious discrepancies with the model are resolved, a similar analysis would need to be done to assess the model's accuracy for the areas downstream of Atlanta.

- Alabama has significant concerns about the USACE's preferred method to calculate critical yield in the USACE's 2010 *Critical Yield Report. Method B*, which the USACE has identified as its preferred manner of calculating critical yield for the ACF projects, removes water withdrawals from the system, even if those withdrawals require augmentation from the federal projects.
- To develop a valid EIS under NEP A, the USACE must use an appropriate baseline for purposes of determining the effects of the proposed action and any alternatives. The only baseline that is appropriate is one based on the existing ACF manual promulgated in 1958.
- The manual update process should also evaluate the USACE's compliance with existing environmental laws.
- It is essential that USACE include in the EIS a complete assessment of the impacts of operations pursuant to the revised manual on the Middle Chattahoochee region. That region has often been given little attention in determining USACE operations in the ACF Basin. Any operating regime must be created to ensure that certain minimum flows are maintained at all times in the Middle Chattahoochee region.
- The EIS must consider the municipal and industrial water-supply needs of entities in the Alabama portion of the basin. Domestic water supply in southeast Alabama that is part of the basin will be a growing water-resource demand, and industrial needs will grow in the future. Reductions in elevation or flow rates of the river adjacent to Farley Nuclear Plant in Columbia, Alabama, could adversely affect the ability of the plant to maintain regular operations. Such restrictions on operations could impose significant costs in terms of replacement electric power and could cause environmental concerns. The ability of other industries in the region to operate normally is also imperiled by reduced flows because of a reduction in wastewater assimilative capacity. Such a reduction also limits the ability of the region to meet its industrial-development potential.
- Alabama's needs related to agricultural water supply must also be taken into account in the EIS. Agricultural water use in the ACF Basin is expected to steadily increase, but it is expected to increase most rapidly in the Alabama portion of the basin.
- The EIS must take account of impacts of USACE operations on navigation in the Chattahoochee River. Navigation is one of the purposes for which Lake Lanier was constructed, but the action-zone regime under which Buford Dam is operating largely ignores navigation interests except when the reservoir is nearly full.
- It is essential that the EIS and WCM account for the effects of fluctuating and declining pool levels on recreation at the reservoirs below Lake Lanier in the ACF Basin. Recreation at Lake G.W. Andrews, Lake Walter F. George, and West Point Lake is a major industry. Lower pool levels will have a negative effect on tourism at Lake Walter F. George. Water level fluctuations at West Point Lake and Lake Walter F. George could damage fish habitat and affect sport fishing. Alabama

believes that it is critical for the USACE to focus on the adverse effects of wildly fluctuating pool levels and catastrophic drawdowns at Lake Walter F. George.

- The USACE must also consider public safety needs as part of the EIS. Alabama maintains a marine patrol in the portion of West Point Lake in the state. The ability of the patrol to reach several areas of the lake is precluded if lake levels drop because of low inflows.
- The EIS needs to take into account the impact of USACE operations in the basin on the Eufaula National Wildlife Refuge.
- The EIS must evaluate the cumulative impacts of other planned sources for water supply in the basin, especially in the Atlanta area.
- An important aspect of the NEPA process is the evaluation of alternatives. Atlanta-area interests should not drive the process. The USACE must also recognize that water supply accommodation for the Atlanta area is not an *all-or-nothing* proposition where all the area's water supply needs to be met out of the federal reservoirs or none at all.
- USACE must consider the action zones used at the federal projects. The actions zones have approximately 80 percent of the conservation storage pool at Lake Lanier in zone 4. In zone 4, the emphasis is placed on water supply, and hydropower is typically generated only when releases are made for water supply purposes. This is not appropriate in light of the Eleventh Circuit's recognition that any accommodation of water supply must be balanced with the hydropower purpose. USACE must consider alternative action zones that reflect a more balanced pursuit of the project's multiple purposes. In addition, USACE must consider adjusting the action zones so that a significantly lesser percentage of the conservations storage pool is in zone 4.
- Alabama believes that several fundamental errors are in the legal opinion, especially with regard to its analysis of USACE authority to accommodate current and increased levels of water withdrawals from Lake Lanier and downstream at Atlanta.
- The legal opinion incorrectly concludes that no reallocation of storage would be required for current and increased releases from Buford Dam to accommodate downstream water supply. USACE must proceed on the basis that an allocation of part of the conservation storage pool at Lake Lanier would be required if releases from the dam are going to be made for downstream water supply.
- The legal opinion contains a flawed evaluation of the effects on hydropower from increased water-supply operations at Lake Lanier. There are also serious methodological flaws in the legal opinion's evaluation of the system impacts, and those flaws result in a significant understatement of the system impacts.
- The legal opinion's analysis of the Water Supply Act of 1958 cannot be reconciled with the plain language of the statute. The plain language of the statute does not support the interpretation that the assessment of whether major operational changes would occur with a modification should be based on system

operations. If the modification would involve major operational changes at the project in question, the act requires congressional approval.

- The legal opinion also uses an incorrect baseline in determining whether either of the water supply authority triggers for congressional approval of a reallocation requires such approval in this case. The D.C. Circuit's opinion made clear that the correct baseline at Lake Lanier for purposes of performing the trigger analysis is the amount of storage originally allocated to water supply at Lake Lanier, which is zero. 514 F.3d at 1324. The D.C. Circuit rejected USACE's position that any prior water supply accommodations could be included in the baseline.
- In evaluating USACE authority to allow direct withdrawals from Lake Lanier, the legal opinion assumed that 107 mgd out of the withdrawals of 297 mgd would be returned to Lake Lanier. The legal opinion concedes that, if those returns are not made, the direct withdrawals could exhaust all Lake Lanier's conservation storage pool in a critical drought. Alabama is concerned that the assumption of 107 mgd in returns indefinitely into the future is unrealistic.
- Alabama also has a concern about USACE's ability to enforce the assumed level of returns. The USACE should not assume that any direct withdrawals will be returned to Lake Lanier.
- Alabama does not believe it is credible to assume that the USACE would allow Lake Lanier's elevation to fall to 1,040. Because that water-supply has been the preeminent concern during past drought conditions at Lake Lanier, Alabama believes that other project purposes would likely be sacrificed rather than allow the elevation to drop that low. In preparing the EIS and the WCM, USACE must rely on realistic assumptions concerning how far the reservoir's elevation would be allowed to drop during the drought of record, rather than the unrealistic assumptions reflected in the legal opinion.

4.3.2 Florida Department of Environmental Protection

4.3.2.1 Initial Scoping Period—2008

FDEP submitted a letter received November 20, 2008, signed by Ms. Janet Llewellyn. The comments are summarized below:

- Florida contends that the USACE's current process is inconsistent with federal laws and inadequate for both NEPA and the WRDA.
- The ongoing litigation, and subsequent judicial determinations, between the USACE and the States of Florida, Alabama, and Georgia and various stakeholders, must be incorporated into the manual revision process.
- For NEPA analysis the USACE must use the appropriate environmental baseline, which is the 1958 Master Manual prepared for the ACF, 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 USACE unilaterally adopted without compliance with the Flood Control Act, its

own regulations, NEPA, or the ESA. NEPA does not allow the USACE 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.

- Effective scoping requires a more detailed proposal from the USACE.
- The USACE must provide a meaningful opportunity to obtain informed public comments. The scoping meetings did not provide meaningful participation or the ability to answer direct questions. The current process does not meet the general guidelines for scoping under NEPA. The USACE has failed to provide fundamental information that is critical to the scoping process. For example, the USACE must include a Drought Contingency Plan.
- Effective scoping requires a revised scope for the proposed action. The Master Manual must clearly describe all decisions so all parties can easily understand the proposed action, and it must be evaluated under NEPA.
- Alternatives that should be considered include an alternative based on true basin inflow, an alternative that uses the entire conservation pool in Lake Lanier, a strong conservation alternative, and a recovery-based alternative.
- Impacts that should be analyzed include effects on Apalachicola Bay salinity and nutrient composition, and the corresponding economic impact on Apalachicola Bay and surrounding region; effects on Apalachicola River floodplain habitats; effects on the Apalachicola River's channel morphology due to altered flows and changes in operation; and relevant cumulative impacts.
- Potential mitigation measures to be explored must include measures within and outside the USACE's jurisdiction. The key mitigation measures must include conservation and water transfers.
- With respect to compliance with the *Coastal Zone Management Act*, USACE actions that affect the Apalachicola River and Bay must be consistent to the maximum extent practicable with the Florida Coastal Management Plan. The *Coastal Zone Management Act* further obligates the USACE to provide Florida with a consistency determination before undertaking activities that affect the state's coastal resources, including implementation of the new Master Manual.

4.3.2.2 Reopened Scoping Period—2009

FDEP provided additional comments in a letter on January 4, 2010. The comments focused on the scope and elements of the USACE's EIS review for the Master Manual updates and revisions, including the calculation of an updated critical yield for each reservoir in the ACF River Basin and a broad review of alternatives and impacts of the proposed action. In particular, FDEP encouraged the USACE to carefully evaluate the impact of the USACE's operation of its ACF reservoirs on the citizens, ecology, and economy of Florida, especially on the unique and extraordinary Apalachicola River and Bay.

