

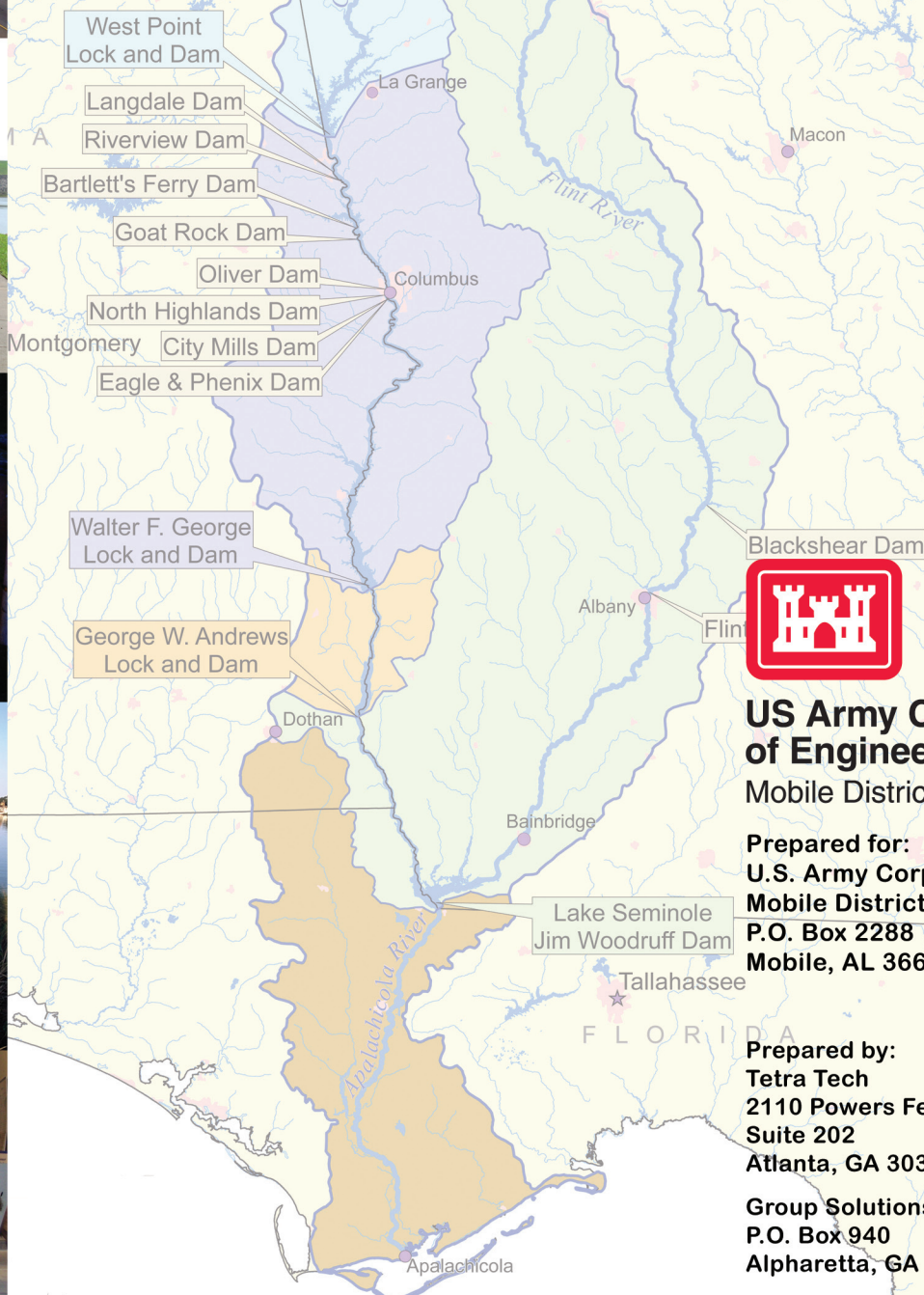


FINAL SCOPING REPORT

Environmental Impact Statement

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

January 2009



**US Army Corps
of Engineers®**
Mobile District

Prepared for:
U.S. Army Corps of Engineers
Mobile District
P.O. Box 2288
Mobile, AL 36628

Prepared by:
Tetra Tech
2110 Powers Ferry Road, SE
Suite 202
Atlanta, GA 30339
Group Solutions
P.O. Box 940
Alpharetta, GA 30009

Contents

Executive Summary	ES-1
1.0 Introduction.....	1
1.1 Background.....	1
1.2 Federal Authorizations.....	4
1.3 Corps Projects in the ACF River Basin	5
1.3.1 Lake Sidney Lanier and Buford Dam	5
1.3.2 West Point Lock and Dam	7
1.3.3 Walter F. George Lock and Dam.....	8
1.3.4 George W. Andrews Lock and Dam.....	9
1.3.5 Lake Seminole and Jim Woodruff Dam	9
1.4 Non-Corps-Owned Dams in the ACF River Basin.....	12
1.5 The ACF Master Manual	14
2.0 Scoping Process Summary.....	20
2.1 Initiating Scoping: Notice of Intent	21
2.2 Public Notices	22
2.3 Native American Indian Tribal Consultation.....	24
2.4 Federal Agency Web Conference	25
2.5 HEC-ResSim Technical Modeling Workshop.....	25
2.6 Public Scoping Meetings	26
2.7 Scoping Comments	28
3.0 Scoping Comment Analysis.....	29
3.1 Water Management Recommendations	30
3.1.1 Existing Water Management Practices	31
3.1.2 Water Management Suggestions.....	33
3.1.3 Demands and Needs.....	36
3.1.4 Conservation	37

3.1.5	Alternatives	37
3.1.6	Other	38
3.2	Socioeconomics and Recreation	39
3.2.1	Economics and Recreation.....	40
3.2.2	Safety Hazards	43
3.2.3	Environmental Justice	43
3.2.4	Other Socioeconomic Issues	44
3.3	Biological Resources	45
3.3.1	Threatened and Endangered Species	45
3.3.2	Fisheries	47
3.3.3	Flow Concerns for Apalachicola Bay	48
3.3.4	Other Biological Issues	49
3.4	Drought Operations.....	51
3.5	Water Quality.....	52
3.6	Water Supply	53
3.7	National Environmental Policy Act.....	55
3.7.1	Scoping and Public Involvement	55
3.7.2	Baseline Conditions	57
3.7.3	Proposed Action and Alternatives	58
3.7.4	Additional NEPA Topics	60
3.8	Data, Studies, and Analytical Tools.....	61
3.9	Navigation.....	63
3.10	Hydropower	64
3.11	Flood Risk Management.....	65
3.12	Other Resources	66
3.12.1	Air Quality	66
3.12.2	Cultural Resources	66
3.12.3	Geology and Soils.....	67

3.12.4 Hazardous, Toxic, and Radioactive Waste	67
3.13 Petitions.....	67
4.0 Federal, State, and Local Agency Responses	69
4.1 Federal Agencies.....	69
4.1.1 EPA Region 4	69
4.1.2 SEPA.....	71
4.1.3 USFWS	71
4.2 Political Entities	73
4.2.1 U.S. Congress: Georgia Delegation	73
4.2.2 U.S. Congress: Florida Delegation	74
4.2.3 Georgia House of Representatives.....	75
4.3 State Agencies.....	76
4.3.1 Alabama Office of Water Resources	76
4.3.2 Florida Department of Environmental Protection.....	77
4.3.3 Georgia Department of Natural Resources, Environmental Protection Division 78	
4.4 Local Agencies.....	80
4.4.1 Metropolitan North Georgia Water Planning District	80
4.4.2 Atlanta Regional Commission	80
4.4.3 Franklin County, Florida, Board of County Commissioners.....	82
4.4.4 Hall County, Georgia, Board of Commissioners	82
4.4.5 Troup County, Georgia, Board of Commissioners	83
4.4.6 City of LaGrange, Troup County, Georgia.....	83
4.4.7 Gwinnett County, Georgia, Board of Commissioners	85
4.5 Tribal Response	86
4.6 Federal Interagency Response	87
5.0 Summary of Public Scoping	88

5.1	Recommendations.....	90
5.2	EIS Schedule.....	91
6.0	Literature Cited.....	92
7.0	Acronyms and Abbreviations	93

Appendices

Appendix A:	Federal Register Notice
Appendix B:	Press Release
Appendix C:	Newsletter
Appendix D:	Tribal Consultation Notice
Appendix E:	Agency Scoping Meeting
Appendix F:	HEC-ResSim Technical Modeling Workshop Announcement and Agenda
Appendix G:	Public Scoping Meeting Displays
Appendix H:	Public Scoping Meeting Handouts
Appendix I:	Oral Comment Roster
Appendix J:	Original Scoping Comments
Appendix K:	Scoping Comments by Issue Area
Appendix L:	Petitions

Executive Summary

The U.S. Army Corps of Engineers (USACE or Corps), Mobile District, conducted public scoping in fall 2008 to initiate preparation of an Environmental Impact Statement (EIS) regarding implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin* (Master Manual) in Alabama, Florida, and Georgia. A Notice of Intent to prepare an EIS was released February 22, 2008, and a *Federal Register* notice to announce public scoping meetings was published September 19, 2008. 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. Native American Indian tribal leaders with interests in the ACF River Basin were also contacted as part of the scoping efforts. The formal scoping period ended November 21, 2008.

