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Submitted Via Email: acf.eis@tetrattech.com and ACF-WCM@usace.army.mil

Colonel Steven Roemhildt
Commander, Mobile District
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

Re: Notice of Intent To Revise Scope of Draft Environmental Impact Statement for Updating the Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin

Dear Colonel Roemhildt:

The National Wildlife Federation appreciates the opportunity to comment on the revised scope of the Environmental Impact Statement to be drafted by the U.S. Army Corps of Engineers (Corps) for the proposed updated of the Master Water Control Manual for the Apalachicola-Chattahoochee-Flint River Basin (ACF) in Alabama, Florida, and Georgia.

The National Wildlife Federation (NWF) is the nation's largest conservation education and advocacy organization. NWF has more than four million members and supporters and conservation affiliate organizations in forty-eight states and territories. NWF has a long history of working to protect the nation's coastal and inland waters and the fish and wildlife that depend on those vital resources, and of working to modernize water resources planning.

Introduction

On behalf our more than four million members and supporters, NWF urges the Corps to conduct a comprehensive and robust analysis of the environmental consequences of potential management regimes for the ACF System and to develop and recommend a water management regime that will protect and restore the ecological health of the Apalachicola River and Bay and the entire ACF system.

Law and policy require the Corps to manage the ACF system in a manner that protects and restores the health of fish and wildlife populations and the ecological health of the Apalachicola River and Bay. A management regime that restores and maintains ecological flows will meet these requirements, protect a national ecological treasure, and support a vibrant economy.

Ecological flows are the instream flows needed to: (a) support and reestablish the chemical, physical, biological, and overall ecological integrity of the ACF system; (b) support and reestablish a thriving and

resilient Apalachicola River, Apalachicola River floodplain, and Apalachicola Bay; and (c) restore and recover species that are endangered, threatened, or at risk. The Environmental Impact Statement (EIS) must evaluate the ecological flows and select an alternative that will ensure that those flows are established and protected.

The Corps' most recent scoping report will not lead to an EIS that achieves these objectives or complies with the requirements of the National Environmental Policy Act. The most recent scoping report improperly restricts the EIS to a review of a very limited set of alternatives, none of which seek to evaluate or meet the ecological flow needs of the Apalachicola River and Bay. The report also improperly restricts the analysis of impacts in the EIS by opting to compare the impacts of alternative management regimes only to the presumed health of the ACF Rivers as of 1989, despite the long-term and significant adverse impacts caused by the construction and operation of the ACF system prior to that date. To properly analyze the impacts of the proposed Water Control Manual alternatives, the Corps must define and utilize the historical flow conditions (pre-ACF and pre-non-Federal dams and reservoirs) of the Apalachicola, Chattahoochee, and Flint rivers, with particular attention to the historical flow regime of the Apalachicola River.¹

The Corps also currently plans to rely on an inadequate and outdated "critical yield" methodology to establish the baseline for future water allocations rather than the ecological flows needed to maintain the health and integrity of the ACF system.² Water resources experts have long recognized that "critical yield" is *not appropriate* as a basis for making water management decisions as it looks only at the amount of water that may be physically available and does not assess the economic, environmental, social, and political constraints on the use of that water.³ This analysis significantly overstates the

¹ If it is not currently available, the Corps must obtain or develop this historical flow information unless the costs of doing so would be "exorbitant." 40 C.F.R. § 1502.22.

² The Corps defines the ACF critical yield as "the maximum amount of water that can be consistently removed from a reservoir through releases from the dam and/or withdrawals from the reservoir during the most severe drought in the period of record (1939-2008), without depleting the reservoir conservation storage. Conservation storage is the amount of water available in a reservoir to meet project purposes other than flood control. Critical yield is the amount of water available from a reservoir at any time under any conditions described in the hydrologic period of record." The Corps' states that critical yield "is important because it is the basis from which water stored in a reservoir is allocated to various project purposes. The amount or volume of water stored in a reservoir can be allocated to a specific project purpose, such as hydropower or water supply, based on a percent of critical yield. A change in critical yield could result in modifications of the allocations for a project purpose." U.S.A.C.E., *Federal Storage Reservoir Critical Yield Analysis, Alabama-Coosa-Tallapoosa (ACT) and Apalachicola-Chattahoochee-Flint (ACF) River Basins*, February 2010 at 2-3.