FDEP expressed the following concerns and comments:

- *Scope of the USACE's EIS Review.* Florida agrees with the USACE that the Water Control Manual for the ACF River Basin and the water control plans for each of the five federal reservoirs on the Chattahoochee River must be consistent with the Court's legal rulings in the Phase 1 Order. The USACE's operation of the ACF reservoirs significantly affects the citizens and environment of Florida. In addition, Florida has always maintained that the USACE must review and revise its operations and water Control plans to be consistent with federal law, including NEPA, the *Water Supply Act of 1958*, the *Flood Control Act*, the *ESA*, and the *Coastal Zone Management Act*. Irrespective of the Phase 1 Order, NEPA has always required a broad review of alternatives, impacts and mitigation measures.
- *Elements of the EIS.* The EIS for the Water Control Manual revision should include an accurate and updated critical yield based on the actual drought of record; should use an appropriate and agreed-upon modeling approach; should analyze a full range of alternatives; and should carefully consider associated impacts and mitigation measures, as well as appropriate state and federal environmental laws.
 1. *Critical Yield.* An important element of the WCM revision, and its NEPA review, is an accurate critical yield for the ACF River Basin and each of the USACE's reservoirs. Currently, the USACE is in the process of analyzing and updating the critical yield for the ACF River Basin and must complete this analysis by the end of February 2010, as mandated by Congress in the FY 2010 Senate energy and water development appropriations bills. The USACE should reopen the scoping process or otherwise seek public comment before finalizing its new critical yield analysis.
 2. *Modeling.* Modeling is a crucial component of both the NEPA review process and the development of a new WCM. The 2009 Final Scoping Report indicated the USACE's intent to evaluate revisions to the Master Manual using the HEC-ResSim model. Previous analyses, such as the 1998 draft EIS on the ACF Compact, have used the HEC-5 model, and the technical staffs of each of the three states are familiar with the HEC-5 model. Development and use of a new model, such as HEC-ResSim, should occur only with input and approval from all three states. The USACE should afford the states' technical staff adequate opportunity to review, become acquainted with, comment on, and endorse the assumptions underlying a new model.
 3. *Review of Alternatives.* NEPA requires the USACE to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources. The evaluation of alternatives is "the heart of the environmental impact statement." The USACE must rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives

that were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

- The USACE should review and consider a full range of alternatives, including operating plans or action zones that differ from current operations.
- The USACE should evaluate all available means to maximize likelihood that endangered and threatened species in the Apalachicola River will recover to the point of de-listing.
- The USACE must include cumulative impacts from other water supply options that the State of Georgia will develop.

4. *Review of Impacts.* The USACE at a minimum should evaluate the following impacts:

- The USACE must evaluate impacts to Apalachicola River and Bay ecosystem.
- An analysis that compares proposed WCM revisions to anything other than a baseline that does not include water supply withdrawals and releases from Lake Lanier would be inappropriate, unlawful and in direct contravention of the Phase I court order.
- The USACE must evaluate incremental changes that have occurred since the 1970s.
- The USACE should evaluate its WCM revision in conjunction with proposed new sources for water supply or diversion.
- The USACE should evaluate the impacts of growth induced by providing new sources of water supply in the ACF Basin.

5. *Consideration of Mitigation.* The USACE should consider additional system-wide mitigation with regard to water quantity and flows in the ACF Basin.

4.3.2.3 Reopened Scoping Period—2012

FDEP provided additional comments in a letter of January 14, 2013. The comments note that Florida's earlier predictions about the impact of low flows in the Apalachicola River on the surrounding environment and way of life in the river and Apalachicola Bay turned out to be correct. Low amounts of water released to the bay have also corresponded to the lowest recorded oyster harvest in the bay; this has prompted Florida's governor to request a disaster declaration in the bay.

Florida feels the update of the WCM is timely and necessary. FDEP states that the USACE must be less conservative in maintaining upstream reservoir levels at the expense of downstream river flows. The USACE can no longer assume that all needs can be met without proactively insisting on more aggressive upstream conservation—upstream use has compromised the ability to meet obligations and contributed to the steady drop in river levels over the past three decades. These comments are intended to identify what the

USACE can do to help arrest degradation in the Apalachicola River and Bay ecosystem. FDEP included its earlier comments with these comments.

Because the upstream consumption and related depletions have rendered a complete return to the pre-dam hydrograph infeasible, Florida has developed an alternative reservoir operating regime, which it presented last November at the USFWS workshop in Eufaula, Alabama.

Summary of Florida's Findings. Increasing consumption and drought frequency have reduced inflows to USACE reservoirs, and USACE operations have favored elevated lake levels at the expense of river flows. Continued insistence on elevating storage levels, irrespective of increasing demands, and without regard to empirical evidence that such operations devastated Apalachicola Bay and its oyster population is unacceptable. Florida's modeling with the USACE's own HEC-ResSim model indicates that increased demands have taken the reservoir system to its limits.

The Problem of Upstream Consumption. Florida modeling has demonstrated that increasing demands can have a disproportionately large negative effect on lake storage in severe droughts. The USACE must draw substantially on reservoir stage to make up for upstream depletions simply to meet the minimum flow floor at the Chattahoochee gage. The USACE must take a proactive role to promote conservation in the basin instead of leaving the matter entirely up to Georgia.

Florida's Alternative Operations. Florida has developed an alternative operating regime based on five core principles:

- Release triggers based on Revised Basin Inflow instead of the USACE's net Basin Inflow, which is quantified only after all consumptive use is made upstream
- Rather than a handful of minimum flow floors, a full suite of minimum flows based on historic exceedance values that vary with seasons, lake storage zones, and general inflow conditions (dry or normal/wet)
- A sharing of Revised Basin Inflow in the form of additional releases of 50 percent of available Revised Basin Inflow over the minimum release, unless storage is in drought zone (except under certain conditions when storm spillage is available)
- Elimination of *Drought Operations* (5,000 cfs minimum) and *Exceptional Drought Operations* (4,500 cfs minimum)
- Full use of conservation storage, according to the design operating range for the project

Florida contended that the USACE, while meeting its various obligations, must draw more heavily on storage to minimize departures from the natural hydrograph. Modeling demonstrates that upstream consumption precludes the USACE from obtaining pre-dam flows solely through modified reservoir operations. Florida urged the USACE to carefully study the proposed alternative operating regime and evaluate all available authorities the USACE has to use substantially more of its available conservation storage

to augment flows during droughts and promote additional conservation upstream so that both river flows and reservoir levels can be adequately protected.

The USACE's Remand Analysis and Future Depletions. A major question the USACE must address is the extent to which it should serve further water supply demands in the Atlanta metro region. In light of its extensive modeling efforts, Florida has concluded further upstream consumption unchecked by aggressive conservation efforts will continue to reduce both river flows and reservoir levels. This raises serious concerns about the analyses in the USACE's *ACF Remand Modeling Technical Report* (June 2012), prepared to support the counsel's opinion. Current demands have already resulted in devastatingly low river flows, and reservoir levels will also drop to unacceptably low levels if demands continue to increase as projected. Aggressive conservation efforts are essential to maintaining the integrity of the river and reservoir system.

The USACE's ability to maintain the reservoir system is at risk, yet this issue was not addressed in the remand analysis. Possible strategies to require or encourage aggressive conservation should have been discussed. Because the river system is overallocated, any serious analysis of ACF reservoir operations must address this challenge and evaluate available mechanisms to protect inflows to federal reservoirs.

Additional Concerns. In determining the appropriate flow regime in the Apalachicola River, some basin interests are advocating operations designed solely to meet arbitrarily selected habitat metrics such as the amount of spawning habitat for a single species inundated at a particular flow. This approach is untenable. Arbitrarily selected species-specific metrics can be misused to justify even greater departures from the natural flow regime with even less water being provided to an already distressed environment. Better flow metrics are needed that protect the system as a whole.

Georgia's Proposal. Florida takes exception to Georgia's presentation at the Eufaula workshop because it included a proposed operation based on narrowly considered metrics for limited species. Simply stated, Georgia misused Apalachicola River and Bay metrics to support a proposed operating regime that resulted in Lake Lanier levels about 3–4 feet higher than current operations most of the time, and lower flows in the Apalachicola River nearly half the time with the duration of flatline minimum flows almost doubled. It is clear that the Apalachicola River needs more flow, not less, to help recover from the devastating mortality in the bay that occurred this summer and previous massive die-offs of endangered mussels, decline in fisheries, and drying of the floodplain forest that has occurred in recent years.