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 Corps will identify the range of actions, alternatives, and impacts to be considered in the EIS for the update of the Master Manual for the ACF River Basin.

This scoping report provides background regarding the Corps' role in managing the ACF River Basin and the need to update the ACF Master Manual (Section 1); describes the scoping activities conducted by the Corps (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 appendices to this report contain copies of all of the Corps' 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.

A total of 1,018 stakeholders participated in the 5 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>

A total of 2,269 comments were received from 643 individuals, organizations, and agencies during the formal scoping period, which ended November 21, 2008. The agencies included federal, state, and local governments. Federal agencies that submitted comments included the U.S. Environmental Protection Agency Region 4, the Southeastern Power Administration, and the U.S. Fish and Wildlife Service. 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 associated 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; and the City of LaGrange, Georgia, submitted comments as well.

Two petitions were received during the scoping process. One was from the West Point Lake Advisory Council Needs Your Show of Support and signed by 2,809 individuals. The second petition received were 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 signed by 58 individuals.

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	868
Socioeconomics and Recreation	404
Biological Resources	284
Drought Operations	191
Water Quality	155
Water Supply	117
National Environmental Policy Act	79
Data, Studies, and Analytical Tools	56
Other Resources	52
Navigation	28
Hydropower	26
Flood Risk Management	9
<i>Total</i>	<i>2,269</i>

As shown in Table ES-2 and Figure ES-1, most of the comments (868) were related to water management recommendations, which include the seven authorized project purposes and the Corps' 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 (404). 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 a myriad other concerns over the direct and indirect impacts of basin water management practices on socioeconomics. The primary message stakeholders have conveyed is that the Corps should fully assess in the EIS the socioeconomic impacts of water management practices at the individual projects and in the overall system.

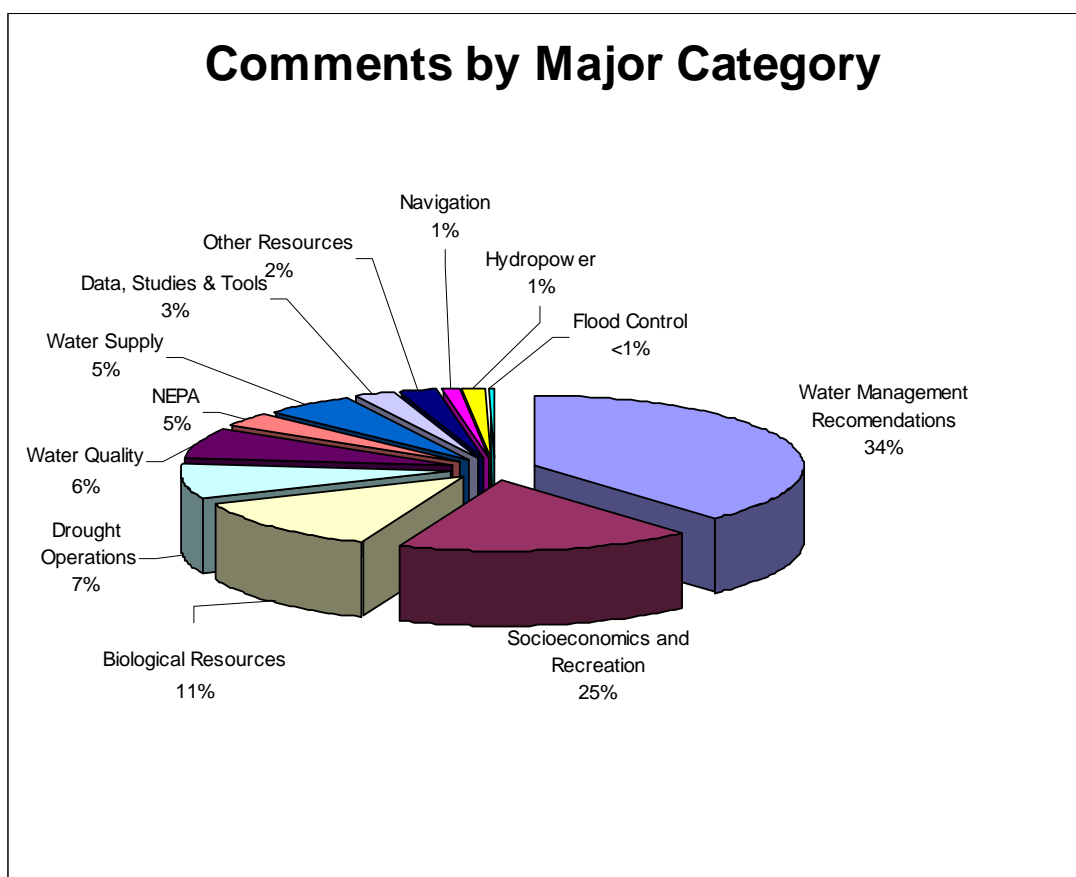


Figure ES-1. Distribution of comments by major category.

The next three categories were biological resources (284), drought operations (191), and water quality (155). 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, the Corps 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. 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.

Water supply (117 comments) and the *National Environmental Policy Act*, or NEPA, (79 comments) were the next two categories. 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. NEPA-related comments discussed public involvement, the schedule, the baseline, the proposed action and alternatives, mitigation measures, compliance with other regulations, and cooperating agencies. The remaining comment categories, with a total of 171 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 updating the Master Manual and the EIS by checking the USACE Mobile District website (www.sam.usace.army.mil). The scoping report will be posted at www.acf-wcm.com and it can be downloaded with or without the appendices.

1.0 Introduction

In fall 2008 the U.S. Army Corps of Engineers (USACE or Corps), Mobile District, conducted public scoping for preparation of an Environmental Impact Statement (EIS) regarding implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint (ACF) River Basin* (Master Manual) in Alabama, Florida, and 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 EIS. The EIS will provide supporting documentation for a decision on implementing a Master Manual update, as well as for updating reservoir-specific water control plans to be included as appendices to the Master Manual.

This scoping report provides background regarding the Corps' role in managing the ACF River Basin and the need to update the Master Manual (Section 1); describes the scoping activities conducted by the Corps (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 of the Corps' 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 ACF River 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. The basin 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 reservoirs on the mainstems of the Apalachicola, Chattahoochee, and Flint Rivers (5 federal and 11 non-federal projects), which have altered the natural streamflow 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 times (Comprehensive Water Resources Study Partners, 1995).

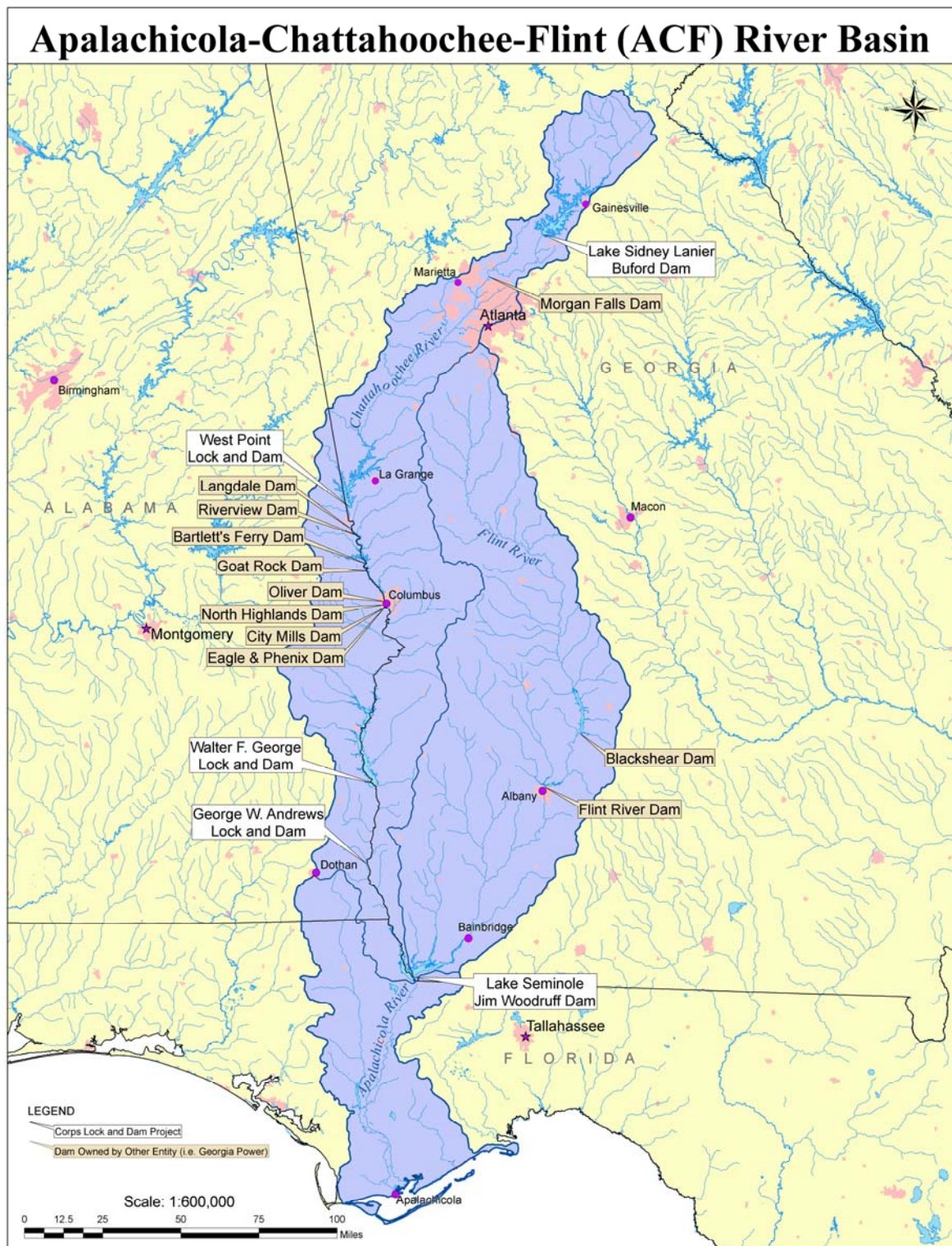


Figure 1. Apalachicola-Chattahoochee-Flint (ACF) River Basin.

