CESAM-PD-EI 19 July 2007

FINDING OF NO SIGNIFICANT IMPACT
FOR

Alabama Power Company Proposal for a Temporary Modified Minimum Flow Agreement in the Alabama River for Drought Water Management Operation in the Alabama-Coosa-Tallapoosa River Basin

1. PROPOSED ACTION: The recommended action during current and future drought conditions is that the Corps allow the Alabama Power Company (APC) to temporarily reduce the combined flows on the Alabama River at Montgomery by 10% to 4,176 cfs. The Corps does not approve any request to alter releases from upstream Corps reservoirs by any amount as a direct consequence of the APC reduction. The Corps will continue to independently operate its reservoirs at Carters Lake and Lake Allatoona according to current Water Control Manual guidelines.

A reappraisal of drought conditions will be made at approximately one week intervals to consider maintaining the then current reduction from the minimum flow agreement or to approve a further reduction of up to an additional 10%, continue with the 10% reduction, or alternatively to return to the required minimum flow of 4,640 cfs. While this appraisal of water releases is considered accurate at the time it is written, it will require a continual reevaluation while drought conditions continue. Therefore, this adaptive management approach could result in the described strategy, or a variation between 0% (no change) and 20% reduction in flow at Montgomery. Those alternatives constitute Corps approval of various degrees of APC reductions from the minimum flow agreement and the Corps' own independent management of water releases from its lakes as prescribed in its Water Control Manuals for those lakes.

Approval of this flow reduction does not mean that this temporary reduction will not be reevaluated on a regular basis, or that future requests for extensions and/or increases in reductions will be approved. Any future requests may require additional data from APC and regulatory entities beyond that provided here. Reevaluation of this reduction and assessment of future requests will be made based on the best engineering analysis available and on the circumstances then existing.

2. ALTERNATIVES CONSIDERED: Alternatives to the proposed action which were considered in detail include:

No Action Alternative. "No action" represents "no change" from the current water management practices at APC reservoirs in the ACT basin, and no change from the requirements of the existing minimum flow agreement. Under the "no action" alternative, the Corps would continue to make releases from Lakes Allatoona and Carters of at least 240 cfs at each lake, or as much as those releases based on six hours of

hydropower generation per day. Current combined water flow on the Alabama River at Montgomery (below APC Thurlow Dam and Jordan/Bouldin Dams) is 4,640 cfs, the minimum required by the 1972 agreement between APC and the Corps.

Action Alternatives. Several variations of flows management were evaluated from the APC projects and from the upstream Corps projects:

- Allow the full 40% reduction in water release as requested by APC, resulting in a minimum flow on the Alabama River of 2,784 cfs.
- A reduced water release by APC, less than the full 40% requested, of 10% (4,176 cfs).
- A reduced water release by APC, less than the full 40% requested, of 20% (3,712 cfs).
- A reduced water release by APC, less than the full 40% requested, of 30% (3,248 cfs).
- No reduction in APC minimum flow, and increase the combined flow from Corps Lakes Carters and Allatoona by 10% of 4,640 cfs (an additional 464 cfs).
- No reduction in APC minimum flow, and increase the combined flow from Corps Lakes Carters and Allatoona by 20% of 4,640 cfs (an additional 928 cfs).
- Allow 10% reduced water release by APC and an increased release from Lake Allatoona based on power generation of 2 hours per day (approximately equivalent to 200 cfs per week).
- Allow 10% reduced water release by APC and an increased release from Lake Allatoona based on power generation of 3 hours per day (approximately equivalent to 400 cfs per week).
- No reduction in APC minimum flow, and an increased release from Lake Allatoona based on power generation of 2 hours per day (approximately equivalent to 200 cfs per week).
- No reduction in APC minimum flow, and an increased release from Lake Allatoona based on power generation of 3 hours per day (approximately equivalent to 400 cfs per week).

3. FACTORS CONSIDERED IN DETERMINING THAT NO ENVIRONMENTAL IMPACT STATEMENT IS REQUIRED:

The recommended action would result in no significant adverse environmental impacts. This action is proposed because it is considered to have the greatest potential to have the

least overall adverse impacts to the affected environment, and to maintain the most flexible position for making water management decisions during the continuing current drought and future droughts. The described action would maintain sufficient water reserves in Lakes Allatoona and Carters to insure that minimum environmental flows can be sustained and water intake by the municipalities on those lakes, and at the same time allow increased future releases if warranted. It would also allow APC to maintain its current hydropower generation for the short term, maintain sufficient water flow for downstream water users to continue withdrawals from water intake structures and the discharge of wastewater while meeting State water quality standards, and not adversely effect listed threatened and endangered species in the affected waterways. The action will allow better adaptive management of limited water resources during extended drought conditions allowing the flexibility to conserve water in the ACT system and its reservoirs by allowing variance from flows required by existing agreements.