³ *The Regulated Riparian Model Water Code* (Dellapenna, 1997) (water management decisions should be based on an evaluation of safe-yield, which is defined as the "amount of water available for withdrawal without impairing the long-term social utility of the water source, including the maintenance of the protected biological, chemical, and physical integrity of the source"); see U.S.A.C.E. Institute For Water Resources, *Managing Water For Drought, National Study Of Water Management During Drought*, IWR Report 94-NDS-8 (September 1994) (recommending use of safe-yield). Indeed, we have been unable to locate any Corps guidance identifying "critical yield" as an appropriate or necessary methodology for developing water control manuals.

amount of water that is physically available in the ACF Basin, setting the stage for continued conflicts among the many competing users in the ACF Basin.⁴

An Ecological Treasure In Crisis

The Apalachicola River is a national treasure and one of the most productive river systems in North America. The River harbors the most diverse assemblage of freshwater fish in Florida and supports one of the most diverse floodplain forests in North America. The River basin is also home to some of the highest densities of reptile and amphibian species on the continent. The importance of the River has led to its designation by the State of Florida as an Outstanding Florida Water, by the United States as a National Estuarine Research Reserve, and by the United Nations as an International Man in the Biosphere Reserve.

The Apalachicola River and its floodplain also form the biological factory that fuels the Apalachicola Bay and the eastern Gulf of Mexico. The Apalachicola Bay is one of the most productive estuaries in the northern hemisphere, and its commercial fishing industry contributes \$200 million annually to the regional economy and directly supports up to 85 percent of the local population. Recreational fishing in the Apalachicola River and Bay contributes an additional \$191 million to the local economy each year. The ecosystem services provided by the River and Bay have been valued at \$5 billion a year.

Despite its enormous ecological value, the Apalachicola River ecosystem has been severely degraded by, among other things, the construction and operation of the ACF System of federal dams and reservoirs. Operation of these upstream reservoirs, along with a long history of federal navigational dredging, have caused significant ecological harm to this vital ecosystem by starving the Apalachicola River of the flows needed to sustain a healthy system and by altering the River's hydrologic function and the shape of its channel. These activities have altered the river's flow regimes; reduced the river's hydraulic complexity and habitat diversity; smothered, displaced, and dried out habitat in the river's rich sloughs, floodplains, and channel margins; and destabilized and widened the river channel.

Drought has added to the significant problems facing the Apalachicola River and Bay. The ACF Basin has been experiencing Extreme (D3) and Exceptional (D4) drought conditions with significant adverse impacts to the Apalachicola River and Bay, and the fish and wildlife, commercial fishing, recreational fishing, and ecotourism that rely on these waters.

A new paradigm is needed for managing the ACF system. It is critical that the new Water Control Manuals protect and restore the ecological integrity of the Apalachicola River and Bay and the entire ACF system by ensuring the maintenance of ecological flows in the Apalachicola River.

⁴ The Corps' critical yield analysis relies on an inaccurate unimpaired flow data set and is based on flawed assumptions regarding critical reservoir management practices, including that reservoir levels can be lowered far below the levels that have ever been reached, even during extreme drought years.

Scoping Recommendations

I. The EIS Must Evaluate Alternatives That Will Protect Fish and Wildlife and Restore the Ecological Health of the Apalachicola River and Bay, and the Corps Must Select an Alternative that Will Achieve These Objectives

The Corps is required as a matter of law to operate the ACF system to protect and conserve fish and wildlife and the ecological health of the Apalachicola River and Bay. To do this, the EIS must assess and account for the ecological flows required to maintain a healthy and vibrant Apalachicola River and Bay. The updated water control manual must in turn ensure the reestablishment and protection of the flows needed to maintain a healthy and vibrant Apalachicola River and Bay.