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, 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), 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...." Further modifications authorized by Congress in 1953 (House Committee Public Works Resolution adopted May 19, 1953) substituted the now George W. Andrews and Walter F. George Locks and Dams for the Upper Columbia multipurpose project and Fort Benning Locks and Dam. The *Flood Control Act of 1962* authorized West Point Lake in accordance with House Document No. 570, 87th Congress.

Other ancillary project purposes were added to these congressionally authorized projects by laws that apply generally to all Corps reservoirs. These other laws are the *Flood Control Act of 1944* (P.L. 78-534), which provides the authority to add recreation as a purpose and to contract for use of surplus water for domestic purposes; 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),

known as the *Clean Water Act*, which establish the goal to restore and maintain the quality of the Nation's waters; and the *Endangered Species Act of 1973* (P.L. 93-205), which provides the authority for operating projects to protect threatened or endangered fish and wildlife.

1.3 Corps Projects in the ACF River Basin

The Corps operates five dams in the ACF River Basin (in downstream order): Buford, West Point, Walter F. George (George), George W. Andrews (Andrews), and Jim Woodruff (Woodruff). All but one is located wholly on the Chattahoochee River arm of the basin. The exception is the downstream-most dam, Woodruff, which is immediately below the confluence of the Chattahoochee and Flint Rivers and marks the upstream extent of the Apalachicola River. Andrews is a lock and dam without any appreciable water storage behind it, but 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 Jim Woodruff Dam/Lake Seminole is operated as a run-of-river project, only very limited storage is available to support project purposes. The Corps 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 Corps' Buford Dam on the Chattahoochee River is a multipurpose project for flood risk management, hydroelectric power generation, navigation, recreation, water quality, water supply, 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).

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 capacity of 2,554,000 acre-feet at elevation 1,085 feet. Of this, 1,049,400 acre-feet (at elevation 1,070) is usable for power generation, 637,000 acre-feet is reserved for flood risk management, and 867,600 acre-feet is inactive storage. The minimum power pool elevation is 1,035 feet, and the maximum power pool (maximum conservation pool) elevations are 1,071 feet in the summer and 1,070 feet in the winter. Lake Lanier has a surface area of 38,024 acres at elevation 1,070 feet. The power installations consist of one generating unit of 6 megawatts (MW) and two units of 50 MW each, or a total of 106 MW. The 6-MW unit runs continuously to assist in meeting the minimum flow requirements at Peachtree Creek.

Minimum flow requirements from Buford Dam have evolved over the period since project completion. The current plan, referred to as the “Short-Term Plan,” was developed in 1986. It established the “River Management System” agreement under which the Corps, when possible and practical, endeavors to make only those releases specifically required for water supply and to maintain the 750-cubic-foot-per-second (cfs) minimum in-stream flow at Peachtree Creek. Georgia Power Company agreed to continue to use Morgan Falls reservoir to reregulate the Buford releases.

1.3.2 West Point Lock and Dam

The Corps' 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, water supply, 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, as well as 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 is constructed directly west of and adjacent to the spillway.

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 power pool 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.

West Point Dam provides a continuous minimum release of 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 only during high inflows to the basin and during flood storage drawdown in the winter. Flood flows captured in the reservoir are generally 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 municipal and industrial needs in the Columbus, Georgia, area and 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 include hydroelectric power generation, navigation, recreation, water quality, water supply, 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. The lock, which has usable chamber dimensions of 82 feet by 450 feet, 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 934,600 acre-feet, of which 244,400 is reserved for power production. Walter F. George Lake is the largest reservoir in the ACF River Basin; it has a surface area of 45,180 acres at elevation 190 feet. The power installation at the lake is being rehabilitated. When the rehabilitation is complete, the installation will consist 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-foot-deep, 200-foot-wide 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 single-purpose navigation project on the Chattahoochee River, 154 miles upstream of Apalachicola Bay. The authorized project purposes include 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 is 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 include hydroelectric power generation, navigation, recreation, water quality, water supply, 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 and 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.

Table 1. Projects in the ACF River Basin

Basin/River/Project Name	Owner/State/ Yr. Initially Completed	Drainage Area (Sq. Mi.)	Reservoir Size (Ac.)	Total Storage (Ac-Ft.)	Conservation Storage (Ac-Ft.)	Power Capacity (kW)	Normal (Summer) Lake Elev (Ft.)	Authorized Purposes for Corps-Owned Projects
Chattahoochee River		8,770						
Buford Dam/Lake Lanier	COE/GA/1957	1,040	38,542	1,957,000	1,087,600	86,000	1,071	FRM, HP, NAV, REC, WQ, WS, FW
Morgan Falls Dam	GPC/GA/1903	1,340	580	2,450	NA	16,800	866	
West Point Dam and Lake	COE/GA/1975	3,440	25,900	604,520	306,100	82,200	635	FRM, HP, NAV, REC, WQ, WS, FW
Langdale Dam	GPC/GA/1860	3,600	152	NA	NA	401	548	
Riverview Dam	GPC/GA/1902	3,600	75	NA	NA	480	531	
Barletts Ferry Dam	GPC/GA/1926	4,260	5,850	181,000	NA	129,300	521	
Goat Rock Dam	GPC/GA/1912	4,500	965	11,000	NA	68,100	404	
Oliver Dam	GPC/GA/1959	4,630	2,280	32,000	NA	60,000	337	
North Highlands Dam	GPC/GA/1900	4,630	131	1,500	NA	29,600	269	
City Mills Dam*	City Mills/GA/1863	4,630	110	684	NA	740	226	
Eagle and Phenix Dam*	Consolidated Hydro/GA1834	4,640	NA	260	NA	4,260	215	
W. F. George Lock and Dam	COE/GA/1963	7,460	45,180	934,400	244,400	130,000	190	HP, NAV, REC, WQ, WS, FW
and Lake (Lake Eufaula) George W. Andrews Lock and Dam and Lake	COE/GA/1963	8,210	1,540	18,180	NA	None	102	
Flint River		8,460						
Blackshear Dam and Lake*	Crisp Co./GA1930	3,800	8,700	144,000		13,000	237	
Flint River Dam/Lake Worth	GPC/GA/1920	5,310	1,400	NA		5,400	182	
Apalachicola River		19,600						
Jim Woodruff Lock and Dam/ Lake Seminole	COE/FL/1954	17,230	37,500	367,320	NA	30,000	77	HP, NAV, REC, WQ, WS, FW

Legend: FRM=Flood Risk Management; HP=Hydroelectric Power Generation; NAV=Navigation; REC=Recreation; WQ=Water Quality; WS=Water Supply; FW=Fish and Wildlife Conservation; NA=Not Available; *Currently Inoperative

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

There are 11 additional dams within the ACF River Basin that are not owned and operated by the Corps. Brief descriptions of the dams are provided below. Table 1 provides an overview of all the dams (Corps and non-Corps) within 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 580 acres at elevation 866 feet. The total reservoir storage volume is about 2,450 acre-feet, of which about 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 the Corps' 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 reservoirs that are unnamed. 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 the Corps' West Point Dam upstream.

- 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 965 acres at elevation 404 feet. The powerhouse consists of six units with a total generating capacity of 40 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 2,280 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.

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 The ACF Master Manual

In January 2008 Secretary of the Army Pete Geren directed the Corps to update the *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin*. The current Master Manual was completed in 1958, and consequently it does not include water control manuals for West Point Dam, Walter F. George Lock and Dam, and George W. Andrews Lock and Dam.

In 1989 proposals by the Corps to reallocate storage to municipal and industrial water supply at three reservoirs in the Alabama, Coosa, Tallapoosa (ACT) and Apalachicola, Chattahoochee, Flint (ACF) River Basins—Lake Lanier, Lake Allatoona, and Carters Lake—and by the State of Georgia to develop a regional reservoir near the Alabama state line (West Georgia Regional Reservoir) caused controversy between water user groups, the states of Alabama and Florida, and various federal agencies. A draft Reallocation and Post-Authorization Report and draft Environmental Assessment (EA) had been prepared for the Lake Lanier proposal. A draft *Apalachicola-Chattahoochee-Flint Basin Water Control Plan*, dated October 1989, was included as an appendix to the post-authorization change report. The State of Alabama filed a lawsuit against the Corps in June 1990 to halt these proposed actions. As a result of the litigation, the proposed revisions to the water control manual were deferred while the parties negotiated. The Corps has been operating under the Draft 1989 Master Water Control Manual 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 Corps, 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 Corps 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 historic 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 negotiation of water allocation formulas and management of 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 water 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 Corps related to implementation of any new water supply contracts or changes in reservoir storage or water control operations. The states asserted in this litigation that water control operations in the ACF River Basin are not being conducted in accordance with approved water control plans, Corps regulations, and federal law. The ACF Claims have been consolidated as Multiple District Litigation to be heard by one judge with proceedings to be held in the District Court for the Middle District of Florida.