4. CONCLUSION: An evaluation by the attached Environmental Assessment describing the recommended plan to reduce required minimum flows on the Alabama River at Montgomery by 10%, and possibly up to a maximum of 20% contingent upon monitoring of vital resource parameters would have no significant impact on the human environment and preparation of an Environmental Impact Statement is not required.

Date: 19 JUL '07

Byron G. Jorns
Colonel, U.S. Army Corps of Engineers
Mobile District

ENVIRONMENTAL ASSESSMENT

Alabama Power Company Proposal for a Temporary Modified Minimum Flow Agreement in the Alabama River for Drought Water Management Operation in the Alabama-Coosa-Tallapoosa River Basin

Prepared by

U.S. Army Corps of Engineers, Mobile District
Planning and Environmental Division
Environment and Resources Branch
Inland Environment Team

July 2007

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ENVIRONMENTAL ASSESSMENT

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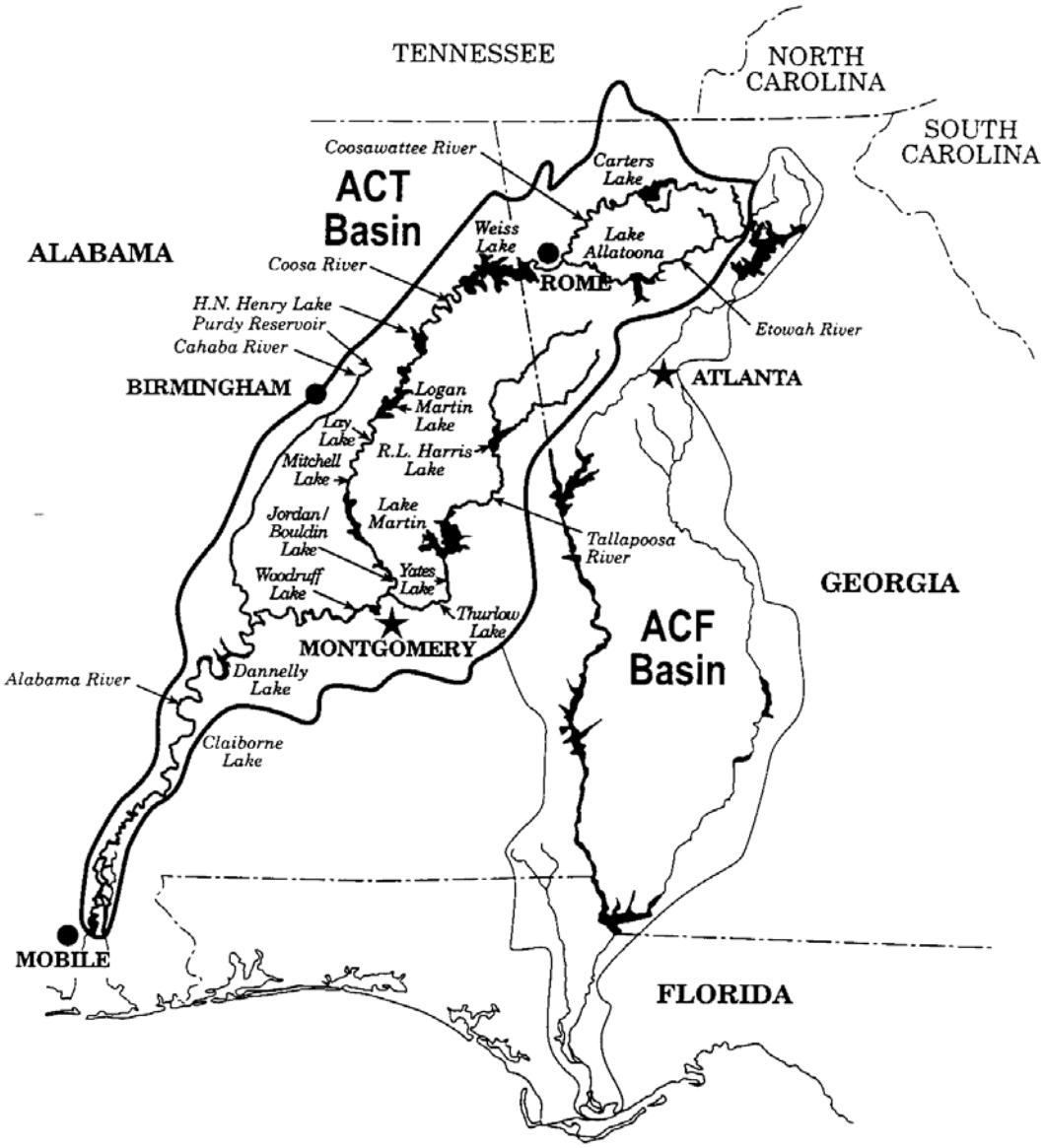
1. INTRODUCTION