As discussed above, ecological flows are the instream flows needed to: (a) support and reestablish the chemical, physical, biological, and overall ecological integrity of the ACF system; (b) support and reestablish a thriving and resilient Apalachicola River, Apalachicola River floodplain, and Apalachicola Bay; and (c) restore and recover species that are endangered, threatened, or at risk.

As clearly set forth in the June 2012 Legal Opinion of the Corps' Chief Counsel, fish and wildlife conservation is an authorized purpose of the ACF system of projects:

“The systemwide plan of development for the ACF basin was intended to provide benefits for the purposes of hydropower, navigation, and flood control, estimated in annual average dollar values, and also to provide benefits for the purposes of municipal and industrial water supply, recreation, **and fish and wildlife conservation**, which were not quantified in the same manner.”

Legal Opinion at 27 (emphasis added). Fish and wildlife protection and conservation are also general purposes for the ACF projects pursuant to the Fish and Wildlife Coordination Act.

The Legal Opinion goes on to state that “Congress expected that the Buford Project would be operated as an integral part of the ACF system, to achieve the purposes Congress authorized for that system when it approved the ACF plan of development in the 1946 RHA.” Legal Opinion at 38-39. As a result, “the Buford Project cannot be understood in isolation, because the Buford Project was proposed and approved as one component in a system of projects, and Congress intended that storage in the Buford Project would be used to regulate flows throughout the system, in order to enable efficient operation of the downstream projects and to accomplish the authorized purposes of the ACF system.” Legal Opinion at 39, note 167.

As a result, in assessing the impacts of water withdrawals, the Legal Opinion concludes that focusing on just the operations or impacts to Lake Lanier alone “would not comport with Congressional intent.” Legal Opinion at 38-39. Instead, the Corps must assess the impacts on the ability to achieve the full suite of authorized purposes for the entire ACF system, including fish and wildlife conservation. *Id.*

The National Water Policy established by Congress in 2007 also requires the Corps to operate the ACF projects to protect the Apalachicola River and Bay. That policy states that “all water resources projects” shall “protect[] and restor[e] the functions of natural systems and mitigat[e] any unavoidable damage

to natural systems.” 33 U.S.C 1962-3 (established by § 2031(a) of the Water Resources Development Act of 2007, and immediately applicable to all water resources projects).

Moreover, enhancement of the environment has been an important federal objective for water resources programs for decades. Corps regulations in place since 1980 state that:

“Laws, executive orders, and national policies promulgated in the past decade require that the quality of the environment be protected and, where possible, enhanced as the nation grows. . . . Enhancement of the environment is an objective of Federal water resource programs to be considered in the planning, design, construction, and **operation and maintenance of projects**. Opportunities for enhancement of the environment are sought through each of the above phases of project development. Specific considerations may include, but are not limited to, **actions to preserve or enhance critical habitat for fish and wildlife; maintain or enhance water quality; improve streamflow**; preservation and restoration of certain cultural resources, **and the preservation or creation of wetlands**.

33 C.F.R. § 236.4. (emphasis added).

Long-standing Corps guidance also requires the establishment of the minimum stream flow needed to address water quality, fish and wildlife, recreation, and aesthetic considerations when developing water control manuals, even where maintenance of minimum instream flows is not an authorized project purpose. EM 1110-2-3600, 30 Nov 87 (Management of Water Control Systems) at 2-3.

Critically, the alternative ultimately recommended by the EIS must also comply with the full suite of federal laws and policies designed to protect the environment. These include, the Endangered Species Act, the Clean Water Act, the Safe Drinking Water Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Coastal Zone Management Act, and the mitigation requirements applicable to Corps civil works projects that were established by § 2036(a) of the Water Resources Development Act of 2007. These mitigation requirements must be satisfied, among other times, whenever the Corps will be recommending a project alternative in an EIS. 33 U.S.C. § 2283(d). The alternative ultimately recommend by the EIS must also comply with the Clean Water Act water quality certification requirements of Florida, Alabama, and Georgia. This includes compliance with Florida’s strict instream flow protection requirements.