4.3.3 Georgia Department of Natural Resources, Environmental Protection Division

4.3.3.1 Initial Scoping Period—2008

Comments from GAEPD were received November 21, 2008, in a letter signed by Dr. Carol Couch. The letter noted the following:

- GAEPD recommended strongly that the USACE not make the IOP, including the RIOP, the proposed action. The USACE should analyze a range of reasonable and feasible alternatives.
- Issuing water withdrawal permits is a state and local action, and therefore it should not be addressed within the scope of connected, cumulative, and similar actions. The USACE has no authority to make decisions on water supply and must defer to the State of Georgia on such issues. Water supply withdrawals should be examined as an impact of the proposed federal action.
- The USACE is required only to examine reasonable and feasible alternatives.
- The No Action Alternative should be interpreted to mean no change from current management operations. Operating according to water supply needs in the past would require a new action and thus would not constitute “no action.”
- The USACE should coordinate with state and local interests to analyze water demands at Lake Lanier over the past several years for current water supply.
- The RIOP is interim until the Master Manual is updated, and it is not the appropriate choice for the No Action Alternative. The USACE must conduct a detailed study on the RIOP’s long-term effects.
- Limiting the scope of the Master Manual and EIS because of budget constraints will be in direct conflict with NEPA and the regulations in the Master Manual.
- The USACE should not limit alternatives to only its own authorities.
- The USACE should obtain the necessary authority to operate with the best use of resources. Georgia believes the USACE has the authority to operate Lake Lanier to meet the 2030 projected municipal and industrial needs.
- The RIOP is not the only alternative. Georgia provides several possible alternative options to be considered: reallocation of storage for water supply, rule curve changes at all projects in the ACF (different configurations), different methods for optimizing the system, and optimal operations for meeting endangered species’ needs.
- The HEC-ResSim model is inconsistent with the established HEC-5 Existing Conditions model. The USACE must explain the discrepancies and correct apparent errors. For example, Atlanta’s water intake is upstream of Peachtree Creek, but the model has it downstream; Cobb County/Marietta Water Authority has two wastewater returns below Peachtree Creek, but the model has them upstream. Consequently, HEC-ResSim’s prediction of flow at Peachtree Creek is greater than what would actually occur; the Lake Lanier levels would actually be lower than those predicted by the model. There are also discrepancies between HEC-5 and HEC-ResSim regarding certain physical characteristics of some of the projects in the ACF River Basin.

4.3.3.2 Reopened Scoping Period—2009

GAEPD provided comments in a letter from Mr. Allen Barnes on December 31, 2009. The comments are summarized below.

- The USACE must consider alternatives beyond its current authority. Georgia has appealed the holding in the July 17, 2009, ruling. Even if the July 17, 2009, ruling is affirmed on appeal, however, the USACE can and should study as alternatives reservoir operations that allocate storage to meet existing and future municipal and industrial water supply needs.
- The USACE must consider the impact on the human environment of water supply alternatives to Lake Lanier. If the USACE intends to include within the scope of the EIS for the WCM a scenario in which Lake Lanier would not be used meet water supply needs, it must fully consider the effects on the human environment of operating Lake Lanier in that manner. That would include consideration of the effects of the alternative means by which the approximately 3 million people that previously relied on Lake Lanier as their sole source of water supply would then be supplied with water. The EIS must consider the cumulative impact of the no action alternative and other reasonable alternatives. Cumulative impact is defined to include the effects of not only the agency's actions but also the actions of third parties that will result from the agency's actions.
- Failing to consider water supply in the current EIS process would result in a waste of USACE resources and taxpayer dollars. Although by no means assured, it is at least a reasonably plausible scenario that, either by reversal of the July 17, 2009, ruling or an act of Congress with or without a prior agreement among the three states, the current legal impediments to the USACE's authority to operate Lake Lanier for water supply will be removed before July 17, 2012. In that event, if the USACE has not studied water supply as an alternative, it will have to redo the EIS.

4.3.3.3 Reopened Scoping Period—2012

Comments were received on January 14, 2013, from Judson H. Turner. The comments are directed at the revised scope proposed in the October 2012 NOI.

In Assessing All Alternatives, the USACE Must Take into Account Georgia's Future Water Supply Needs. The NEPA analysis for the WCM update and Georgia's Water Supply request should be consolidated in one EIS. To avoid delay and unnecessary expenditure of resources associated with serial updates to the WCM; the EIS should look at modifications of reservoir operations over time to meet water supply needs well into the future. Meeting Georgia's future water supply needs should be identified in the EIS as an element of the purpose and need for the updated WCM. All alternatives should be evaluated against the criterion of whether and how they accomplish the purpose of meeting Georgia's projected water needs.

Georgia Has Submitted Updated Information in Support of the Georgia Water Supply Request. The request included the best available information as of May 2000; Georgia

has since collected updated data that confirms water demands from Lake Lanier will reach 705 mgd, including 408 mgd river withdrawal and 297 withdrawal from Lake Lanier, within a reasonable planning horizon of approximately 25–30 years. This information was presented to the Secretary of the Army on January 11, 2013. An economic analysis of the Georgia Water Supply Request should be available by the end of the first quarter of 2013.

The USACE Should Study Alternatives to the RIOP. Recent science demonstrates that the flow requirements and thresholds used in the RIOP are based on overestimations of the biological needs of the protected species in the Apalachicola River at the expense of needs upstream. Georgia requests the USACE at least carefully reexamine the RIOP using better refined performance measures. Georgia suggests the following principles in evaluating the RIOP and alternatives:

- Develop objective, direct, measureable quantifiable and scientifically defensible performance measures
- Consider performance measures in the entire ACF Basin, instead of just those in the Apalachicola River, when evaluating alternatives
- Use these performance measures to compare and evaluate all alternatives consistently
- Favor alternatives that demonstrate improved performance related to multiple purposes or interests while also achieving performance measures with the greatest efficiency of individual project and system reservoir storage
- Restrain from drawing conclusions or formulating operations on the basis of incomplete data or insufficient scientific understandings

Georgia's alternative to the RIOP, the *Georgia Contemplation* reflects the goal of targeting the highest amount of sustainable Gulf sturgeon spawning habitat and largest amount sustainable floodplain connectivity during the Gulf sturgeon spawning period; optimizing the amount of preferred habitat for the fat threeridge mussel; and conserving system storage to meet water supply and other authorized reservoir purposes.

4.3.4 Georgia Department of Natural Resources, Wildlife Resources Division

4.3.4.1 Initial Scoping Period—2008

No comments were received.

4.3.4.2 Reopened Scoping Period—2009

No comments were received.

4.3.4.3 Reopened Scoping Period—2012

Comments were received on January 11, 2013 from the Georgia Wildlife Resources Division (WRD) Fisheries Management Section.

Lake Lanier and Chattahoochee River Tailwater. The maintenance of adequate water quality regimes in the reservoir and its tailwater is critical to the continued success of Lake Lanier's striped bass fishery, trout production at Buford hatchery, and the Chattahoochee River trout fishery. Water temperature and dissolved oxygen levels are extremely important to sustaining important species. Potential effects on water temperatures in designated trout waters should be considered when making water control decisions. To ensure the success of the Lake Lanier striped bass fishery, it is important that this summer coolwater refuge be maintained in the reservoir. Buford trout hatchery draws cold water from the Chattahoochee River downstream from Buford Dam, so maintenance of adequate river elevation at the hatchery's intake is of prime importance. Georgia would like the opportunity to formulate a protocol regarding special releases for the hatchery when needed to mitigate warm water runoff associated with tropical storm events. Depressed dissolved oxygen concentrations below Buford Dam from August through December adversely affect trout activity, angler success, and hatchery trout production in the upper tailwater. Enhancing dissolved oxygen at Buford Dam would benefit the hatchery operation and the sport fishery for both stocked and naturally reproducing trout in this upper river reach.

West Point Reservoir and tailwater. The tailwaters of West Point Dam provide recreational fishing opportunities that can be significant at certain times of the year. However, water quality in the tailwater, specifically dissolved oxygen, is poor in the summer. Georgia suggests that the USACE consider operational or design criteria that would improve dissolved oxygen conditions in the tailwater.

Reservoir Fish Spawn. Georgia recommends that the fish spawn period (an 8-week window in the spring) be retained and look forward to continued coordination with USACE offices during the bass spawn.

Fish Passage. Since 2005, the USACE has operated the lock at Jim Woodruff Lock and Dam twice a day in the spring to pass migratory fish. This practice has resulted in a substantial increase in the population of juvenile and adult Alabama shad in the ACF River. Georgia encourages the USACE to continue to support and facilitate fish passage via conservation locking at this facility.

4.4 Local Agencies

4.4.1 Metropolitan North Georgia Water Planning District

4.4.1.1 Initial Scoping Period—2008

Ms. Kathryn Dunlap of the MNGWPD submitted comments in a letter received October 28, 2008. She stated that she hopes the USACE will truly update the Master

Manual and not just replicate existing operations that have caused concern over the sustainability of Lake Lanier. She also noted the following:

- The USACE must consider alternative operating plans to balance water supply needs and economic impact with downstream needs before adopting a new Master Manual.
- The USACE should consider the water supply needs of the region as identified in the MNGWPD's long-range plans.
- The net amount of water withdrawn for water supply (in Lake Lanier and the river downstream) is 1 percent of the flows at the Florida line in normal years and 2 percent in drought years.
- Lake Lanier's recreational value should also be an important consideration. The lake receives 8 million visitors a year, resulting in \$5.5 billion annually.

4.4.1.2 Reopened Scoping Period—2009

Ms. Dunlap submitted additional comments on December 29, 2009. In the comment letter, MNGWPD recommended the following items for inclusion in the EIS:

- The USACE should provide a full assessment of the environmental, social, and economic impacts of the proposed revision. The USACE needs to consider the impacts of cutting off the water supply to 3 million people and 600,000 businesses, along with the flows used to assimilate the 325 million gallons per day of wastewater.
- The USACE should provide an assessment of all reasonable alternatives to the proposed action. The USACE should consider (1) continued operation at current water supply levels and (2) operation at the 2035 water supply levels contained in the Water Supply and Water Conservation Plan [copy was enclosed] adopted by the MNGWPD.
- The USACE should consider mitigation measures that are not already included in the proposed action or alternative. The USACE needs to consider mitigation measures such as increasing the level of Lake Lanier to offset the lake withdrawals and alternative operations that provide peaking power coincidental with water supply needs downstream of Buford Dam.