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 January 30, 2008, Secretary Geren directed the Corps to proceed with updating the water control plans for the ACF River Basin. The Mobile District published the Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the ACF water control manual update in the *Federal Register* on February 22, 2008.

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 Corps of Engineers, 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 Corps and the SeFPC and Lake Lanier Water Supply Providers was reached in January 2003, and it was approved by the D.C. Court on February 8, 2004. The Settlement Agreement includes a proposal for the Corps 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 the State of 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 Corps 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. The States of 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 a water allocation of more than 20 percent without congressional consent, in violation of the *Water Supply Act of 1958*. The State of Georgia filed a petition for a writ of certiorari with the Supreme Court on the decision by the D.C. Circuit. The petition was denied by the Supreme Court on January 12, 2009.

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” between 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 negotiations did not reach an agreement and ended on the agreed-upon deadline date.

The appendices to the Draft 1989 Master Water Control Manual include federal-reservoir-specific water control plans that outline the regulation schedules for each of the five projects, including operating criteria, guidelines, rule curves, and specifications for storage and releases from the reservoirs.

The reservoirs in the ACF system are operated to provide for the authorized purposes of flood risk management (previously referred to as flood control), fish and wildlife conservation, navigation, hydroelectric power generation, water supply, water quality, and recreation. To provide the authorized project purposes of navigation, certain fish and

wildlife needs, hydroelectric power, certain water supply needs, recreation, and water quality, flow must be stored during wetter times of each year and released from storage during drier periods. Traditionally, this means that water is stored in the lakes during the spring and released for authorized project purposes in the summer and fall. In contrast, some authorized project purposes 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 conflicting water demands require that the Corps 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 Corps has defined four Action Zones in each of the major ACF storage projects—Buford, West Point, and Walter F. George. Action Zone 1, the highest in each lake, defines a reservoir condition where 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 Corps 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 Corps to help balance the remaining storage in each of the three major storage reservoirs.

Corps regulations require developing a water control plan for each reservoir project, as well as basin water control manuals for the coordinated operation of multiple projects within a river basin. They also require that these 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 Corps policy. The water control plans for the Corps 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 1959. Although separate water control plans for each federal reservoir project in the ACF River Basin have been prepared, many of them need to be updated. As stated previously, the Master Manual for the ACF River

Basin was updated in 1989, but never finalized. Although the 1989 draft plan was never finalized, the Corps has continued to operate the ACF in accordance with it, making small changes or adjustments as circumstances required. Coordination and consultation under the *Endangered Species Act* has been accomplished for project operations as the need arose, although formal consultation for the basin-wide manual operations has not been completed.

The Corps 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 current operations as they have evolved due to changing conditions in the basins and would fully comply with agency regulations and federal laws. The states and other stakeholders would 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 three years. It would include public involvement and analysis under the *National Environmental Policy Act* (NEPA) and consultation under the *Endangered Species Act*. Updating the water control plans and manuals would provide a baseline from which future studies or reallocations would be based, and it would provide a way to capture the Corps' current operating environment.

2.0 Scoping Process Summary

The *National Environmental Policy Act* is a “full disclosure” law, providing for public involvement in the NEPA 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 Environmental Impact Statement (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 Water Control Manual for the ACF River Basin, the Corps initiated the scoping process. The Corps’ objectives for scoping were to identify public and agency concerns; clearly define the environmental issues and alternatives to be examined in the EIS, including the elimination of nonsignificant 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.

The Corps’ overall scoping process consisted of the following elements.

- Publishing a Notice of Intent (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 Web site 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 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 Web site at www.acf-wcm.com.
- 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 Initiating Scoping: Notice of Intent

On February 22, 2008, the Corps 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 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, as well as

information explaining the various methods to be used to collect comments from the public for consideration in preparing the Draft EIS. The notice 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

A press release summarizing the proposed action and the dates, times, and locations of the public scoping meetings (Appendix B) was posted on the USACE Web site at www.sam.usace.army.mil. It was also delivered to newspapers and radio and television stations throughout the basin (Tables 2 and 3). In addition to providing information on the USACE Web site, the Corps also launched a project-specific Web site, www.acf-wcm.com, 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.

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, appropriate federally recognized Native American Indian tribes, local agencies and officials, public interest groups, private organizations, individuals, and other interested parties. The newsletter was distributed through the U.S. Postal Service and electronically, if an email had been provided.

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

The project mailing list was developed from an existing Corps-maintained database of stakeholders with an interest in activities within the ACF River Basin. 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 4,500 stakeholders on the mailing list. As other interested parties are 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.

2.3 Native American Indian Tribal Consultation

Government-to-government tribal consultation notices (Appendix D) were sent electronically 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 tribes of the 26 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. Given the limited response, the Corps chose to coordinate with the tribes through email for the time being and referred the tribes to the various resources available online to find out more about the proposed Corps action.

2.4 Federal Agency Web Conference

On September 26, 2008, the Corps 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 Corps 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 Workshop

The Hydrologic Engineering Center (HEC) has developed a new and improved version of reservoir simulation software called HEC-ResSim. In recognition of 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 proved 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 &

Dam from 30 September – 2 October 2008, and focused entirely on technical topics. A total of twenty-eight modelers attended the workshop representing three federal agencies, three state agencies, one university, and five private consultants representing the stakeholders.

The session proved very successful regarding its objectives:

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

A copy of the workshop announcement and agenda is provided in Appendix F. Mobile District and HEC continue to refine the HEC-ResSim models of the ACF system, with an informed stakeholder group.

2.6 Public Scoping Meetings

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

- 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 Corps and environmental contractors staffed each station, where information about the following was provided:

- The Water Control Manual for the ACF River Basin
- 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. A breakdown of participation by meeting location is shown in Table 4.

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 brief presentation was offered to introduce participants to the format of the public scoping meeting and to clarify the purpose of the meeting. Corps 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 Web site. A staff member was on hand to help participants to use the computers. Comment forms were also available at the written comments station. Also, 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 Corps received during scoping.

2.7 Scoping Comments

A total of 2,269 comments were submitted by 643 individuals, organizations, and agencies during the formal scoping period, which ended November 21, 2008. Comments were submitted to the Corps through all available options—U.S. Postal Service, email, Web site, fax, verbal transcription, or in person at one of the scoping meetings. Copies of all the public and agency comments received during the scoping process are presented in Appendix J.

Scoping continues throughout the preparation of an EIS. The Corps will accept and consider all comments regardless of when they are submitted. However, comments submitted after November 21, 2008, are not represented in this scoping report.

3.0 Scoping Comment Analysis

The scoping process for the EIS for implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin*) resulted in the submission of comments from 643 individuals, organizations, and agencies and two petitions. As described in Section 2 of this report, the Corps received oral and written comments by U.S. Postal Service, email, on Web site forms, and at public scoping meetings. In the next stages of the EIS process, these comments will be used to determine the scope and content of the Draft EIS. Note that the Corps does not endorse or validate the content of the comments received.

The 2,269 comments received were categorized into 12 comment areas categories: Water Management Recommendations; Socioeconomics and Recreation; Biological Resources; Drought Operations; Water Quality; Water Supply; National Environmental Policy Act; 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 by category. Appendix K contains all of the comments received sorted by issue area.

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. They are counted as one submission. Statistically, the petitions were accounted for separately as presented in Section 3.13.

Table 5. Comments Categorized by Segment

Category	Number of Comments
Water Management Recommendations	868
Socioeconomics and Recreation	404
Biological Resources	284
Drought Operations	191
Water Quality	155
Water Supply	117
National Environmental Policy Act	79
Data, Studies, and Analytical Tools	56
Other Resources	52
Navigation	28
Hydropower	26
Flood Risk Management	9
<i>Total</i>	<i>2,269</i>

3.1 Water Management Recommendations

The Corps operates federal reservoirs in the ACF River Basin to satisfy the following congressionally authorized project purposes; fish and wildlife conservation, flood risk management, hydroelectric power generation, navigation, recreation, water supply, and water quality. Eight hundred sixty-eight comments were related to the management of project purposes and Corps operations of the ACF River Basin. 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 presents the distribution of comments regarding water management recommendations.