To achieve these objectives, the EIS must evaluate and select an alternative that will ensure the establishment and protection of the ecological flows required to reestablish and maintain a healthy and vibrant Apalachicola River and Bay. Ecological flows are the instream flows needed to: (a) support and reestablish the chemical, physical, biological, and overall ecological integrity of the ACF system; (b) support and reestablish a thriving and resilient Apalachicola River, Apalachicola River floodplain, and Apalachicola Bay; and (c) restore and recover species that are endangered, threatened, or at risk.

II. The EIS Must Fully Analyze Direct, Indirect, and Cumulative Impacts

In comparing and analyzing potential alternatives, the EIS must examine, among other things, the direct, indirect, and cumulative environmental impacts of alternatives, the conservation potential of those alternatives, and the means to mitigate adverse environmental impacts. 40 C.F.R. § 1502.16. This assessment is essential for determining whether less environmentally damaging alternatives are available.

Direct impacts are caused by the action and occur at the same time and place as the action. Indirect impacts are also caused by the action, but are later in time or farther removed from the location of the action. 40 C.F.R. § 1508.8. Cumulative impacts are:

“the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

40 C.F.R. § 1508.7. A cumulative impact analysis ensures that the agency will not “treat the identified environmental concern in a vacuum.” *Grand Canyon Trust v. FAA*, 290 F.3d 339, 346 (D.C. Cir. 2002).

Among many other things, the Corps must assess the magnifying and additive effects of global warming when evaluating the direct, indirect, and cumulative impacts of a particular flow regime for the ACF system:

“Climate change can increase the vulnerability of a resource, ecosystem, or human community, causing a proposed action to result in consequences that are more damaging than prior experience with environmental impacts analysis might indicate [and] climate change can magnify the damaging strength of certain effects of a proposed action.”

* * *

“Agencies should consider the specific effects of the proposed action (including the proposed action’s effect on the vulnerability of affected ecosystems), the nexus of those effects with projected climate change effects on the same aspects of our environment, and the implications for the environment to adapt to the projected effects of climate change.”

Council on Environmental Quality, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* (February 18, 2010); see *Center for Biological Diversity v. Nat’l Hwy Traffic Safety Administration*, 538 F.3d 1172, 1217 (9th Cir. 2008) (holding that analyzing the impacts of climate change is “precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct”); *Center for Biological Diversity v. Kempthorne*, 588 F.3d 701, 711 (9th Cir. 2009) (NEPA analysis properly included analysis of the effects of climate change on polar bears, including

“increased use of coastal environments, increased bear/human encounters, changes in polar bear body condition, decline in cub survival, and increased potential for stress and mortality, and energetic needs in hunting for seals, as well as traveling and swimming to denning sites and feeding areas.”). The CEQ guidance makes it clear that analyzing the impacts of climate change is not restricted to evaluating whether a project could itself exacerbate global warming. The magnifying and additive effects of global warming also must be evaluated.

Where, as here, the project area encompasses entire river basins, the cumulative impacts analysis must analyze the cumulative effects of other projects in those river basins. *See, e.g., LaFlamme v. F.E.R.C.*, 852 F.2d 389, 401-02 (9th Cir. 1988); *Natural Resources Defense Council v. Callaway*, 524 F.2d 79, 94 (2d Cir. 1975). This includes an analysis of the cumulative effects of federal, state, and private projects and actions. The requirement to assess non-Federal actions is not “impossible to implement, unreasonable or oppressive: one does not need control over private land to be able to assess the impact that activities on private land may have” on the project area. *Resources Ltd., Inc. v. Robertson*, 35 F.3d 1300, 1306 (9th Cir. 1993).

A meaningful assessment of cumulative impacts must identify:

“(1) the area in which effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions – past, present, and proposed, and reasonably foreseeable – that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate.”