4.4.1.3 Reopened Scoping Period—2012

Mayor Boyd Austin submitted comments on January 11, 2013. The district respectfully requested that the USACE consider the full Georgia water supply request when evaluating an expanded range of water supply alternatives associated with the Buford Dam/Lake Lanier project. This analysis should include a full and complete analysis of alternative supply sources available to meet water supply needs in the district, and a robust analysis of shortages to the metro Atlanta area that would result from granting anything less than the full request. In addition, the USACE should perform a complete economic analysis to determine the NED and RED benefits of granting the Georgia request.

Some of the key considerations that the district recommended the USACE include in its WCM development were (1) evaluation of alternative levels for the rule curves and action zones in the ACF projects; (2) reconsideration of its policy of balancing the volume of water stored among the reservoirs on the basis of percent of action zone; (3) reconsideration of Woodruff Dam release requirements, including minimum flows; and (4) the development of forecast-based operating rules that can improve the benefits derived from reservoir operating rules for all purposes.

All potential operational alternatives should be evaluated using a set of basinwide performance measures that is as complete as possible to demonstrate tradeoffs and help ensure that additional gains for one purpose cannot be achieved without substantial impact on other management objectives. The district strongly encouraged the USACE to focus on developing alternative performance measures that can assess the direct measures of benefits rather than rely on surrogates of impact. The district also asked that specific performance measures be included that can evaluate the performance of various alternatives for water supply in the metro Atlanta area.

4.4.2 Atlanta Regional Commission

4.4.2.1 Initial Scoping Period—2008

Mr. Charles Krautler of the ARC submitted comments in a letter received November 21, 2008. He noted the following:

- *Proposed action and alternatives.* The USACE has not adequately defined the proposed action or alternatives. It must consider all reasonable alternatives. The new water control plan must be based on facts and sound science. Historical operations are not realistic or reasonable alternatives. The alternatives must include water supply for metro Atlanta; metro Atlanta relies on Lake Lanier, and there are no alternative sources. The alternatives should not be constrained by perceived limits on the USACE's authority.
- *Flow requirements.* Flow requirements should be optimized, flexible, and tied to actual needs, and operating plans should recognize Lake Lanier's unique character.
- *Curve rule changes.* The USACE should consider and analyze potential rule curve changes to maximize the available storage and optimize operations for all purposes.
- *Head limits.* The USACE frequently cites head limits as the controlling reason for excess releases from Woodruff Dam. Ramp-down restrictions compound this problem by requiring releases from storage to artificially slow the Apalachicola River's rate following these excess releases. In combination, these factors often result in releases greater than 1,000 cfs—more than Georgia's entire average consumptive water use in the ACF River Basin.
- *Hydropower scheduling.* The USACE should also consider alternative mechanisms for developing hydropower generation schedules. It now uses

relatively rigid power generation schedules that assume a certain number of hours of generation when a project is in a certain zone. By incorporating into its operating plans more flexible, forecast-based mechanisms that anticipate energy spot market prices, the USACE could maximize the value of the hydropower produced while making storage available to serve other project purposes. This approach has had great success in other projects and is employed in the Sustainable Release Rule.

- *Sikes Cut.* The USACE should consider alternatives that mitigate the salinity increases in other ways. The USACE should consider alternatives that reduce or eliminate saltwater inflow through Sikes Cut, a major salinity contributor.
- *Channel degradation.* The USACE should be concerned about the areal extent of flooding or the inundation and connectivity of certain habitat. It must acknowledge that the real causes of these problems have more to do with channel degradation than with the quantity of flow in the river.
- *Hydrological forecasting.* A large body of literature on forecasting techniques has been developed. The USGS has been using such methods for decades. The USACE should consider alternative operating plans that use these tools, with appropriate margins of error, to optimize reservoir operations.

4.4.2.2 Reopened Scoping Period—2009

A letter was submitted on December 30, 2009, by Ms. Patricia Barmeyer at King & Spalding on behalf of the ARC; Atlanta, Georgia; the Cobb County Marietta Water Authority; Fulton County; DeKalb County; and Gainesville, Georgia (collectively, the Water Supply Providers). The major points of the letter follow:

- The Water Supply Providers are deeply concerned that the scope of the new Water Control Plan and the new EIS has been drawn so narrowly as to render them meaningless. The stakeholders need and deserve a full and fair study of all alternatives to the current operating plans for the ACF River Basin. Therefore the EIS should not be limited to alternatives consistent with the USACE's existing authority. To the contrary, the decisionmakers in Congress and within the USACE need to know that much better alternatives exist.
- The tragedy of this controversy is that there is plenty of water in the ACF River Basin to meet the reasonable needs of all stakeholders, but only if the reservoirs are operated properly. Lake Lanier provides ample storage to meet future water supply needs for metropolitan Atlanta and North Georgia at minimal cost to the environment or downstream stakeholders. Indeed, the Water Supply Providers have proposed an alternative operating plan for the ACF Reservoir system that meets future water demands while also performing at least as well or better for all other stakeholders. The Water Supply Providers' plan would be to meet future water supply needs while also producing more valuable hydropower and it would also be better for the species in the Apalachicola River based on the metrics developed by the Fish and Wildlife Service in the Biological Opinion. These and other alternatives to the current operations should be included in the EIS: The

USACE is required by NEPA to study all reasonable alternatives, including alternatives that exceed the USACE's current authority; the EIS should assist decision-makers in determining whether to seek additional authority for water supply operations at Lake Lanier; the USACE must also consider alternatives to accommodate water supply within the confines of the July 17, 2009 order of the U.S. District Court for the Middle District of Florida; the USACE must consider the indirect and cumulative effects of its operations; and the USACE should consider alternatives to address problems created by channel degradation and other issues.

- “In conclusion, the Water Supply Providers have long supported the USACE's efforts to update the Water Control Manuals [water control plans] for the ACF River Basin. We support this effort because we firmly believe that any objective analysis will show that there is enough water in the ACF River Basin to meet the reasonable needs of all stake holders if the reservoirs are operated properly. Therefore, we urge you to embrace the NEPA process as an opportunity, finally, to insert facts into a discussion that for years has been dominated by misinformation and political posturing.”

4.4.2.3 Reopened Scoping Period—2012

A letter was submitted on January 14, 2013, by Douglas R. Hooker, the Executive Director of ARC. The comments supplement the comments ARC submitted on November 28, 2008, and December 30, 2009. ARC strongly supports the Water Supply Request submitted by Georgia in 2000 and stated that metro Atlanta lacks any economically and environmentally viable alternative source of water supply to replace Lake Lanier.

The purpose and need for the federal action should include meeting metro Atlanta's water supply demands through 2040, as stated in Georgia's Water Supply Request. Multiple studies have concluded reallocating storage in Lake Lanier and operating Buford Dam to facilitate Chattahoochee River withdrawals is the best available alternative for meeting the region's water needs.

The Eleventh Circuit has established that water supply is a fully authorized purpose of Lake Lanier and that Congress intended for the project to meet the increasing needs of metro Atlanta as the region developed. The opinion issued by the USACE's General Counsel, Earl Stockdale, confirms this broad authority to operate Buford Dam and Lake Lanier for water supply, finding that the USACE has ample authority to accommodate the increased levels of water supply withdrawals contemplated by Georgia's Water Supply Request. Completing the required NEPA review, therefore, is the final remaining step for the USACE to determine whether and how it will meet Atlanta's water needs as Congress intended.

The alternatives analysis for the EIS should include a variety of operating rules designed to meet Georgia's Water Supply Request. Even with aggressive water conservation, however, additional water supply will be needed from Lake Lanier and the Chattahoochee River as the region continues to add population and jobs. In analyzing this

request, the USACE should evaluate operational rules that accommodate metro Atlanta's future water supply needs to the fullest extent. The USACE's previous NEPA studies show that using Lake Lanier for this purpose carries the fewest environmental impacts and provides the greatest net economic benefits.

The USACE should evaluate the national and regional economic development benefits that would result from granting Georgia's Water Supply Request.

The USACE's analysis of water supply operations must include full and complete consideration of the reasonably foreseeable indirect effects of granting anything less than the entire Georgia Water Supply Request. Under NEPA, the USACE must fully evaluate the direct and indirect impacts of requiring metro Atlanta to meet its needs through any other means. The USACE must also fully evaluate the economic, social, and public health impacts that would result from any shortages resulting from unmet future needs.

The proper baseline should be continuing existing operations. ARC believes that the proper no action alternative should be continuing existing operations. This would include continued operations under the USACE's RIOP, as addressed in the USFWS February 2012 biological opinion, and existing levels of water supply withdrawals.

The USACE should provide flexibility for a range of water quality flow targets. The flow target of 750 cfs was designed in the early 1970s and still might be appropriate under normal conditions, but recent studies have shown that that water quality standards will still be met at flows less than 750 cfs. ARC requests that this issue be addressed in the EIS and the WCM update, and that flexibility be provided for a range of flow targets to meet water quality considerations as determined by GAEPD.

The USACE should consider new performance measures and operating rules to manage the system more efficiently. ARC encourages the USACE to look beyond the RIOP and to consider creative new operating rules and scenarios that manage the system more efficiently. In addition, the USACE should identify specific, direct measures of performance on the basis of actual stakeholder needs to evaluate operational alternatives. It should also consider more creative and flexible operational rules that take account of advances in hydrologic forecasting, rather than rigid release schedules that focus merely on the quantity of water delivered downstream.