This Environmental Assessment was prepared in response to a request by Alabama Power Company (APC) to the U.S. Army Corps of Engineers, Mobile District (Corps) for a temporary modification of the minimum flow agreement between APC and the Corps for operation of their power project impoundments on the Tallapoosa and Coosa Rivers in conjunction with the Corps operations of the Federal projects in the Alabama and Coosa River Basins. The minimum flow agreement is required by the Federal Energy Regulatory Commission (FERC) licenses for the APC impoundments and also incorporated into the water control plans/manuals for the Corps projects. The APC request is in response to extreme low inflows and extended drought conditions experienced this year (2007).

a. Location: APC-owned lakes are located on the Tallapoosa and Coosa Rivers, both tributaries to the Alabama River, located in east and central Alabama. Both tributaries extend into northwest Georgia. APC-owned lakes include Lakes Harris, Martin, Yates and Thurlow on the Tallapoosa River. On the Coosa River they include Lakes Weiss, H. Neely Henry, Logan Martin, Lay, Mitchell, Jordan/Bouldin (both dams on Jordan Lake). In addition to APC-owned reservoirs, Federal project reservoirs operated by the Corps include Allatoona Dam and Lake on the Etowah River and Carters Dam and Lake (including a reregulation pool below the main lake to accommodate pump-back hydropower operations) on the Coosawattee (Coosa River basin) and Robert F. Henry Dam/R.E. “Bob” Woodruff Lake, Miller’s Ferry Dam/William “Bill” Dannelly Lake, and Claiborne Dam and Lake on the Alabama River. The location of the Alabama-Coosa-Tallapoosa (ACT) River basin is shown in Figure 1.

The proposed action would directly impact flows in the Alabama River and would utilize the composite storage of the reservoirs within the ACT system. Because reduced flows could impact downstream users of the Alabama River, who may have certain minimum flow or water level requirements, the action could require supplemental water releases from the Federal reservoirs listed above. Therefore the project area includes the ACT basin in its entirety.

Figure 1. ACT Basin and Reservoirs



b. Proposed Action: The proposed action was initiated in the form of a letter dated 15 May 2007 addressed to the Corps Mobile District Commander Colonel Peter Taylor, from Willard Bowers, Vice President Environmental Affairs, Alabama Power Company. The letter stated that because of continuing drought conditions, all APC reservoirs were expected to be near drought contingency curves by July 4, 2007, if navigation flow requirements were continued. Their request proposed a 10% reduction in overall total average water releases from their reservoirs every week for four consecutive weeks. The request would require a modification to the existing 1972 minimum flow agreement between APC and the Corps for a 7-day average 4,640 cubic feet per second (cfs) (32,480 day second feet (dsf)) to a minimum 19,488 dsf. This proposed minimum would constitute a total 40% reduction in minimum flows previously agreed to by APC in the current minimum flow agreement. The APC proposed flow reduction is outside of the operational guidelines of the existing Corps Water Control Manuals.

Additionally, APC in a subsequent e-mail dated 29 May 2007, requested that the Corps provide additional releases from storage in the Allatoona and Carters Lakes to supplement the low flows downstream of those projects by approximately 1,000 cfs over that provided by the minimum releases of those projects. The proposed increases from the two Corps lakes fall within in the guidelines of the Water Control Manuals for those projects and would require no further evaluation, as long as the Corps manages those projects under current water manual prescribed procedures.

c. Purpose and Need for the Proposed Action: The purpose of the proposed action is to mitigate the effects of drought-induced low water flows into APC reservoirs, thereby allowing continued storage of water for hydropower production during critical peak power demand times and to preserve storage within the APC lakes for other uses, e.g., water supply and recreation. The combined action of reducing flows from APC's Coosa and Tallapoosa lakes (primarily from Lake Martin) and added water releases from the upstream Corps reservoirs would help address the historic or near historic drought conditions being experienced during 2007 in the ACT basin, and assist the APC to address their reservoir storage depletion rate, while still insuring some prescribed flow protections to downstream users on the Alabama River.

d. Authority: The Corps is given discretion to manage its reservoirs by the Flood Control Act of 1944. The procedures for water management actions at Corps projects are set out in Engineer Regulation 1110-2-240 (33 C.F.R. Part 222.5), which states as follows in regard to droughts:

> "*Continuous examination should be made of regulations schedules, possible need for storage reallocation (within existing authority and constraints) and to identify needed changes in normal regulation. Emphasis should be placed on evaluating conditions that could require deviation from normal release schedules as part of drought contingency plans (ER 1110-2-1941).*"