TOMAC, Taxpayers Of Michigan Against Casinos v. Norton, 435 F.3d 852 (D.C. Cir. 2006) (quoting *Grand Canyon Trust*, 290 F.3d at 345); *Fritiofson v. Alexander*, 772 F.2d 1225, 1245 (5th Cir. 1985) (holding this level of detail necessary even at the less detailed review stage of an Environmental Assessment).

Importantly, as CEQ has made clear, in situations like those in the ACF where the environment has already been greatly modified by human activities, it is *not* sufficient to compare the impacts of the proposed alternative against the current conditions. Instead, the baseline must include a clear description of how the health of the resource has changed over time to determine whether additional stresses will push it over the edge. Council on Environmental Quality, *Considering Cumulative Effects Under the National Environmental Policy Act* at 41 (January 1997).

The EIS must provide “quantified or detailed information” on the impacts, including the cumulative impacts, so that the courts and the public can be assured that the Corps has taken the mandated hard look at the environmental consequences of the Project. *Neighbors of Cuddy Mountain v. U. S. Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1998); *Natural Resources Defense Council v. Callaway*, 524 F.2d 79, 87 (2d Cir. 1975). **If information that is essential for making a reasoned choice among alternatives is not available, the Corps must obtain that information unless the costs of doing so would be “exorbitant.”** 40 C.F.R. § 1502.22 (emphasis added).

To conduct a meaningful assessment of the impacts of alternative water control manual management regimes on the ecological health of the Apalachicola River and Bay, the Corps should first determine the

amount, timing, and variability of flows needed to maintain a healthy and vibrant river and bay. This information is essential to making a reasoned choice among alternatives and as a result must be obtained by the Corps unless the costs of doing so would be “exorbitant.” 40 C.F.R. § 1502.22.

A. Types Of Impacts That Must Be Analyzed

It is critical that the EIS analyze the direct, indirect, and cumulative impacts of proposed alternative management regimes on the:

- Hydrology, channel morphology, stream flow (including deviations from the historical water levels, timing of freshwater flows, and natural flood pulse), and water quantity in the Apalachicola River and the ACF Basin;
- Water quality, salinity levels, and nutrient composition in the Apalachicola River and Bay, and the ACF Basin;
- Fish and wildlife in the Apalachicola River, Floodplain, and Bay, the ACF Basin, and the Gulf of Mexico including impacts to commercially and recreationally harvested species, and to affected migratory species throughout their ranges;
- Species listed as threatened or endangered under the federal Endangered Species Act (including both impacts within the Apalachicola River and ACF Basin and population-wide impacts), and to areas designated as critical habitat under the federal Endangered Species Act in the Apalachicola River and ACF Basin;
- Riverine and floodplain wetlands, including the Apalachicola River floodplain wetlands, and the Apalachicola River floodplain forests and sloughs;
- Marine fish and species and their habitat which require nutrients and fresh water from Apalachicola River and Bay to sustain their offshore Gulf ecosystem, otherwise known as the “Green River” effect;
- Quality, quantity, and value of ecosystem services provided by a healthy Apalachicola River, Floodplain, and Bay;
- Duration, frequency, and intensity of red tide in Apalachicola Bay and the near Gulf of Mexico waters; and
- Commercial fishing, recreational fishing, and ecotourism industries that rely on a healthy Apalachicola River, Floodplain, and Bay.

B. Actions that Must Be Evaluated In The Cumulative Impacts Analysis

To comply with the cumulative impact assessment requirements, the Corps must analyze whether and how the proposed alternative management regimes could supplement, aggravate, or intensify the impacts of the following types of past, present, and reasonably foreseeable future actions throughout the entire ACF Basin:

- Past, present, and reasonably foreseeable future water withdrawals from the Apalachicola, Chattahoochee, and Flint Rivers from Federal, non-Federal, and private projects and actions;
- Past, present, and reasonably foreseeable future reservoir and dam operations;

- Past navigational dredging activities (with particular emphasis on changes in channel morphology, water levels, and floodplain forests and wetlands);
- Past, present, and reasonably foreseeable development, including commercial, residential, and road construction; and
- Reasonably foreseeable future changes in rainfall, water quantity, salinity, wetland losses, sea level rise, and storm events that will result from climate change.