Operating rules should be developed to meet specific objectives and evaluated using direct measures of their performance. The USACE should use the NEPA process to develop performance measures that are based on the actual identified needs of stakeholders in the ACF Basin, which would be used to evaluate various operating rules under consideration. Recommendations include:

- Performance measures for water supply and reservoir levels.
 - Probability of Refill and System Reliability. Lake Lanier should be allowed to refill in as many years as possible to minimize the possibility of entering a severe, multiyear drought with low reservoir levels and the corresponding risk to water supply security.

- Lake Levels, Sustainable Releases, and Rate of Drawdown. Levels in Lake Lanier should be evaluated against the risk to water supply and other uses in the ACF Basin, all of which rely on Lake Lanier storage in severe drought.
- Equity Among Projects. ARC believes that equity among the ACF projects in terms of project refill and recreation impacts (as defined by USACE criteria) should be evaluated during the EIS process as seen in performance measures 8 through 10 in the Attachment. Absence of Shortages. Operating rules should be evaluated to ensure that no water supply shortages occur (both measures should be zero, such that there are no shortages or minimum water quality flow target deficiencies).
- Environmental performance measures. The USACE should use the NEPA process to work with the USFWS and other stakeholders to develop direct measures of performance to evaluate impacts to protected species, the health of Apalachicola Bay and other environmental considerations.
 - Protected Species. USFWS has developed a range of performance measures in its biological opinions to assess potential impacts of operating policies on threatened and endangered species. While some of these are more direct measures of performance, many focus solely on the magnitude of flow and are not sufficiently tied to benefits or effects on protected species. Because of the demands on storage that they impose, minimum flows must be carefully tailored to meet distinct, actual needs. Without this, a minimum flow, in and of itself, does nothing to ensure that scarce water resources are used efficiently to meet real needs in the ACF Basin.
 - Apalachicola Bay Salinity. Some stakeholders suggest that Lake Lanier be managed to control salinity in Apalachicola Bay. In the past, the USACE has used a flow-based proxy of 16,000 cfs as a measure of potential salinity effects on Apalachicola Bay. This should be abandoned in favor of more accurate, direct measures of salinity performance. We urge the USACE to use salinity models to evaluate the impacts of alternative operating rules on Apalachicola Bay salinity. Through these models, the USACE should examine how its operations could (or could not) alter bay salinities to achieve specific management objectives.
- More creative and flexible operating rules should be considered. ARC urges the USACE to look beyond the RIOP and to consider creative new operating rules and scenarios that manage the system more efficiently. Models have shown through our own work in conjunction with Georgia that the system can perform more efficiently and satisfy most of the stakeholders needs through innovative approaches to reservoir operations and system management—this includes the Georgia Contemplation. Some components include:
 - Forecasting. Forecast-based operating rules can improve the benefits derived from reservoir operating rules for all purposes. Forecasts, particularly ensemble forecasts, can and should be used in rules that set real-time variable targets for flows throughout the system. When

combined with storage levels, forecasts can be used to determine the appropriate levels of flow support from storage. This will allow better performance for hydropower, navigation, water supply, recreation, environment, and other purposes.

- Rule curves and action zones. The USACE should evaluate alternative levels for the rule curves and action zones. It should also consider abandoning rule curves and action zones in favor of setting operating targets that vary continuously by the values of current storage and inflow forecasts.
- Reservoir balancing. The USACE should reconsider its policy of balancing the volume of water stored among the ACF reservoirs so that all projects are in the same action zone. Balancing releases of this sort are not the most efficient use of upstream storage and do not adequately account for the disparity in refill potential of the USACE's projects.
- Woodruff Dam release requirements. The USACE should reconsider its Woodruff Dam release schedules, including a full analysis and evaluation of minimum flow requirements. Releases to support downstream flows must be balanced against the costs to other users and purposes. The USACE should therefore carefully examine and estimate the tangible benefits of maintaining arbitrary and fixed minimum flows, particularly in extreme droughts, and consider more targeted performance measures as described. The USFWS is also discussing that RIOP ramping requirements could be suspended during low-flow periods, and releases made for flow targets could be limited by their draw on storage.
- Hydropower. The USACE's remand modeling and ARC's analyses indicate that modifying operations to improve performance in terms of other objectives usually has an extremely minor impact on hydropower generation and hydropower revenue. ARC urges the USACE to use the methodology employed in the remand modeling to evaluate the impact of alternative rules and system operations on hydropower and to appropriately balance the substantial other benefits that might be achieved against the potentially small effects on hydropower.
- Structural alternatives should be evaluated and considered. ARC urges the USACE to consider structural alternatives to reduce release requirements and downstream demands.
- ARC suggested the following technical modeling assumptions and considerations.
 - The USACE should use return rates calculated from Georgia's Water Supply Request for modeling to be performed under the EIS and manual update.
 - The USACE should partition the Chattahoochee River demands into three, or at the very least two, withdrawal points to appropriately evaluate the metro Atlanta reaches.

- There appears to be an additional 20 mgd included in the Lake Lanier withdrawals, shown by a sum of two time-series in defining lake withdrawals.
- Some of the simulations reduce system storage below the level of the Exceptional Drought Operations zone, but the minimum flow requirement at Woodruff Dam is not reduced to 4,500 cfs. While this could be caused by timing, as Exceptional Drought Operations operations are changed only on the first of the month, the USACE should verify the reason for this discrepancy.

4.4.3 Franklin County, Florida, Board of County Commissioners

4.4.3.1 Initial Scoping Period—2008

Mr. Noah Lockley of the Franklin County Board of County Commissioners submitted comments in a letter received October 17, 2008. The Board believes that the Master Manual is fundamentally flawed because it does not adequately take into account the freshwater needs of Apalachicola Bay. The Board requests that the EIS include the ecosystem of the bay. Specifically:

- The EIS should include the harvestable resources, including shrimp, blue crab, mullet, and oysters. All these resources have seen their landings plummet over the past few years because of the lack of freshwater reaching the bay.
- The state has spent millions of dollars protecting the bay, and now the Master Manual needs to be expanded to protect this environmental resource.

4.4.3.2 Reopened Scoping Period—2009

No comments were received.

4.4.3.3 Reopened Scoping Period—2012

Comments were received on December 11, 2012, from Mr. Alan Pierce for the Franklin County Board of County Commissioners. Mr. Pierce notes that the Apalachicola Bay in Florida is in desperate need of fresh water. The ACF water supply plan must take into account the needs of the bay. The most productive oyster industry in the south eastern United States is being wiped out because of a lack of water.

4.4.4 Hall County, Georgia, Board of Commissioners

4.4.4.1 Initial Scoping Period—2008

Mr. Tom Oliver, Mr. Billy Powell, Mr. Deborah Mack, Mr. Bobby Banks, and Mr. Steve Gailey of the Hall County Government Board of Commissioners submitted comments in a letter received November 14, 2008. They noted the following:

- Lake Lanier will be at an all-time record low in the coming months.

- The Board is confident that the river system can be managed such that all needs are met. The Board believes there is sufficient water for both upstream and downstream environmental, economic, and human needs.
- Sound science and engineering study must prevail to determine how best to operate the river system. The system operations cannot use an antiquated management plan with simple documentation of existing trends. Updated conditions should be considered.
- Alternative methods of creating water quality in downstream basins should be considered (that is, not taking Lake Lanier flows to enhance downstream estuaries).

4.4.4.2 Reopened Scoping Period—2009

No comments were received.

4.4.4.3 Reopened Scoping Period—2012

No comments were received.

4.4.5 Troup County, Georgia, Board of Commissioners

4.4.5.1 Initial Scoping Period—2008

Mr. Richard Wolfe, Mr. Richard English Jr., Mr. Buck Davis, Mr. Kenneth Smith Sr., Mr. Julian Morris Jones III of the Troup County Board of Commissioners submitted comments in a letter received November 24, 2008. Noting that their past requests had seemingly been ignored, they asked the USACE to consider the following:

- Consider six critical issues, identified through study groups, that are vital to West Point Lake: Maintain a minimum lake level of 633–635 feet msl, maximize positive economic impact, return to managing the Lake consistent with congressionally authorized purposes, restore and maintain recreational facilities, ensure recreational access for low-income and minority families, and protect water quality.
- Low lake levels adversely affect economic opportunities.
- The action zones established by the USACE are not in keeping with and were not part of the original authorization by Congress.
- The USACE should fill and stabilize West Point Lake as a “run of the river lake” with flows that mirror a more natural flow during drought and flood conditions.
- The USACE has not funded or maintained many of the recreational areas paid for or established by Congress.
- Action zones are much worse than other USACE projects and make recreational use quite difficult, if not impossible, to achieve.

- Rapid and frequent fluctuations in lake levels cause issues of compliance with the Clean Water Act, which affect the quality of recreation.

4.4.5.2 Reopened Scoping Period—2009

No comments were received.

4.4.5.3 Reopened Scoping Period—2012

No comments were received.