Engineering Regulation 1110-2-1941 requires water managers to reexamine procedures and reservoirs to determine whether improvement can be made during low water periods within current authorities. Under this regulation, the Mobile District developed a drought contingency plan for the Robert F. Henry project located on the Alabama River first in line below the APC projects on the Coosa and Tallapoosa Rivers. This drought contingency plan for the Robert F. Henry project is found at Paragraph 7-10 of the Water Control Manual for the project. It states that the project is dependent on releases from the upstream APC projects to meet the authorized project purposes, which must be provided pursuant to their FERC licenses. Accordingly, the Mobile District and APC instituted a minimum flow agreement to provide for environmental protection and navigation flows on the lower river. The drought contingency plan allows a lesser amount to be released from the Federal projects as local flows diminish and storage is exhausted. However, the plan requires the users of the system, private industries, state agencies and federal agencies with interests in the system to be notified in advance of any reduction and given the opportunity to comment. The Mobile District can allow for reductions of the minimum flow agreement if such a change would aid in the total operation of the river system and provide the maximum benefits from any available water.

2. AFFECTED ENVIRONMENT

General Environmental Setting

Previous in-depth descriptions of the ACT basin in the following Corps documents including the 1998 Draft Environmental Impact Statement Water Allocation for the Alabama-Coosa-Tallapoosa (ACT) River Basin (Draft EIS) and various ACT-ACF Comprehensive Study reports. Those detailed descriptions are used in the following discussions as a source of background information.

As a description of the ACT basin, the following has been extracted from the Draft EIS:

The ACT basin drains about 22,820 square miles in parts of southeastern Tennessee, northwest Georgia, and a diagonal area across Alabama, from the northeast to the southwest corner of the State. About 77 percent of the ACT basin lies in Alabama. The majority of the remaining 23 percent lies in Georgia, with a very small portion in southeast Tennessee. The basin extends approximately 320 miles from the Blue Ridge Mountains to the Gulf of Mexico and has an average width of approximately 75 miles. The basin covers 32 counties in Alabama, 18 counties in Georgia, and 2 counties in Tennessee.

The main rivers of the ACT basin are the Alabama, Coosa, and Tallapoosa Rivers. The Cahaba River is also a major river in the basin. The Alabama River joins the Tombigbee River and forms the Mobile River, which subsequently flows into the Gulf of Mexico at Mobile Bay. The ACT basin is a dynamic hydrologic system containing interactions between aquifers, streams, reservoirs, floodplains, estuaries, and adjacent river basins. Water resources in the ACT basin have been managed to serve a variety of purposes, including navigation, hydroelectric power, flood control, water supply, water quality, and recreation. These water resources also provide

important habitat for fish and wildlife. There are 18 dams in the basin (6 Federal and 12 non-Federal projects) that have altered the natural streamflow and provided significant improvements and opportunities for the public in these resource areas. The interrelationship between dam operations and downstream river flows has resulted in a highly regulated system over much of the basin, with the exception of the Cahaba River, which remains naturally free-flowing.

The ACT basin is characterized by a warm and humid, temperate climate due to its latitude, altitude, and proximity to the Gulf of Mexico. Average annual temperature ranges from about 60° Fahrenheit (F) in the north to 70°F in the south. Average daily temperatures in the ACT basin range from about 40 to 55°F in January to 75 to 80°F in July. Summer temperatures are typically in the 70s to the 90s. Freezing temperatures in winter occur for only short periods (Couch et al., 1996).

Precipitation is highest at the northern end of the basin in the mountains and at the southern end of the basin near the Gulf of Mexico. Average annual precipitation is about 65 inches per year at both the northern and southern ends of the basin. The central part of the basin receives less precipitation, with an annual average of 55 inches. Precipitation varies substantially on an annual basis. For example, in Montgomery, Alabama, annual precipitation varied from 27 to 75 inches from 1948 to 1996, with an annual average of 52 inches over this period. Precipitation is generally highest in late winter and early spring, and then again in mid-to late summer, when tropical depressions and tropical storms from the Gulf of Mexico occasionally track up the basin.

About half the water that falls as precipitation in the ACT basin is returned to the atmosphere as evapotranspiration (direct evaporation plus transpiration by plants). Evapotranspiration ranges from about 30 to 42 inches of water per year in the ACT basin, generally increasing from north to south. Average annual runoff basinwide ranges from 20 to 40 inches (or about 40 to 65 percent of average annual precipitation). Runoff is greatest in the Blue Ridge Mountains and near the Gulf coast (USGS, 1986).

Historically, there has been adequate water to meet the needs of most users in the ACT basin. However, during the droughts in the 1980s, hydropower production had to be reduced, navigation was significantly curtailed, municipalities and industries were required to implement water conservation measures, and recreational use of reservoirs was limited. Agricultural crops were also heavily damaged. This drought period demonstrated the competing demands for water in the basin and prompted the States of Alabama and Georgia to initiate a process for regional water resource planning.

Biological Resources

The ACT basin extending from the Appalachian Mountains in the north to its confluence with the Tombigbee River in southern Alabama contains a diverse and large number of natural habitats and communities. Generally, these include mountainous forests, lowland forests,

headwater streams, rivers, freshwater wetlands, estuarine wetlands. The following sections describing biological resources are taken from the Draft EIS.