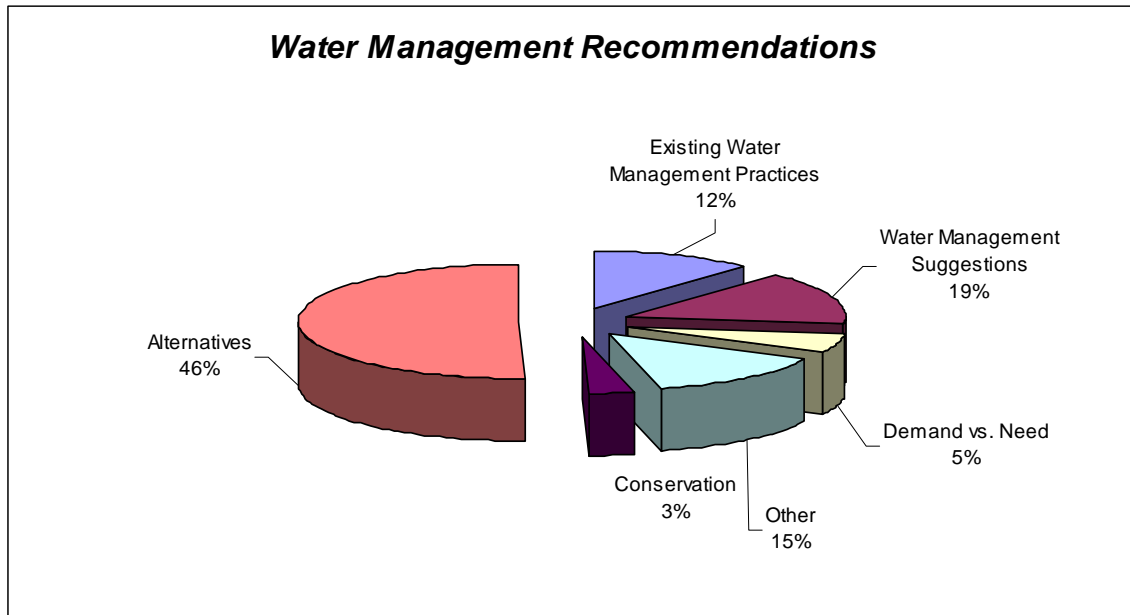


Figure 2. Distribution of comments among Water Management Recommendations subcategories.

3.1.1 Existing Water Management Practices

The Corps 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 Corps’ 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 COE 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 Corps is operating West Point Lake in accordance with the congressional authorization. The West Point Lake Coalition, for example, stated that “the Corps 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 Corps has established the flood risk management authorization as THE primary purpose....” Some suggested that the Corps 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 regions will cause the Corps 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.

3.1.2 Water Management Suggestions

A total of 132 comments provided suggestions regarding potential modifications to current water management practices and water control manuals. The comments from federal, state, regional, and local agencies are discussed in more detail in Section 4. The U.S. Environmental Protection Agency (EPA) identified a number of issues for inclusion in the updated water control manuals, 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 U.S. Fish and Wildlife Service (USFWS) provided a number of suggestions for consideration in updating the water control manuals. The USFWS requested that the Corps develop a summary of the current operating rules for each project, an explanation of their basis in congressional authorization, and a description of the Corps' 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 Corps consider the impacts of increasing consumptive demands in the ACF River Basin.

The Alabama Office of Water Resources (AOWR) stated that “[u]nless the Corps 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 water control manuals focus on authorized purposes by assessing whether any changes in baseline conditions are necessary to comply with existing laws and regulations. The Florida Department of Environmental Protection (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 Corps operations throughout the ACF River Basin. The Georgia Environmental Protection Division (GAEPD) stated that “[i]t 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 suggested that the Corps 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 Revised Interim Operating Plan (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 streamflow 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 Corps’ updated Master Manual can be a critical tool in achieving joint agreement in interstate water management. Some commenters suggested that the updated manuals 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 Corps 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 Corps terms, ‘the workhorse’ of the basin. Nowhere in the Congressional authorization does Congress empower the Corps 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 Corps 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.

3.1.3 Demands and Needs

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 commenter suggested, “Consideration should be given 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.”

3.1.4 Conservation

The Corps received 27 comments related to water conservation. One commenter observed that conservation measures in the Atlanta area were effective. Another suggested that the region through 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.

3.1.5 Alternatives

There were 440 comments that suggested alternatives to be considered as part of the update of the Master Manual. A large portion 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 historic 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 Corps and could not be implemented without additional congressional authority. Suggestions that are outside the existing Corps 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 General Investigation program and require cost-sharing from a local sponsor.

3.1.6 Other

There were 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 Corps to conduct a thorough update, stating that “[o]nly the most thorough study and vetting resulting in a cultural change in the Corps 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.

3.2 *Socioeconomics and Recreation*

A total of 404 comments were categorized under Socioeconomics—the study of the relationship between economic activity and social life—and Recreation. Following review, the comments were further 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.

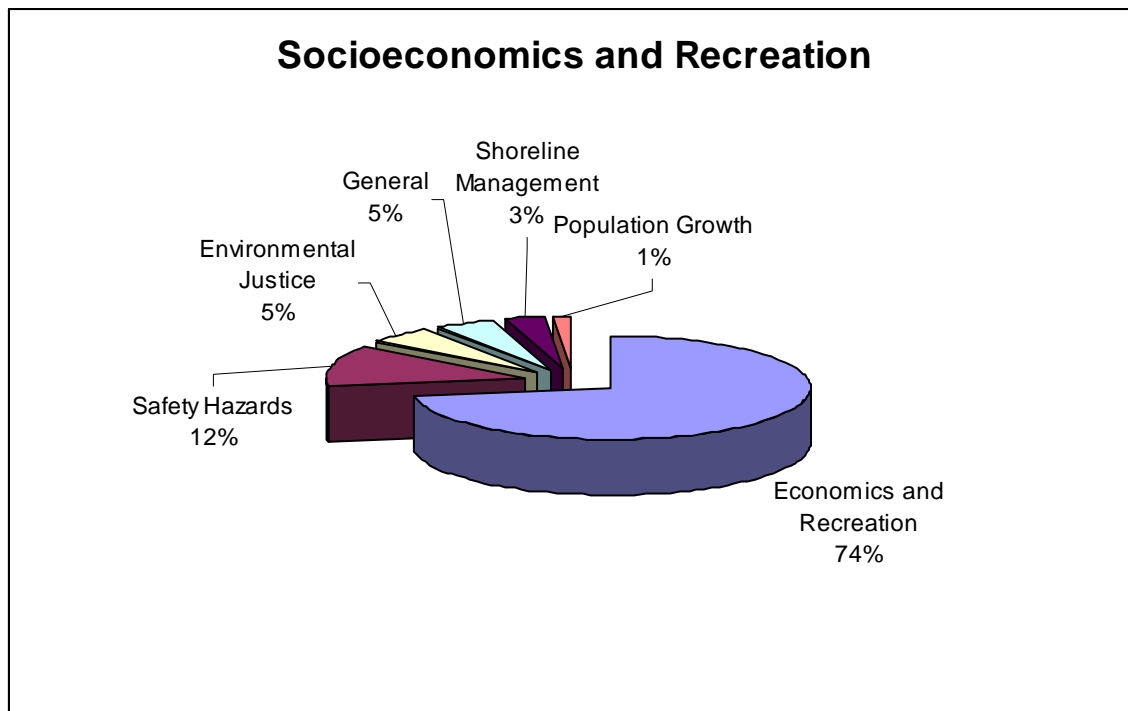


Figure 3. Distribution of comments among Socioeconomics and Recreation subcategories.

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 404 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

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 Corps has failed to take socioeconomic impacts into account in its water management practices. Several comments expressed a belief that the Corps is knowingly managing its dams to meet the downstream water flow needs of natural resources without regard for 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.

More than 30 comments were submitted by stakeholders in the middle and lower regions of the ACF River Basin and regarded 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 Corps 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 water 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.

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 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 Corps-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.

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 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.

The following comments were also offered for the Corps' consideration:

- Install mooring balls in West Point Lake for overnight fishing or camping as another source of revenue for the Corps. Lease the areas where mooring balls are located to local marinas to develop this resource.
- Charge market-based fees for the use of Corps-owned recreational facilities and retain the revenues to fund project operation and maintenance.

3.2.2 Safety Hazards

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 recommend that the Corps keep the reservoirs at full pool to avoid recreational safety hazards. One commenter suggest that the Corps “[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.”

3.2.3 Environmental Justice

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 non profit organization 100 Black Men of West Georgia states “[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 states that the Corps 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

They ask the Corps “[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 requests that the Corps ensure recreational access for low-income families. One commenter contends 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 goes on to say that the population affected are 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. Several comments were also made regarding the loss of income for many low-income families that rely directly on the lakes and rivers for their income. Concerns were raised 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.

3.2.4 Other Socioeconomic Issues

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

Shoreline Management. Thirteen comments were submitted by individual stakeholders requesting that the Corps consider revisions to dock permitting policies, better manage shoreline debris, perform annual shoreline allocations 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.

3.3 Biological Resources

The 305 comments in the Biological Resources category were divided into four subcategories: Fisheries, Threatened and Endangered Species, Flow Concerns for Apalachicola Bay, and Other Biological Issues. Figure 4 illustrates the distribution of comments categorized as Biological Resources.