4.4.6 City of LaGrange and Troup County, Georgia

4.4.6.1 Initial Scoping Period—2008

Mr. Jeff Brown of Troup County and Mr. Jeff Luken, Mayor of LaGrange, submitted comments in identical letters received October 28, 2008, and October 30, 2008, respectively. A summary of the comments follows:

- Congress established five specific primary authorized uses for this project: hydropower, sportfishing and wildlife development, general recreation, navigation, and flood control.
- New influences have taken over and control the environmental and socioeconomic factors related to utilization of the lake. Many factors have not been addressed or have been ignored by the USACE in its operations. These include massive urbanization and growth of the area and counties surrounding the lake, industrial development, and growth of the Fort Benning complex and its contingent of citizens and soldiers, who often rely on West Point Lake's facilities for recreation and sportfishing and wildlife.
- The USACE operates the lake and the system in its own way, which ignores the original *primary* congressional authorizations. Recreation and sportfishing and wildlife development are sacrificed—almost in their entirety—to meet the purpose of a lower winter pool of 625–628 feet msl.
- The USACE arbitrarily assigned to the lake Action Zones that were not set up in the enabling legislation. This needs to be corrected, and a maximum drawdown level of 633 feet msl for winter pool and a stable 635-foot summer pool must be established.
- It is the responsibility of the downstream wastewater treatment discharge permit holders to design and operate their discharge systems in a manner that ensures compliance with water quality standards without using the limited waters available.
- Raise the lake levels and stabilize them at the 633–635-foot level. The low lake levels and aesthetic damage caused by winter drawdowns have a *direct* correlation with the low number of visitors. The lake level should never be lower than 633 feet msl, except in dire emergencies.

- Stakeholders in the area have observed massive kills of native mussels in the project boundaries when the USACE operates the dam to provide massive rapid drawdowns for downstream flows.
- The USACE's compliance with the *Clean Water Act* under current operations is at best highly questionable, if in fact it is being achieved. The chlorophyll level is set at an artificially high level of 27 milligrams per liter. Total nitrogen south of the Franklin exceeds the standards with a reading of 6 milligrams per liter.
- "Demographics, development patterns, climate changes, and other factors have brought forth an entirely new reality the USACE must contemplate and address in a new Master Manual for the basin."

4.4.6.2 Reopened Scoping Period—2009

Mr. James Emery, Jr. provided comments during the 2009 reopened scoping period on behalf of Troup County. The comments included the following points:

- West Point Lake's elevation is intentionally managed at a level that is too low during the winter. The current guide curves provide disproportionately large amounts of flood storage during the winter as compared to all other federal projects on the basin. The 628-foot MSL zone 1 winter pool elevation does not allow adequate utilization of the lake for other congressionally authorized purposes such as "recreation" and "sport fishing and wildlife development." The low elevation also has tremendous negative economic impacts on the region. The low lake levels also cause over 500 miles of shoreline to become exposed, causing erosion and extremely high turbidity during rain events. During this time of re-assessment of the USACE's operations manuals, this error can (and should) be corrected.
- There are two primary reasons for West Point Lake's lower-than-necessary elevations: (1) the flood control authorized use of West Point Lake has been overemphasized in the current operations manuals as compared to the other authorized uses, and the necessary winter flood storage capacity has been overestimated. (2) Water is being supplied to downstream interests at a flow rate that is higher than what would occur naturally and is higher than these downstream interests have any right to.
- There is no question that the USACE has done a tremendous job of providing flood control and hydropower, as authorized by Congress, but there needs to be a better balance of other authorized uses such as recreation and sport fishing and wildlife development. The management of the lake seems severely weighted toward some uses with little regard for the others.

4.4.6.3 Reopened Scoping Period—2012

On January 4, 2013 comments were provided by Mike Criddle on behalf of LaGrange's Department of Economic Development. These comments are summarized below:

- The importance of adequate lake levels in West Point Lake to the local economy. Low levels affect fishing and fisheries industries and the ability for developing the tourism industry.
- The constant fluctuation of winter and spring lake levels over the past several years has had devastating impacts on the annual bass spawn and other fish populations that directly affect fish take and the sport fishing industry. The city feels that the USACE has not upheld sport fishing and wildlife development authorizations.
- The city requests a change to the West Point Lake rule curve for the winter months to an elevation of 632.5 msl.
- Further study is requested for the requirement of 5,000 cfs at the Florida line, as mandated by the Endangered Species Act. This study should include accurate population counts of the three endangered species of mussels to determine if each should still be included on the endangered species list. If inclusion is still directed, a comprehensive recovery plan for each should be an integral part of the EIS.

4.4.7 Gwinnett County, Georgia, Board of Commissioners and Department of Water Resources

4.4.7.1 Initial Scoping Period—2008

Mr. Charles Bannister of the Gwinnett County Board of Commissioners submitted comments in a letter received October 20, 2008. In his letter he states:

- The IOP and modifications have not resulted in the most efficient operation of the system to serve its designated use and the public interest. The Board believes that a more conservative and equally effective operation of the ACF system could have saved millions of gallons of storage in Lake Lanier and still met the downstream requirements throughout this prolonged drought.
- The USACE's EM 1110-2-3600, Section 3-3 b.(I), states, "Furthermore, for many projects that have been operational for a number of years, the water control plans and water control manual are out-of-date, and there is a need for revising them to make them applicable to current conditions."
- The water control plans and the Master Manual need to address the current conditions, in which some 3 million people in the metro Atlanta area rely on the ACF River Basin for drinking water for their health and safety.
- The droughts of 1988 and 2001 and the present drought should surely suggest that the USACE should make every effort to conserve storage in the uppermost lake in the system to the maximum extent to enable the system to meet its downstream requirements in times of severe drought. Composite storage for the entire system should not be used to justify releases from Lake Lanier; Lake Lanier represents almost half of the storage for this basin as its uppermost reservoir, but that reservoir has only 6 percent of the basin's drainage area and controls only 9 percent of the flow in the basin.

- The board highly recommends that the USACE use the methods of hydrological forecasting developed by USGS and recommended to the USACE by the ARC.
- An ARC letter titled *Proposed Modifications to Interim Operations Plan for ACF Reservoirs* is attached. The Board suggests that keeping Lake Lanier as full as possible meets these goals and helps protect the environment and the economy of north Georgia. It does not believe that the Mobile District's IOP and its modifications meet these goals as required by the USACE's rules. Had the rules been followed in developing the IOP, the USACE could have met the downstream needs and preserved the storage in Lake Lanier to a much greater extent than has been done in the past 2 years.
- The board believes that the technical expertise exists to enable the Mobile District to craft a water control plan that meets all the needs of the basin and allows the reservoirs to be full or near full each spring in order to allow the system to be able to provide drought sustainability when needed. Such conservation of storage serves the public interest and sustains the environment and population dependent on this vital resource.
- The board strongly urges the Mobile District to seriously consider the methodologies suggested by the ARC and its consultant, Hydrologics, Inc., for alternative methods of operating the system. Hydrologics has shown that alternative operating scenarios can meet all downstream requirements and at the same time maximize reservoir storage during the wet season to ensure the maximum storage in the spring of each year, particularly in Lake Lanier, to provide for water conservation, drought contingency, and the needs of fish and wildlife, recreation, and environmental improvement/protection of Lake Lanier and the downstream basin.

4.4.7.2 Reopened Scoping Period—2009

Ms. Lynn Smarr, Acting Director for Gwinnett County Department of Water Resources, provided comments on December 21, 2009. In her letter she states:

- We believe that preparing an EIS for a WCM for the ACF Basin must include water supply analysis and that failure to consider alternatives for water supply, at several levels, is unwise and a waste of limited public funds. The USACE EIS consideration must include alternatives, such as operations for water supply, even if they are deemed to exceed the agency's jurisdiction. 40 CFR 1502.14(c). The EIS must include alternatives that exceed the USACE's authority because this information might be useful to the President, to Congress, and to the public in shaping policy on a larger scale. See *Natural Res. Defense Council, Inc. v. Morton*, 458 F.2d 827, 836-37 (D.C. Cir. 1972). We set forth in this comment various alternatives which require study by the USACE deemed necessary for compliance with NEPA. In addition, to the extent that the USACE anticipates obtaining a biological opinion from the USFWS in connection with its analysis, we offer comment relative to that process as well.

- *Scope of NEPA.* The regulation at 40 CFR 1502(c), properly applied, requires the USACE to include water supply at and above current uses in its EIS, particularly since the historical practice has been to support this water supply use.
- *Alternatives Required.* Many alternatives not presently presented in the EIS process, or purposefully omitted such as water supply, deserve and demand study by the USACE if it is to fulfill its NEPA responsibilities.
- *Selection of an Appropriate Environmental Baseline.* In two prior Biological Opinions issued in conjunction with ACF River Basin operations, the USFWS used an improper baseline for purposes of its analysis. In its prior analysis, USFWS used hydrological modeling to compare flows produced by the existing RIOP to what it called a baseline consisting of the actual flows produced by reservoir operations from 1975 to 2007 (the Regulated Condition). The decision to use the Regulated Condition from 1975 to 2007 as the baseline for this comparison is unlawful and arbitrary, however. The Regulated Condition cannot be used as the baseline because the Regulated Condition is the result of numerous discretionary actions by the USACE related to historic reservoir operations. Another reason that the Regulated Condition cannot be used to measure the effects of the RIOP is that it is impossible to associate the Regulated Condition from 1975 to 2007 with anyone operating plan. The USACE modified its operations many times, in many ways, during those years.