Vegetative Resources

Terrestrial Communities

The ACT basin contains seven dominant native terrestrial vegetative communities: Appalachian oak forest, oak-hickory-pine forest, rock outcrop, grass-dominated, longleaf pine-turkey oak sandhill, maritime shrub, and evergreen maritime forest (FWS, 1998). This does not include areas modified for agricultural use. These communities include a mix of forests and grasslands, as well as cultivated areas. In areas not managed for timber production, the species present in plant communities are generally controlled by the soils, geology, and microclimate of the area. However, a number of species present in the basin are highly adaptable and are broadly distributed.

Appalachian oak forests in the ACT basin are limited to north central Georgia and the northern-most headwaters of the Coosa River. Dominant canopy species can be divided into two groups: dry slope and mesic slope communities. Drier slopes in the headwaters typically are dominated by oak species, including chestnut oak (*Quercus prinus*), northern red oak (*Quercus rubra*), and white oak (*Quercus alba*). Also present in the canopy are a number of pines, hickories, red maple (*Acer rubrum*), and tulip poplar (*Liriodendron tulipifera*). The subcanopy typically includes saplings of the canopy species, as well as mountain laurel (*Kalmia latifolia*), various azaleas (*Rhododendron* spp.), and blueberries (*Vaccinium* spp.). More mesic sites typically are dominated by red maple, American beech (*Fagus grandifolia*), basswood (*Tilia herterophylla*), hickories, tulip poplar, white ash (*Fraxinus americana*), and hemlock (*Tsuga canadensis*). Subcanopy species may be similar to those on drier sites, but may also include buckeye (*Aesculus* spp.), spicebush (*Lindera benzoin*), and hobblebush (*Lyonia* spp.).

Oak-hickory-pine forests are the most abundant native vegetative community in the ACT Basin (Martin et al., 1993). This forest type can be found throughout most of central and northern Alabama as well as western Georgia. The dominant canopy species in the oak-hickory-pine forests of the uplands include loblolly pine (*Pinus taeda*), shortleaf pine (*Pinus echinata*), white oak (*Quercus alba*), northern red oak (*Quercus rubra*), post oak (*Quercus stellata*), several hickories (*Carya* spp.), yellow poplar (*Liriodendron tulipifera*), persimmon (*Diospyros virginiana*) and easter red cedar (*Juniperus virginiana*). In areas managed primarily for forestry products, dominant canopy species are often limited to loblolly and short-leaf pine. Subcanopy species in the upland forests typically include flowering dogwood (*Cornus florida*), sourwood (*Oxydendrum arboreum*), eastern redbud (*Cercis canadensis*), shadbush (*Amelanchier canadensis*), black gum (*Nyssa sylvatica*), American holly (*Ilex opaca*), blackberry (*Rubus* spp.), viburnums (*Viburnum* spp.), sumacs (*Rhus* spp.), greenbriars (*Smilax* spp.), grapes (*Vitis* spp.), and Japanese honeysuckle (*Lonicera japonica*). These forested areas, especially if adjacent to bottomland hardwoods forests (see *Freshwater Wetlands* below), provide good habitat for game animals.

Rock outcrop communities are highly specialized plant communities associated with either granite or limestone outcrops. The ACT basin contains small areas of both communities. These plant communities are found in areas that lack sufficient soil to support large shrubs or trees, thus maintaining communities dominated by herbaceous species. Because of the temperature and moisture extremes associated with rock outcrop areas, a number of different vegetative communities have evolved to take advantage of the varying moisture and soil conditions. Each of these communities is composed of a unique assemblage of plants, although some species can be found in more than one community type. Many of these outcrop-adapted plant species are either officially protected or considered rare where they are found, and many are classified as endemic. Martin et al., (1993) identifies three limestone and eight granite outcrop communities in the ACT basin.

In the ACT basin, *grass-dominated communities* are limited to the lower Coosa, Tallapoosa, and Cahaba Rivers in an area called the Black Belt (Martin et al., 1993). Typically, dominated by little bluestem (*Andropogon scoparius*), 58 other herbaceous species have been documented in the remnant Black Belt grasslands in Alabama. Although occasionally invaded by sweet gum (*Liquidambar styraciflua*) and eastern red cedar, the remnant grass-dominated communities are maintained by periodic droughts and floods that prevent most tree and shrub species from becoming established. Periodic burns, resulting from lightening strikes or other sources, also minimize colonization by shrub and tree species in some areas.