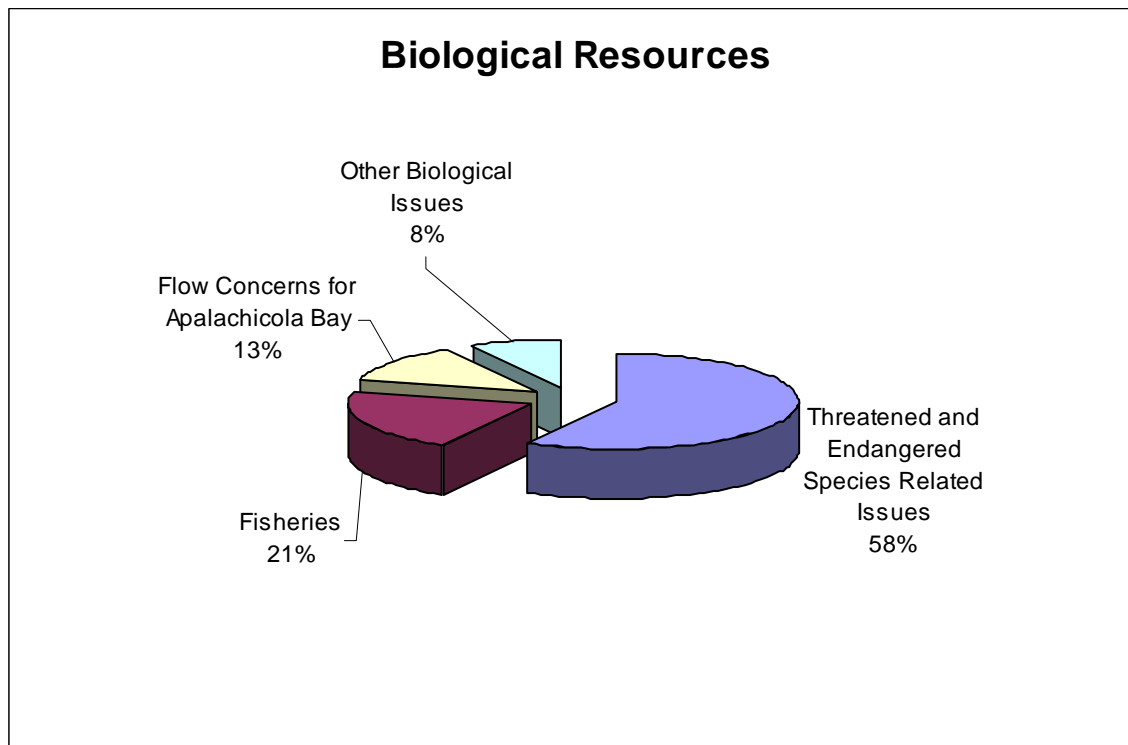


Figure 4. Distribution of comments among Biological Resources subcategories.

3.3.1 Threatened and Endangered Species

The Corps 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. Navigation should be abandoned as a project purpose because of its detrimental effect on endangered species. Commenters stated that the 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 Corps 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 unimpounded 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 *Endangered Species Act*-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.

3.3.2 Fisheries

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 Corps 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 water 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 Corps establish a goal to develop a fish passage plan for all Corps locks and dams in the ACF River Basin. A 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 Corps at Woodruff Lock and Dam would be a good starting point. Potential impacts on migratory fishes related to Corps operations should also be considered.

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

- Conduct an assessment alongside the EIS to study the effects of low water flows on fisheries in the ACF River Basin.
- The USFWS suggested that the Corps 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.
- ADCNR suggested that the Corps conduct monitoring studies to determine the present state of aquatic life and to develop new water control manuals that reflect the wildlife conservation actions identified in Alabama's Comprehensive Wildlife Conservation Strategy (CWCS).
- 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.

3.3.3 Flow Concerns for Apalachicola Bay

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 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 are available through the Florida Fish and Wildlife Service showing reduced landings of crab, shrimp, oysters, pinfish, and the like, and the data should be taken into consideration when considering alternatives for the EIS.

Comments related to the impact of flows on biological resources in the Apalachicola Bay in the ACF River Basin include the following:

- The EIS should include a discussion on major biological characteristics, including impacts from flows on aquatic species. The evaluation of the various alternatives should describe their impact on the sustainability of the aquatic environment and related human benefits.
- The Corps should review existing data and conduct monitoring studies to determine the present state of aquatic wildlife in the river reaches below Corps projects. Using an adaptive process, the Corps should evaluate various modeled flows for its projects to mimic a natural flow regime throughout the ACF River Basin.
- Develop a scientific consensus of environmental flow needs of the ACF River Basin.

3.3.4 Other Biological Issues

Twenty-three comments were categorized as Other Biological Issues. The potential impact of increased municipal and agricultural withdrawals for future management of the reservoirs should also be included in the EIS. The Corps must avoid operations that will violate or lead to violations of water quality standards. The Corps 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 Corps should coordinate with the USFWS, EPA, and appropriate state agencies in Alabama, Florida, and Georgia to ensure that the water control manuals are compliant with the *Endangered Species Act* 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 on 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 *Endangered Species Act*.
- 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 Corps should investigate the feasibility of occasional drawdowns for controlling aquatic plants.
- The Corps should evaluate the effects of past and proposed project operations on flood durations and floodplain habitats.
- ADCNR recommended the development of a new water control manual for the ACF that reflects the wildlife conservation actions identified in Alabama's CWCS where appropriate.
- ADCNR recommended that the Corps establish a goal to develop a fish passage plan for all Corps 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, the evaluate viable fish passage methods. A lock passage program similar to the one employed by the Corps 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.

3.4 Drought Operations

Management of water resources during the current drought conditions—specifically, the operation of water releases to balance project purposes at the potential expense of other projects—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 Corps received 191 comments related specifically to drought operations. 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 changes in climate was specifically referenced in eight of the comments received. Commenters asked that the Corps 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 Corps' Master Manual planning process. The USFWS recommended that the Corps consider how climate change may 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 (TOC) pool to the long-term hydrology of the basin and the essential purposes the projects serve. The Corps already practices this concept with occasional variances from the rule curves to store water above the TOC elevation during dry periods. We recommend that the Corps explicitly address climate-based operational flexibility in the WCM update and in the analyses of the EIS.

3.5 Water Quality

The Corps received 155 comments 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. 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 sewerage treatment from the City of Atlanta to prevent polluting 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 streamflow would result in MeadWestvaco's shutting down operations to avoid violations of its National Pollutant Discharge Elimination System (NPDES) permit. Commenters also expressed concern regarding poor water quality from raw sewage being released from houseboats directly into the river. Above all, citizens expressed the need for the Corps 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.
- ADCNR recommended that the Corps maintain water quantity stations above and below all dams, and support flow stations below each lock and dam.
- The Corps should 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 Corps has already granted this flow reduction based on water quality data and assurances from GAEPD.

3.6 Water Supply

Water supply from Corps reservoirs is in litigation, but withdrawals for water supply are occurring at Lake Lanier, as well as at other Corps lakes and unimpounded river portions between the lakes. A number of suppliers of municipal and industrial water supply rely on operations throughout the ACF River Basin to meet their water supply needs. The Corps received 117 comments regarding water supply within the ACF River Basin.

Nineteen 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 considered 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 for future economic development efforts if water supplies are uncertain. Sixteen comments related to concerns over the future availability of water supply in the Atlanta region were received. 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 for the Corps to consider the water conservation measures that can be taken or have already been taken, as well as to include considerations from the Metropolitan North Georgia Water Planning District'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.

3.7 National Environmental Policy Act

The Corps received 79 comments related to the NEPA process. 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. The percentage of comments assigned to each subcategory is shown in Figure 5.

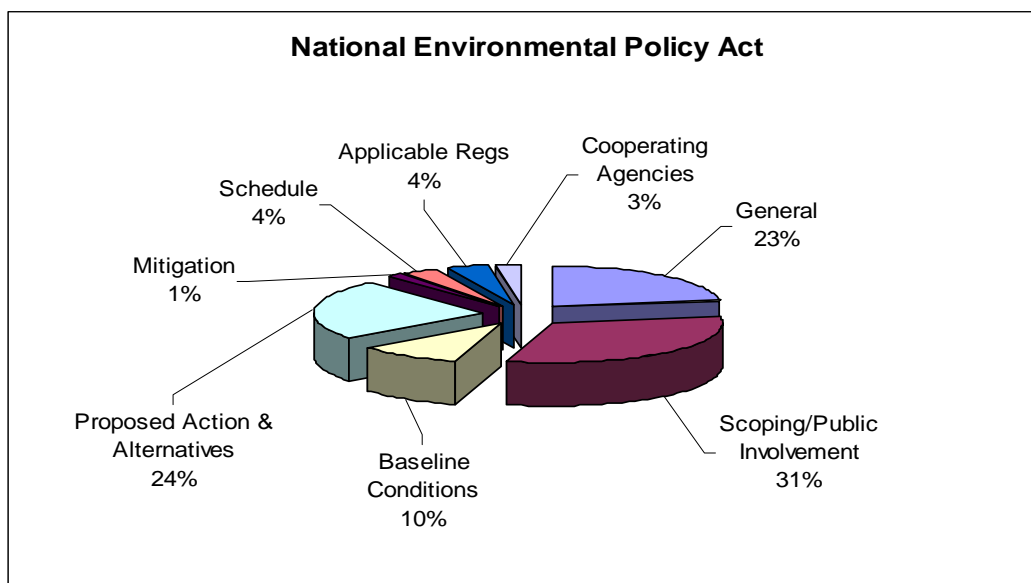


Figure 5. Distribution of comments among NEPA subcategories.

3.7.1 Scoping and Public Involvement

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 Corps. 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 Corps 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 Corps 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 Corps has been inadequate and does not meet the guidelines for scoping under NEPA, the public participation requirements of the *Water Resources Development Act* (WRDA), or the Corps' own implementing regulations for either act. (Refer to agency comment summaries in Section 4.0.)

Stakeholders offered the following recommendations that the Corps should consider to provide more meaningful communication and cooperation between the Corps 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 Corps has to change the rules. Post the summary on the District's Web site 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 Corps to update the water control manuals 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 Corps employees who are clearly available to stakeholders.