4.4.7.3 Reopened Scoping Period—2012

Comments were received January 9, 2013, from Ms. Charlotte J. Nash, Chairman of the Gwinnett County Board of Commissioners. Comments include the following:

- **Update federal authorities:** Per the Eleventh Circuit decision, Public Law No. 84-841 (July 30, 1956) (1956 Act), the USACE is authorized to contract with Gwinnett County for withdrawals from Lake Lanier at a rate of 11,200 acre-feet (10 mgd) annually and has additional authority by which the USACE may authorize water storage for withdrawals by the county for a secure and regulated water supply. The USACE should update the list of federal authorizations in Section 1.2 of the 2010 Scoping Report to include the 1956 Act and note that such withdrawals are within the baseline established by Congress.
- **Update Models with Representative Basin Conditions:** The USACE should update its modeling data to take into account recent shifts in rainfall and temperature patterns in the ACF Basin rather than relying on older, less representative data regarding basin conditions.
- **Alternatives Analysis**
 - **Increase winter pool storage to 1,071 (msl):** The USACE should evaluate an alternative that increases winter pool storage to 1,071 (msl) to be consistent with the summer storage amount; as discussed above, to the extent that recent shifts in rainfall and temperature patterns suggest that more water must be available for releases, a consistent full pool operational measure should be taken into account and incorporated as an

- alternative rather than curtailing storage and ignoring, availability of congressionally authorized flood control storage above 1071 (msl).
- Remove 5,000 cfs operating policy as the floor for the ACF Basin: The 5,000 cfs floor is merely a parameter in the 2006 IOP and is based on an incorrect analysis of the baseline conditions in the ACF Basin and should not be the driver for the USACE's operation of the reservoirs in the basin. Basinwide performance measures should be considered instead.
 - Reexamine 750 cfs requirement at the Chattahoochee River below the Atlanta withdrawal point: the 750 cfs operational flow criteria the USACE used should be reexamined in light of permit requirements and assimilative capacity to determine whether alternatives to that flow might exist. In developing its alternatives, the USACE should deemphasize use of any discretionary operational policy in favor of operating to maximize water supply, an authorized purpose of the project.
 - Maximize water supply at the Buford Dam/Lake Lanier project: The USACE should include in its alternatives analysis an alternative that maximizes the authorized purpose of water supply at Lake Lanier. Applying the Eleventh Circuit decision and the project purposes outlined in the 2010 Scoping Report, the Buford Dam/Lake Lanier project is the only reservoir in the ACF Basin that has water supply as an authorized project purpose and, as such, this purpose should be prioritized in USACE's operational policy. Supporting downstream project purposes at the expense of an authorized project purpose at the Buford Dam/Lake Lanier project would be inappropriate.
 - Facilitate return flows: the USACE's operations should encourage and facilitate return flows to Lake Lanier, including providing direct 1:1 credit to entities providing return flows to the lake. Return flows mitigate the impact of withdrawals and releases made for all purposes on the lake levels, provide a level of assurance of water availability not provided by general basin inflow, and support principles of conservation and reuse. Moreover, to the extent any wastewater provider incurs additional treatment costs to satisfy wastewater permitting requirements for Lake Lanier, direct credit for return flows for each such provider will help offset such costs and thereby incentivize the provision of return flows. As such, directly credited return flows should be encouraged and facilitated.
 - Economic Impacts: The USACE must incorporate into its analysis all potential economic impacts associated with the alternatives that it evaluates, including the host of detrimental economic impacts that would be associated with either not exercising its authority to allocate storage for water withdrawals or not maximizing the provision of water supply through making storage available for lake withdrawals and releases for downstream users.

- Environmental Impacts
 - Environmental impacts in the region. The USACE must incorporate into its analysis all the potential environmental effects of the alternatives it considers, including environmental impacts that would occur without the availability of storage in the Buford Dam/Lake Lanier project for water supply or in any operating scenario that does not maximize storage for water supply from Lake Lanier.
 - The USACE should use an appropriate baseline: The USACE (and the USFWS) should not inappropriately incorporate into the action being reviewed effects that would occur notwithstanding the action under review. The flow of a river depends on the month, season, and multiyear precipitation patterns. A baseline flow regime should not include any of the discretionary federal actions such as rule curves, action zones, peaking hydropower releases, or other aspects of the USACE's water control plan and ongoing operations the effects of which are being studied. The USACE (and USFWS) should use the *run-of-river* flow regime, that is, one that assumes the dams are in place but that the reservoirs simply release the water as it comes in without storing any of it for release later.
 - The USACE should incorporate the most recent information about the endangered species: Recent data provided to the USACE and USFWS in 2012 by experts in the field demonstrate that the species promoted by Florida are in much better shape than assumed, and these data must be incorporated into the EIS/ESA analysis for any revised operating plan for the ACF Basin.

4.4.8 City of Cumming, Georgia

4.4.8.1 Initial Scoping Period—2008

No comments were received.

4.4.8.2 Reopened Scoping Period—2009

Mr. Ford Gravitt, Mayor of Cumming, provided comments in a letter dated December 15, 2009. The comments included the following points:

- City of Cumming has an advanced water intake facility on Lake Lanier and provides raw water to potable water treatment facilities in both the City of Cumming and unincorporated Forsyth County.
- To consider only the Gainesville and Buford combined 10-mgd withdrawal is reckless and will “turn the spigot off” for hundreds of thousands of people.
- The City of Cumming withdrew water from Dobbs Creek, a tributary to Sawnee Creek, just as Gainesville and Buford received their water from Lanier tributaries prior to the construction of Buford Dam.

- Importantly, all notices were given, permits obtained, and laws and regulations complied with in the construction of the city's state-of-the-art intake facility and in conjunction with the expansion and upgrade of the city's wastewater treatment facility. This is true whether the requirements are from the USACE, EPA, federal statutes, state statutes, GAEPD, or any other regulatory entity involved in the process.
- From the description of the city's utility system and its evolution, two things are clear: (1) Nothing about the development of the City of Cumming's utility was a rash or quick decision—everything was well thought out and planned to meet the needs of this growing area; and (2) all told, it is perfectly evident that the federal government, including the USACE, was aware of and approved the City of Cumming's actions, including the investment of millions of dollars into what is now an infrastructure system worth billions. And now the city is told, with the investment complete and the infrastructure in place to provide water to the citizens of the City of Cumming and Forsyth County, the USACE proposes to turn off the water, which would turn the billion-dollar utility into a massive set of empty pipes and thirsty people.
- The City of Cumming is vehemently opposed to the revisions to the Master WCM, especially as disclosed in subsection (b) on the notice received on November 24, 2009. To propose to end all withdrawals by the City of Cumming in July 2012, thus cutting off water to hundreds of thousands of people in Forsyth County alone, is callous, reckless, and a threat to human life and safety. Moreover, given that the USACE and federal government permitted and allowed the City of Cumming's expansions and investments to occur, the USACE should be stopped from now taking that expansion and investment away by turning off the water.
- Finally, considering that the USACE's proposal would take a billion-dollar asset and make it worthless, turning off the water, if carried out, would be the epitome of a taking without just and adequate compensation. To be blunt, when Lake Lanier was built the federal government compensated people so little—\$6.00 and \$7.00 an acre in some cases—that many people accused the government of stealing the land. Now, it appears that the government will do so again by rendering over 50 years of planning, investment, acquisition, and building worthless.

4.4.8.3 *Reopened Scoping Period—2012*

No comments were received.

4.4.9 *Columbus Consolidated Government*

4.4.9.1 *Initial Scoping Period—2008*

No comments were received.

4.4.9.2 Reopened Scoping Period—2009

No comments were received.

4.4.9.3 Reopened Scoping Period—2012

Comments were received on January 14, 2013, from Teresa Pike Tomlinson, Mayor of Columbus, Georgia. Mayor Tomlinson's comments reiterated previous comments from August 6, 2012, concerning the necessity of maintaining a minimum daily river flow rate of 1,350 cfs, an instantaneous flow of 800 cfs and a weekly flow of 1,850 cfs at Columbus and Fort Benning, Georgia. The rates are necessary for assimilating permitted wastewater discharge, to provide high-quality drinking water and to ensure economic sustainability for the Columbus and Fort Benning community, and Phenix City, Alabama.

4.4.10 Douglasville-Douglas County Water and Sewer Authority**4.4.10.1 Initial Scoping Period—2008**

No comments were received.

4.4.10.2 Reopened Scoping Period —2009

No comments were received.

4.4.10.3 Reopened Scoping Period —2012

Mr. Peter Frost signed comments dated November 27, 2012, that made six points of concern. These areas of concern over the WCM update include

- The effect on 7Q10 requirements from their water supply reservoir during low-flow period.
- Future surface water withdrawal permits.
- Effect on Cobb County-Marietta Water Authority's withdrawal capacity.
- Assimilative capacity in the Chattahoochee River and its effect on current and future wastewater discharges.
- Future MNGWPD management plans for water, wastewater, or watershed management.

4.4.11 Forsyth County Board of Commissioners**4.4.11.1 Initial Scoping Period—2008**

No comments were received.

4.4.11.2 Reopened Scoping Period —2009

No comments were received.

4.4.11.3 Reopened Scoping Period—2012

Comments were received on January 14, 2013 from Ralph J. Amos, Chairman of the Forsyth County Board of Commissioners. Chairman Amos urged the USACE to diligently work to complete the necessary steps to finalize the update of the Master WCM for the ACF River Basin. The county has been denied access to the lake for an intake for more than 25 years even though 20 square miles of Lake Lanier are in the county. The county supports all efforts to protect and increase water supply for the region while maintaining safe lake levels for recreational use. The county also supports the study of raising the lake level to the benefit of the region. The county strongly believes that water supply should be given top priority and requests that the USACE approve a new Forsyth County withdrawal intake structure and storage allocation contract as quickly as possible.