The longleaf pine-turkey oak sandhill community is common in the lower portions of the Alabama River basin. Dominant plant species in this community are typically longleaf pine (*Pinus palustris*), turkey oak (*Quercus laevis*), bluejack oak (*Quercus incana*), mockernut hickory (*Carya tomentosa*), flowering dogwood, and wiregrass (*Aristida stricta*). This community is typically maintained by periodic burns. In areas in which longleaf pine has been selectively removed, turkey oak and mockernut hickory dominate the canopy. Fire-intolerant species, such as magnolia and holly, can invade areas that do not burn on regular intervals.

The maritime shrub community is limited to the coastal areas of Alabama. This community type is typically divided into two subcommunities that can be distinguished by their dominant canopy species and typical location along the coast: dune oak-buckthorn and oak scrub. The dune oak-buckthorn community typically occurs on the tops and landward slopes of dunes. The canopy of this community is typically comprised of live oak (*Quercus virginiana*), tough buckthorn (*Bumelia tenax*), red bay, slash pine (*Pinus elliotii*), and loblolly pine. Understory species include saw palmetto (*Serenoa repens*), hercules club (*Zanthoxylum clava-herculis*), myrtle, yaupon (*Ilex vomitoria*), rusty lyonia (*Lyonia ferruginea*), muscadine grape (*Vitis rotundifolia*), bamboo briar (*Smilax laurifolia*), pepper-vine (*Ampelopsis arborea*), and juveniles of the dominant canopy species.

Oak scrub forests occur in moderately drained areas of old dune complexes. The community is typically a dense, scrubby growth of broad-leaved evergreens and pines. The canopy of this

community is characterized by live oak, slash pine, myrtle oak (*Quercus myrtifolia*), American olive (*Osmanthus americanus*), Chapman's oak (*Quercus chapmanii*) and red bay. Pond pine and longleaf pine are typically scattered throughout the community, but are not usually found in large numbers. The most common understory species in this community are saw palmetto, bayberry, rusty lyonia, myrtle oak, gallberry, huckleberry, and shiny blueberry (*Vaccinium myrsinites*). Evergreen maritime forests are found along the coast in Alabama. These forests are dominated by magnolia (*Magnolia virginiana*), laurel oak, and live oak. Subcanopy species are often limited to juveniles of the dominant canopy species, red bay, cabbage palm, and slash pine.

Wetlands

Wetlands are transitional lands between terrestrial and deep-water habitats, in which the water table is at or near land surface or the land is covered by shallow water (FWS, 1998). *Palustrine* wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents, or emergent mosses or lichens, (e.g., freshwater marshes, swamps, bogs, fens, and wet prairies). Estuarine wetlands include deepwater tidal areas and adjacent tidal wetlands, which are usually semi-enclosed by land but have access to the open ocean, and in which ocean water is at least occasionally diluted by freshwater runoff from the land.

The Comprehensive Study included a wetlands element, the findings of which were compiled in a three-volume final report. Volume I (FWS, 1998) developed relationships between flow rates and habitat values of riparian wetlands within the study area; Volume II (FWS, 1998) presents the results of a riparian wetland inventory conducted within the study area; and Volume III (FWS, 1998) presents the results of a study that located and characterized wetland resources around four mainstem reservoirs in the study area.

Most of the wetland area within the ACT basin is represented by forested palustrine wetlands located within the floodplains of rivers. These *riparian* (river-associated) forested systems are often referred to as *bottomland hardwoods.* Riparian palustrine systems within the ACT basin also include small areas of non-forested wetlands, such as marsh or shrub wetlands. Riparian systems depend on the natural flooding regime of rivers and, in turn, influence the water and habitat quality of riverine ecosystems. The remaining wetland area within the ACT basin consists of estuarine wetlands and palustrine wetlands that occur along reservoirs (reservoir-associated). Estuarine wetlands constitute a relatively small percentage of the total wetland area within the basin; however, because of the economic value of the estuarine ecosystem to coastal communities within the basin, the potential environmental impacts to estuarine wetlands associated with the water allocation alternatives are assessed in this document.

Freshwater Wetlands

The ACT basin contains approximately 52 percent (273,594 acres) of the palustrine floodplain wetland area in the ACT and ACF basins. The majority of this wetland area is located in the Alabama River subbasin (86 percent with the Coosa and Tallapoosa River subbasins having a nearly equal share of the remainder (FWS, 1998).

The palustrine wetland areas within the ACT basin consist primarily of bottomland hardwood forests. Dominant tree species within these systems include water tupelo (*Nyssa aquatica*), bald cypress (*Taxodium distichum*), Carolina ash (*Fraxinus caroliniana*), swamp tupelo (*Nyssa sylvatica*), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), overcup oak (*Quercus lyrata*), planertree (*Planera aquatica*), green ash (*Fraxinus pennsylvanica*) and water hickory (*Carya aquatica*).