C. The Proper Baseline for Analyzing Cumulative Impacts

In analyzing the cumulative effects of the activities discussed above, the Corps must define and utilize the historical flow conditions (pre-ACF Federal and pre-non-Federal dams and reservoirs) of the Apalachicola, Chattahoochee, and Flint rivers as the baseline, with particular attention to the historical flow regime of the Apalachicola River. Divergence from the historical flow conditions in the ACF have resulted in significant adverse impacts to Apalachicola River and Bay. As noted above, if this information is not currently available, the Corps must obtain this information unless the costs of doing so would be "exorbitant." 40 C.F.R. § 1502.22.

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

- Historical flows (*i.e.*, the pre-dam and reservoir flow regimes), including the amount, timing, and quality of flows in the ACF rivers;
- Acres of river and floodplain wetlands lost;
- Acres of native upland habitats lost;
- Miles of streambed lost or modified;
- Changes in stream flows;
- Changes in ground water elevations;
- Changes in the concentrations of indicator water quality constituents;
- Changes in the abundance, distribution, and diversity of indicator fish communities; and
- Changes in rainfall, and reasonably foreseeable future changes.

III. The Corps Should Adopt a New Approach to Developing Alternatives for the EIS, Selecting a Recommended Alternative in the EIS, and Updating the Water Control Manuals

NWF recommends that the Corps undertake the following approach to preparing the EIS and updating the Water Control Manuals.

- (1) The Corps should first initiate an evaluation of the ecological flows needed to protect and restore the chemical, physical, and biological integrity of the Apalachicola River and its floodplain, the Chattahoochee River, the Flint River, and the Apalachicola Bay; and the species that rely on those waters. The Corps should undertake this evaluation jointly with the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and the U.S. Geological Survey. The ideal flow regime would mimic

the quantity, timing, and quality of flows that existed prior to construction of the dams and reservoirs within the ACF system.

- (2) The Corps should prioritize comprehensive review and implementation of a full range of alternatives that will ensure the maintenance of those ecological flows. The impacts of the proposed alternatives should be evaluated through a comparison to the environmental conditions present under historical flow conditions (pre-ACF and pre-non-Federal dams and reservoirs) in the Apalachicola, Chattahoochee, and Flint rivers.
- (3) As part of its evaluation, the Corps should: (a) update and correct the unimpaired Flow Data Set and the water demand data currently be used by the Corps for its modeling and analysis; (b) establish the sustainable limits of water use in the basin; (c) re-evaluate evaporative losses, including particularly the evaporation that occurs during droughts; and (d) evaluate any ongoing or completed ecological flow evaluations being conducted for rivers within the ACF system.
- (4) The Corps should ensure that the ecological flow evaluation, the EIS, and the Water Control Manuals are reviewed and assessed by the National Academy of Sciences pursuant to 33 U.S.C. § 2343(a)(3)(A)(iii).⁵

Conclusion

The National Wildlife Federation urges the Corps to develop a water management regime for the ACF system that will protect and restore the ecological health of the Apalachicola River and Bay and the entire ACF system. Fundamental to such a regime is the establishment and maintenance of the ecological instream flows needed to protect and restore the chemical, physical, biological, and overall ecological integrity of the Apalachicola River, Apalachicola River floodplain, and Apalachicola Bay and the health of the species that depend on these resources. We respectfully urge you to institute the planning process outlined above to ensure that this happens.

Sincerely,



Melissa Samet
Senior Water Resources Counsel

⁵ The EIS, Water Control Manuals, and any ecological flow evaluation are clearly covered by the statutory independent review requirements which apply to, among other things, “any other study associated with a modification of a water resources project that includes an environmental impact statement” and that study’s environmental impact statement. 33 U.S.C. § 2343(a).