3.7.2 Baseline Conditions

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

The FDEP believes that the 1958 water control manual should be used as the baseline (as opposed to the 1989 draft manual or current existing operations) and that the NEPA process must evaluate all changes in the Corps’ reservoir operations and their impacts since that time. This opinion was echoed in the comments provided by Representative Allen Boyd, as well as the Apalachicola River Keepers.

The Alabama Office of Water Resources (AOWR) asserted that the Corps must use the currently approved water control manuals for each reservoir to establish a baseline. The commenter 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 Corps’ implementing regulations should not be used as a starting point of the Corps’ review or effort to update the manuals.” Similar comments were made by Georgia Power and on behalf of the Southeast Federal Power customers.

Comments submitted on behalf of West Point Lake stakeholders contend “that the Corps 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 recommend that the Corps begin the Master Manual process with a “clean slate.”

3.7.3 Proposed Action and Alternatives

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, Atlanta Regional Commission, Association of County Commissioners of Georgia, Metropolitan North Georgia Water Planning District, Hall County Government Board of Commissioners, and one individual) expressed concern that the revised water control manuals and EIS would merely document existing operations and not consider potentially viable alternatives. One commenter pointed out that the Corps must show that the EIS informed decision-making, rather than simply using the EIS to justify a decision already made. GAEPD expressed opposition to making any version of the IOP and RIOP part of the proposed action; rather, 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 Corps to include in its environmental documentation “a clear explanation of the federal ‘action’ which the Corps 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.” The FDEP reminded the Corps to “clearly describe all decisions, particularly in the water control plans and their reservoir regulation schedules, so that all parties can easily understand the Corps' proposed action and that action can be reasonably evaluated under NEPA.”

The issue of what alternatives the Corps 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 Corps consider alternative operating plans to balance water supply needs and economic impact with downstream needs. The Cobb Chamber of Commerce urged the Corps to consider making changes to improve the balance among project purposes, even if doing so requires congressional approval. Another commenter urged that the Corps 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 Corps prioritize reservoir purposes during extreme drought events, the protection of wildlife being the top priority.

FDEP recommended that the Corps 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 Corps 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 Corps 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 Corps 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 Corps 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 Corps 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 Corps 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 Corps will restore primary operating parameters.

3.7.4 Additional NEPA Topics

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

Schedule. The Corps 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 Corps meet all applicable laws in its water management operations. Specific laws mentioned include the *Coastal Zone Management Act*, *Clean Water Act*, and *Endangered Species Act*.

Cooperating Agencies. A comment from the Apalachicola River Keepers suggested that the Corps consider engaging EPA as lead agency—with the U.S. Geological Survey (USGS), the National Oceanic and Atmospheric Administration (NOAA), the National Marine Fisheries Service (NMFS), USFWS, the Corps, and others in cooperating roles—all overseen by the National Research Council. A comment from Representative Boyd encouraged the Corps to continue working with the National Research Council as this 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 Corps for the opportunity to participate in process or offered their assistance as the project moves forward. Some comments were pleas to the Corps 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.

3.8 Data, Studies, and Analytical Tools

Fifty-six comments were assigned to the category Data, Studies, and Analytical Tools. The highest number of comment submissions called for impact analysis and studies to be

conducted for the ACF River Basin. The Corps' 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 Basin, the Corps needs to 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. 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 Corps 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 Corps 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 Corps use the new 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 Corps to examine the location of water withdrawals and discharges to ensure their location along the Chattahoochee River; "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 analysis recommended to the Corps by commenters include the

following:

- Interagency technical workgroups could would assist the Corps 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 Corps should evaluate the effects on Apalachicola Bay and Estuary salinity and nutrient composition (to evaluate salt marshes, submerged grass beds, oyster, 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.

3.9 Navigation

The response to Corps operations for hydropower was echoed in the 28 comments on navigation—equal numbers of those in favor and those opposed. 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 the 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 Corps is responsible for operating and maintaining the authorized navigation channel. Commenters urged the Corps 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 Corps 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 support 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 Corps abandon navigation as a function of the ACF system.

3.10 Hydropower

The Corps 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, 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 made 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 purpose.

The commenters that favored hydropower operations at the ACF projects tended to be marketers or users of power, such as the Southeastern Power Administration (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 Southeast Federal Power Customers 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.

3.11 Flood Risk Management

In cases of extreme wet-weather conditions, the Corps manages operations at federal reservoirs to reduce damage caused by flooding. Given the current drought conditions, only a limited number (nine) of the comments received were related to flood risk management. 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 point out that flood risk management was an original purpose for constructing the reservoir and that downstream residents still rely on that protection.

3.12 Other Resources

Fifty-two additional comments were received that related to other resource areas; air quality, cultural resources, geology and soils, and hazardous, toxic, and radioactive waste.

3.12.1 Air Quality

Three comments were related to air quality. They noted that the Corps should address and fully document the effects of proposed actions on air quality. Trees are dying due to drought conditions. This can significantly impact the natural cycle, which can chemically break down air pollution. More water would ensure the ecological balance that is needed for better air quality.

3.12.2 Cultural Resources

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 the Apalachicola Bay for its livelihood and culture. Commenters ask that the Corps 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 economic for oyster harvesting to continue, and should provide a better guide for

protecting cultural resources in the Master Manual.

3.12.3 Geology and Soils

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

3.12.4 Hazardous, Toxic, and Radioactive Waste

The Corps received 13 comments regarding the recently permitted Turkey Run Landfill that 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 source, polluting their drinking water. Commenters also point out that recreation on West Point Lake could be adversely impacted, if the landfill were to affect the water quality and cleanliness of the lake.

3.13 Petitions

Two petitions were received:

1. West Point Lake Advisory Council Needs Your Show of Support (SOS)
2. 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

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 Corps' 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 Corps' reservoirs. Copies of the petitions are provided in Appendix L.

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. Comments from the federal agencies (the U.S. Environmental Protection Agency [EPA], the Southeastern Power Administration [SEPA], and the Department of the Interior's U.S. Fish and Wildlife Service [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 Appendix J.

4.1 Federal Agencies

4.1.1 EPA Region 4

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 of these various requirements.

In comments regarding the *manual update*, EPA suggested that 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.

With respect to *NEPA*, EPA noted that adverse impacts from any proposed action should be avoided, minimized, and/or mitigated. Specifically,

- 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 effects of the proposed action on water quality, including effects on Total Maximum Daily Load (TMDL) implementation and impaired waters. Include information on the impairment status and TMDLs of all ACF system waterbodies.
 - Consider the consequences of any major changes to conservation storage at Lake 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* comments from EPA 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 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 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.

4.1.2 SEPA

SEPA provided comments received on 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.

4.1.3 USFWS

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 Corps has to change the rules. USFWS recommended posting the summary on the District's Web site.

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 Corps for the 1998 draft EIS for ACF water allocation to develop a reservoir fisheries performance measure. USFWS recommends that the Corps 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 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 bars 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 the late winter and early spring to 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 strongly supports the idea of organizing interagency technical workgroups that would assist the Corps in compiling the information necessary to craft a balanced set of alternatives and to analyze their effects. It is willing to participate in such workgroups.

4.2 Political Entities

4.2.1 U.S. Congress: Georgia Delegation

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

- Water quality and supply should be an expressed priority of the Corps 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 Corps should conduct a thorough analysis of operations of the ACT and ACF basins, looking for alternative methods to improve water management of these precious water resources.

4.2.2 U.S. Congress: Florida Delegation

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 Corps' EIS.

4.2.3 Georgia House of Representatives

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 the management of 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 Corps 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 Corps 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 Corps should reconsider and fully address the impacts that have resulted thus far under the Interim Operations Plan, especially during summer 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.

4.3 State Agencies

4.3.1 Alabama Office of Water Resources

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

- To satisfy the Corps' obligations under federal law, including NEPA, the Corps 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 Corps should determine the critical yield of each reservoir using the most current hydrologic and climatic conditions.
 2. The Corps 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 Corps should use the agreed-upon HEC-5 model developed during the Comprehensive Study or develop a new model that is agreed upon by the Corps and the states.
 4. The Corps 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 Corps 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 manuals 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 manuals will never be developed and that additional conflicts over the Corps' operations of the federal reservoirs in the ACF River Basin will follow.

4.3.2 Florida Department of Environmental Protection

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

- Florida contends that the Corps' current process is inconsistent with federal laws and inadequate for both NEPA and the *Water Resources Development Act* (WRDA).
- The ongoing litigation, and subsequent judicial determinations, between the Corps and the States of Florida, Alabama, and Georgia and various stakeholders must be incorporated into the manual revision process.
- For NEPA analysis the Corps 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 Corps unilaterally adopted without compliance with the *Flood Control Act*, its own regulations, NEPA, or the *Endangered Species Act*. NEPA does not allow the Corps to "grandfather" changes in water control operations that have not been subject to final NEPA review. All changes in reservoir operations since that time and their environmental impacts must be analyzed under NEPA as part of the proposed action.
- Effective scoping requires a more detailed proposal from the Corps.
- The Corps 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 Corps has failed to provide fundamental information that is critical to the scoping process. For example, the Corps 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 Corps' jurisdiction. The key mitigation measures must include conservation and water transfers.
- With respect to compliance with the *Coastal Zone Management Act*, Corps 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 Corps to provide Florida with a consistency determination before undertaking activities that affect the state's coastal resources, including implementation of the new Master Manual.