Estuarine Wetlands

The only estuarine wetlands within the ACT basin are within the Mobile Bay estuary system, which lies between Mobile and Baldwin Counties in southwestern Alabama. The Mobile Bay estuary consists of Mobile Bay and the Mobile-Tensaw River Delta. Mobile Bay is a drowned river valley that extends approximately 31 miles from the Mobile-Tensaw River Delta at the northern end to the Gulf of Mexico at the southern end. It has an average width of approximately 10.8 miles and an average depth of about 9.7 feet, and receives drainage from a watershed area in excess of 43,000 square miles. Mobile Bay has approximately 6,224 acres of tidal marsh, 3,261 acres of bayous and rivers, 11,110 acres of connecting bays, 248,343 acres of open water, and a total shoreline length of 162 miles (FWS, 1998).

The Mobile-Tensaw River Delta extends southward from the confluence of the Tombigbee and Alabama Rivers to the northern end of Mobile Bay. It opens into the northern end of Mobile Bay through the Mobile, Tensaw, Apalachee, and Blakeley Rivers, and consists of approximately 20,323 acres of open water, 10,450 acres of fresh-mixed marsh, 69,348 acres of swamp, and 84,839 acres of mixed bottomland forest. The Mobile-Tensaw Delta is one of the most ecologically important areas in Alabama. It is on the National Register of Natural Landmarks, and is designated as a geographic area of particular concern by the State of Alabama (FWS, 1998).

The open water areas of the Mobile Bay estuary contain a high diversity of phytoplankton, benthic algae, and submersed aquatic vegetation. The species composition and abundance of these open water plant communities vary considerably within the estuary and are controlled by seasonal variations in water temperature and river flow conditions. Over 250 species of phytoplankton, and a total of 245 species of benthic algae and 33 species of submersed aquatic vegetation have been documented to occur within the Mobile Bay estuary system. Phytoplankton are recognized as the most important primary producers in the open waters of the estuary while benthic algae and submersed vegetation provide important habitat for small aquatic organisms and produce substantial quantities of organic matter that enters the food chain.

Tidal marshes of coastal Alabama are most abundant in the Mobile-Tensaw River Delta and in the lower reaches of Mobile Bay, particularly along the northern shore of Mississippi Sound. Approximately 16,992 acres or 60 percent are saline and brackish marsh and 11,232 acres or 40 percent are freshwater marsh (FWS, 1998). Saline marshes are composed almost entirely of smooth cordgrass (*Spartina alterniflora*) and black needlerush (*Juncus roemerianus*). Most of the saline marsh area is typically covered by black needlerush while the seaward periphery is

usually dominated by a zone of smooth (FWS, 1998). Brackish marshes generally occur further inland along the margins of rivers, streams, and bayous where salinity levels are reduced. Brackish marshes have less smooth cordgrass and needlerush, and more freshwater species such as sawgrass (*Cladium jamaicense*), club rush (*Eleocharis cellulosa*), and three-square bulrush (*Scripus americanus*) than saline marshes. Freshwater marshes occur beyond the influence of normal tidal action. A total of 85 species of plants have been identified in the freshwater marshes of coastal Alabama (FWS, 1998). Dominant freshwater marsh species include giant reed (*Phragmities australis*), cattail (*Typha latifolia*), bulrushes (*Scirpus* spp.), sedges (*Carex* spp., *Cyperus* spp.), and spikerushes (*Eleocharis* spp.).

Freshwater swamps within the Mobile Bay estuary occur primarily in the Mobile-Tensaw River Delta (over 69,000 acres). The plant species composition of the freshwater swamp community varies with the degree of flooding the community experiences (FWS, 1998). Extensively flooded areas are typically dominated by bald cypress and swamp tupelo. Moderately flooded areas are usually dominated by sweet bay (*Magnolia virginiana*), red maple, and Virginia willow (*Itea virginica*). Areas that experience little flooding are typically dominated by water oak (*Quercus nigra*), laurel oak (*Quercus laurifolia*), sweet gum (*Liquidambar styraciflua*), southern magnolia (*Magnolia grandiflora*), and devilwood (*Osmanthus americana*). A total of 62 species of trees, shrubs, vines, and herbaceous plants have been identified in the freshwater swamps of coastal Alabama (FWS, 1998).

Wet pinelands, pine savannahs, and bogs represent the remaining wetland communities that occur within the Mobile Bay estuary system. Wet pinelands and pine savannahs are pine-dominated communities characterized by low relief and poor drainage. The dominant pine species within these communities is typically slash pine (*Pinus elliottii*). Pine savannahs generally have less shrub species and more herbaceous species in the understory than wet pinelands. Bogs are scattered throughout some wetland and upland pine communities and support a unique flora, including pitcher plants (*Sarracenia* spp.), sundews (*Drosera* spp.), butterworts (*Pingiucula* spp.), milkworts (*Polygala* spp.), and several species of orchids. A total of 103 plant species has been identified from the pine woodlands, savannahs, and bogs of coastal Alabama (FWS, 1998).