4.5 Tribal Response

4.5.1 Initial Scoping Period—2008

The tribal response indicated an interest in being informed about the updated Master Manual and Draft EIS as more information becomes available. After the development of the alternatives and proposed action, tribal leaders should be contacted and provided another opportunity for government-to-government consultation.

4.5.2 Reopened Scoping Period—2009

No comments were received.

4.5.3 Reopened Scoping Period—2012

No comments were received.

4.6 Federal Interagency Response

The 2008 pre-meeting planning agenda tool allowed the USACE to focus discussions on topics of interest to the federal agencies represented on the call—drought operations, water quality, biological resources, and water management. Additional issues identified for discussion included minimum base flows, agricultural water use, reservoir flows, buoy tender and use of channel survey data, water quality impacts, alternative analysis, rule curve alternatives, and a timeline for decisions. These areas can be better defined by (1) those related to the Master Manual update and (2) those related to the NEPA process.

- *Master Manual update.* Agencies questioned whether substantial changes would be considered in the Master Manual. The USACE is authorized only to update the Master Manual to current operations; additional authorizations would require congressional authority. The USACE did confirm that the evaluations of alternatives will look at impacts throughout the ACF River Basin. For example, the evaluations will consider how releases at Lake Lanier affect the Apalachicola River and Estuary. Questions were asked regarding changes to minimum flows.

States would have to modify their procedures for these types of changes to occur, as has been considered in the RIOP.

- *NEPA process.* The selection of baseline conditions and alternatives was a concern for the USFWS. The USACE let the agencies know that the scoping process is being used to determine which alternatives will be considered in the EIS, including different levels of water withdrawal.

5.0 Summary of Public Scoping

The USACE has completed the preliminary scoping process for the EIS regarding implementation of an updated Master Manual in Alabama, Florida, and Georgia. The USACE, however, will continue to give due consideration to all relevant input received throughout the development of the EIS because scoping is an ongoing process. Coordination with regulatory agencies and the public will continue. Following finalization and publication of this scoping report, the draft EIS will be completed. The Draft EIS is scheduled to be made available to the public for review and comment in 2014.

The objective of this preliminary scoping phase was to notify regulatory agencies and the public of the proposed action. This phase provided an opportunity for the USACE to learn as much as possible about all concerns, issues, and other significant actions completed, under way, or proposed in the region that could be affected by implementing the proposed action. It also provided an opportunity to gather available information and tools to assist in developing and evaluating the proposed action and alternatives. Such information is essential to ensure that the EIS adequately addresses the effects of the proposed action and alternatives.

Specific requirements of scoping include the following:

- Determining the scope (40 CFR 1508.25) and the significant issues to be analyzed in depth in the EIS.
- Identifying and eliminating from detailed study the issues that are not significant or that have been covered by prior environmental review (40 CFR 1506.3), narrowing the discussion of these issues in the EIS to a brief presentation of why they would not have a significant effect on the human environment or providing a reference to their coverage elsewhere.
- Indicating any public environmental assessments and other EISs that are being or will be prepared and are related to but are not part of the scope of the impact statement under consideration.
- Identifying other environmental review and consultation requirements so the USACE can prepare other required analyses and studies concurrently with, and integrated with, the EIS as provided in 40 CFR 1502.25.
- Considering how the proposed action might affect resource areas cumulatively; that is, whether the resources, ecosystems, and human communities of concern have already been affected by past or present activities and whether other agencies or the public has plans that could affect the resources in the future.

During the initial 2008 scoping period, the reopened 2009 scoping period, and the additional 2012 scoping period, the USACE received 3,621 comments from 958 individuals, organizations, and agencies. The agencies included federal, state, and local governments. Federal agencies that submitted comments were EPA Region 4, SEPA, USFWS, NOAA National Marine Fisheries Service, NPS Southeast Regional Office,

Members of the U.S. Senate from Florida and Alabama submitted comments, as did members of the Georgia Senate. Members of the U.S. House of Representatives from Georgia and Florida submitted comments, as did members of the Georgia House of Representatives. The three states—Alabama, Georgia, and Florida—submitted comments from their associated state agencies. Other local governmental agencies, including the MNGWPD; the ARC; Franklin County, Florida and the Franklin County Board of County Commissioners; Hall County, Georgia; Troup County, Georgia; Gwinnett County, Georgia; the City of LaGrange, Georgia; Columbus, Georgia; Douglasville-Douglas County Water and Sewer Authority, Forsyth County, Georgia’s Board of County Commissioners; submitted comments as well.

All the comments were reviewed and organized into 12 categories, as discussed in Section 3. The categories and the percentage of the comments falling into each category follow:

- Water Management Recommendations: 34 percent
- Socioeconomics and Recreation: 19 percent
- Biological Resources: 16 percent
- Drought Operations: 6 percent
- Water Quality: 5 percent
- NEPA: 7 percent
- Water Supply: 4 percent
- Data, Studies, and Analytical Tools: 3 percent
- Other Resources: 2 percent
- Navigation: 1 percent
- Hydropower: 1 percent
- Flood Risk Management: 2 percent

The majority (about 70 percent) of the comments were related to water management recommendations, socioeconomics, and biological resources.

5.1 Recommendations

In January 2008 Secretary of the Army Pete Geren directed the USACE s to update the Master Manual. The current Master Manual was completed in 1958, and consequently it does not include water control plans for West Point Dam, Walter F. George Lock and Dam, and George W. Andrews Lock and Dam. An updated Master Manual that includes water control plans for all the projects in the ACF River Basin is required by ER 1110-2-240. The Master Manual must prescribe plans of operation for congressionally authorized and general statutory project purposes in the basin, while taking into account private, community, social, and economic needs and sound environmental stewardship. The purpose of the proposed action is to update the water control plans and manuals for

the ACF Basin to conform operations to “requirements resulting from developments in the project area and downstream, improvements in technology, new legislation, and other relevant factors, provided such revisions comply with existing federal regulations and established [USACE] policy.” 33 CFR 222.5(f)(3). In the ACF Basin, such factors include changes in basin hydrology and water usage, new or rehabilitated structural features, and environmental issues.

One of the critical issues in the WCM update and associated EIS process, which was directly and indirectly the focus of many of the 2012 scoping comments, is the extent to which present and future water supply needs for metro Atlanta communities can be accommodated by direct withdrawals from Lake Lanier and from the Chattahoochee River downstream of Buford Dam. The June 2011 ruling by the Eleventh Circuit Court of Appeals reversed the 2009 district court decision and directed that the case be remanded to USACE to reconsider and make a final determination as to its legal authority to operate the Buford Dam/Lake Lanier to accommodate Georgia’s 2000 water supply request.

USACE responded to the court in July 2012 with a legal opinion and supporting technical analyses to define its legal authority to accommodate Georgia’s 2000 water supply request relative to operation of Buford Dam/Lake Lanier. USACE determined that the requested withdrawals could be accommodated within the technical limits of the project. However, the effects of meeting that request would have to be balanced in consideration of effects on other project purposes and subject to public disclosure of environmental impacts and public interest review in accordance with NEPA and other pertinent federal laws, regulations, policies, and executive orders. These issues and considerations will be addressed in the development and coordination of the proposed update of the ACF Master Manual and associated EIS.

On the basis of the stakeholder comments received during scoping, it is clear that the issues of greatest concern are the potential for significant impacts on socioeconomics, water resources, and biological resources. These three topics should be emphasized in the EIS and should be considered in development of the recommended alternative in the Master Manual.

5.2 EIS Schedule

Completing the EIS and updating the Master Manual will take approximately 3 years. The USACE will publish a Notice of Availability in the *Federal Register* when the Draft EIS is available for public review (expected to be summer 2014). Public meetings will also be held following publication of the Notice of Availability to solicit comments on the Draft EIS. Each comment and the corresponding response will be incorporated into the EIS. The USACE expects to publish the Final EIS and Record of Decision in late 2014.

The scoping report is posted at <http://www.sam.usace.army.mil/Missions/PlanningEnvironmental/ACFMasterWaterControlManualUpdate.aspx>, and it can be downloaded with or without the appendices.

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7.0 Acronyms and Abbreviations

ACCG	Association of County Governments of Georgia
ACF	Apalachicola-Chattahoochee-Flint [River Basin]
ACT	Alabama-Coosa-Tallapoosa [River Basin]
ADCNR	Alabama Department of Conservation and Natural Resources
AOWR	Alabama Office of Water Resources
ARC	Atlanta Regional Commission
CEQ	Council on Environmental Quality
CFR	<i>Code of Federal Regulations</i>
cfs	cubic feet per second
CRNRA	Chattahoochee River National Recreation Area
D.C. Court	Federal District Court for the District of Columbia
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FERC	Federal Energy Regulatory Commission
GAEPD	Georgia Environmental Protection Division
HEC	Hydrologic Engineering Center
IOP	Interim Operating Plan
Master Manual	<i>Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin</i>
mgd	million gallons per day
MNGWPD	Metropolitan North Georgia Water Planning District
MOA	Memorandum of Agreement
msl	mean sea level
MW	Megawatts
NEPA	<i>National Environmental Policy Act</i>
NGVD	National Geodetic Vertical Datum
NOI	Notice of Intent
NPS	National Park Service
P.L.	Public Law
RIOP	Revised Interim Operating Plan
SeFPC	Southeast Federal Power Customers, Inc.
SEPA	Southeastern Power Administration
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WCM	Water Control Manual
WRDA	<i>Water Resources Development Act</i>