4.3.3 Georgia Department of Natural Resources, Environmental Protection Division

Comments from the Georgia Department of Natural Resources, Environmental Protection Division, were received November 21, 2008, in a letter signed by Dr. Carol Couch. The letter noted the following:

- GAEPD recommends strongly that the Corps not make the IOP, including the RIOP, the proposed action. The Corps 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 Corps 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 Corps 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 Corps 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 is not the appropriate choice for the No Action Alternative. The Corps 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 Corps should not limit alternatives to only its own authorities.
- The Corps should obtain the necessary authority to operate with the best use of resources. Georgia believes the Corps 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 Corps must explain 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, 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 discrepancies between HEC-5 and HEC-ResSim regarding certain physical characteristics of some of the projects in the ACF River Basin.

4.4 Local Agencies

4.4.1 Metropolitan North Georgia Water Planning District

Ms. Kathryn Dunlap of the Metropolitan North Georgia Water Planning District (MNGWPD) submitted comments in a letter received October 28, 2008. She hopes that the Corps 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 Corps must consider alternative operating plans to balance water supply needs and economic impact with downstream needs before adopting a new Master Manual.
- The Corps 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.

4.4.2 Atlanta Regional Commission

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

- *Proposed action and alternatives.* The Corps 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 Corps' 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 Corps should consider and analyze potential rule curve changes to maximize the available storage and optimize operations for all purposes.
- *Head limits.* The Corps frequently cites head limits as the controlling reason for excess releases from Woodruff Dam. Rampdown 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 Basin.
- *Hydropower scheduling.* The Corps should also consider alternative mechanisms for developing hydropower generation schedules. Currently, it 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 Corps 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 Corps should consider alternatives that mitigate the salinity increases in other ways. The Corps should consider alternatives that reduce or eliminate saltwater inflow through Sikes Cut, a major salinity contributor.
- *Channel degradation.* The Corps 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 U.S. Geological Survey (USGS) has been using such methods for decades. The Corps should consider alternative operating plans that use these tools, with appropriate margins of error, to optimize reservoir operations.

4.4.3 Franklin County, Florida, Board of County Commissioners

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.

4.4.4 Hall County, Georgia, Board of Commissioners

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:

- 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).

4.4.5 Troup County, Georgia, Board of Commissioners

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 Corps 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 Corps are not in keeping with and were not part of the original authorization by Congress.
- The Corps 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 Corps has not funded or maintained many of the recreational areas paid for or established by Congress.
- Action Zones are much worse than other Corps 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 affects the quality of recreation.

4.4.6 City of LaGrange, Troup County, Georgia

Mr. Jeff Brown of Troup County and Mr. Jeff Luken, mayor of the City 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 Corps 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 Corps 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 Corps 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 Corps operates the dam to provide massive rapid drawdowns for downstream flows.
- The Corps' 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 mg/L. Total nitrogen south of the Franklin exceeds the standards with a reading of 6 mg/L.
- Demographics, development patterns, climate changes, and other factors have

brought forth an entirely new reality the Corps must contemplate and address in a new Master Manual for the basin.

4.4.7 Gwinnett County, Georgia, Board of Commissioners

Mr. Charles Bannister of the Gwinnett County Board of Commissioners submitted comments in a letter received October 20, 2008, noting the following:

- 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 COE 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 water control manual need to address the current conditions, in which some 3 million people in the Metropolitan Atlanta area rely on the ACF Basin for drinking water for their health and safety.
- The droughts of 1988 and 2001 and the present drought should surely suggest that the Corps 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 Corps use the methods of hydrological forecasting developed by USGS and recommended to the Corps by the Atlanta Regional Commission.
- An Atlanta Regional Commission 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 Interim Operations Plan and its modifications meet these goals as required by the Corps' rules. Had the rules been followed in developing the Interim Operations Plan, the Corps could have met the downstream needs and preserved the storage in lake Lanier to a much greater extent than has been done in the last two 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 Atlanta Regional Commission 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.

4.5 Tribal Response

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.

4.6 Federal Interagency Response

The pre-meeting planning agenda tool allowed the Corps 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 currently authorized only to update the Master Manual to current operations; additional authorizations would require congressional authority. The Corps 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 Corps 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 Corps has completed the first phase of the scoping process for the EIS regarding implementation of an updated *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin* in Alabama, Florida, and Georgia. The Corps, 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 and is scheduled to be made available for review and comment in 2010.

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 Corps 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 statement 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 environmental impact statements 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 formal scoping period, which ended November 21, 2008, the Corps received 2,269 comments from 643 individuals, organizations, and agencies. The agencies included federal, state, and local governments. Federal agencies that submitted comments were the EPA Region 4, the SEPA, and the USFWS. Political leaders from the Georgia and Florida U.S. congressional delegation submitted comments along with 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; Hall County, Georgia; Troup County, Georgia; Gwinnett County, Georgia; and the City of LaGrange, Georgia, submitted comments as well.

All the comments were reviewed and organized into 12 categories, as discussed in Section 3 of this report:

- Water Management Recommendations: 34 percent
- Socioeconomics and Recreation: 25 percent
- Biological Resources: 11 percent
- Drought Operations: 7 percent
- Water Quality: 6 percent
- Water Supply: 5 percent
- National Environmental Policy Act: 5 percent
- Data, Studies, and Analytical Tools: 3 percent
- Navigation: 1 percent
- Hydropower: 1 percent

- Flood Risk Management: less than 1 percent
- Other Resources: 2 percent

The majority (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 Corps to update the *Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin*. 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 Engineer Regulation 1110-2-240. The Master Manual needs to describe project operations for congressionally authorized and general statutory project purposes in the basin while balancing private, community, social, and economic needs and sound environmental stewardship. The purpose of the proposed action is to update the Master Manual to include current project operations under the existing congressional authorizations, taking into account changes in basin hydrology and consumptive demands due to years of growth and development, new or rehabilitated structural features, and environmental issues.

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

Stakeholders also recommended a number of alternative scenarios for various projects in the ACF River Basin that do not fall under the current authority of this proposed action. The Corps recognizes that there are scenarios that will need to be considered as part of the analysis that are outside the current authority. Such scenarios might include modifications to the pool elevations and rule curves. All the actions taken by the Corps in updating the Master Manual must meet the congressionally authorized project purposes at

all the reservoirs except where doing so is legally or physically impracticable.

5.2 EIS Schedule

Completing the EIS and updating the Master Manual will take approximately three years. A Notice of Availability will be published in the *Federal Register* when the Draft EIS is available for public review (currently anticipated in spring 2010). Public meetings will also be held following publication of the NOA to solicit comments on the Draft EIS. Each comment and the corresponding response will be incorporated into the EIS. The Final EIS and Record of Decision are currently anticipated for publication in late 2011.

The scoping report is posted at www.acf-wcm.com and can be downloaded with or without the appendices.

6.0 Literature Cited

Atlanta Regional Commission. [Letter to Flakes (USACE) and Carmody (USFWS)]. 2008. Proposed Modifications to Interim Operations Plan for ACF Reservoirs. Atlanta, Georgia.

Basile Baumann Prost Cole & Associates, Inc. 2007. Economic Impact of West Point Lake at Various Lake Water Levels. Prepared for City of LaGrange, Georgia.

Metropolitan North Georgia Water Planning District. 2009. Water Supply and Water Conservation Management Plan. <http://www.northgeorgiawater.com/html/88.htm>

Richter, B. D., and G. A. Thomas. 2007. Restoring environmental flows by modifying dam operations. *Ecology and Society* **12**(1): 12.
<http://www.ecologyandsociety.org/vol12/iss1/art12/>.

U.S. Army Corps of Engineers. 2008. Preliminary Bibliography of ACT/ACF Comprehensive Study Documents. Mobile District. Alabama.
<http://www.sam.usace.army.mil/pd/actacfeis/BIBLIOG.HTM>.

U.S. Army Corps of Engineers. 1989. Draft Apalachicola-Chattahoochee-Flint Basin Water Control Plan. Mobile District. Alabama.

U.S. Army Corps of Engineers. 1959. Apalachicola River Basin Reservoir Regulation Manual. Mobile District. Alabama.

U.S. Fish and Wildlife Service. 2006. Biological Opinion and Conference Report on the U.S. Army Corps of Engineers, Mobile District Interim Operations Plan for Jim Woodruff Dam and the Associated Releases to the Apalachicola River. Panama City Field Office, Florida. September 2006.

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
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic-foot-per-second
COE	U.S. Army Corps of Engineers
Corps	U.S. Army Corps of Engineers
CWCS	Comprehensive Wildlife Conservation Strategy
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>
mg/L	milligrams per liter
MNGWPD	Metropolitan North Georgia Water Planning District
MOA	Memorandum of Agreement
msl	mean sea level
MW	Megawatts
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
P.L.	Public Law
RIOP	Revised Interim Operating Plan
SeFPC	Southeast Federal Power Customers, Inc
SEPA	Southeastern Power Association

SOS	West Point Lake Advisory Council Needs Your Show of Support (name of organization)
TMDLs	Total Maximum Daily Loads
TOC	top of conservation pool
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WCM	Water Control Manual
WRDA	Water Resources Development Act