Wildlife, fish and aquatic resources

The wildlife assemblages found in the ACT basin vary greatly depending on the vegetative community, although some species, such as white-tail deer, raccoon, Virginia opossum, and grey squirrel are found throughout the basin in a number of habitat types. Other species are more closely tied to the vegetative communities, such as muskrat, which are limited to freshwater emergent marshes.

Because the proposed action would most directly affect biological resources occurring in or directly associated with flow or water levels on the Alabama, Coosa and Tallapoosa Rivers most of this section is focused on describing the existing environment and habitats associated with fish and aquatic resources.

Riverine

The ACT basin forms the eastern half of the Mobile basin and supports exceptional aquatic biodiversity, reflecting the wide range of habitats within its three major physiographic sections. The Mobile basin ranks third in the nation in freshwater fish diversity and contains almost 40 percent of North America's aquatic turtle species. A total of 173 freshwater fish species, including many endemic species, are known from the basin (FWS, 1998). Despite extensive habitat modification, many of these species persist in the basin. The ACT basin also contains at least 45 species of freshwater mussels, including nine endemic species, as well as a great diversity of snails (at least 78 species occur in the Coosa River, of which 60 are endemic) and crayfish (14 species are known from the Tallapoosa River) (FWS, 1998.). The Fall Line between the upland (Piedmont) and lowland (Coastal Plain) regions of the basin acts as a natural barrier or filter to the movement of fish and other aquatic organisms, and thus, is one of the most significant physical features affecting the distribution of fishes in the basin. Many fish species are limited to either above or below the Fall Line in this basin and elsewhere (FWS, 1998).

Alabama River Subbasin

The Alabama River is directly regulated by three Corps multi-purpose dams. Together, these three facilities impound 233 miles of the mainstem river (Freeman et al., 1997). In upstream to downstream order, they are R.F. Henry (Woodruff Lake), Millers Ferry (Dannelly Lake), and Claiborne (Claiborne Lake). All three dams contain navigation locks, and R. F. Henry and Millers Ferry dams also are operated for hydropower generation. A portion of the mainstem channel of the Alabama River is maintained by annual dredging for navigation purposes. In addition, flows entering the subbasin are regulated by upstream hydropower facilities in the Tallapoosa River and Coosa River drainages.

The only remaining unimpounded reach of the mainstem Alabama River is the 82-mile reach extending downstream from Claiborne Lock and Dam to the confluence of the Alabama and Tombigbee Rivers. This lower reach of the river historically has supported high species diversity and abundance of freshwater fishes and mussels. Although habitat alteration and flow regulation are prevalent along the Alabama River, the lower unimpounded reach has retained many riverine characteristics as a result of large inflows, significant non-dredged areas, and limited storage capacity of the Corps' reservoirs (i.e., fairly stable water levels).

FWS (1998) compared pre-impoundment and post-impoundment hydrologic regimes downstream of Claiborne Lock and Dam using the Range of Variability Approach (RVA) (Richter et al., 1997) to further characterize existing riverine habitat conditions. The assessment showed significant post-impoundment hydrologic alterations, including increased frequency and duration of flows less than 12,400 cubic feet per second (cfs), and decreased frequency and duration of spring flows exceeding 80,000 cfs. Flows in excess of 80,000 cfs may be critical in permitting upstream passage of migratory species past Claiborne Lock and Dam (FWS, 1998).

Up to 144 species of fish have been documented from the Alabama River subbasin, excluding the Cahaba River drainage (FWS, 1998). However, total fish diversity has declined since the Corps' dams were constructed in the 1960s. Although the dams likely impede the movement of migratory and resident fishes, some species, including striped bass (*Morone saxatilis*) and blue sucker (*Cycleptus sp.cf. elongatus*) are able to move past these structures (FWS, 1998). This subbasin continues to support a diverse community, including paddlefish (*Polyodon spathula*), blue sucker, striped bass, southern walleye (*Stizostedion* sp.), Alabama shad (*Alosa alabamae*), mooneye (*Hiodon turgisus*), and Alabama sturgeon (*Scaphirhynchus suttkusi*) (FWS, 1998; Freeman et al., 1997). The Federally protected Gulf sturgeon (*Acipenser oxyrinchus desotoi*) may also occur in the lower reaches of the subbasin.

Native freshwater mussels also declined after dams were constructed; however, several species persist in the lower and middle reaches of the Alabama River subbasin, including commercially harvested species such as ebony mussel (*Fusconaia ebena)*, washboard mussel (*Megalonaias nervosa)*, and other species (*Quadrula* spp., *F. cerina*, and *Obliquaria reflexa*). Claiborne Lake and Dannelly Lake also contain two Federally endangered mussel species, the southern clubshell (*Pleurobema decisum*) and the only known population of the heavy pigtoe (*P. taitianum*). Also the tulatoma snail (Tulatoma magnifica), a Federally protected species, was collected in the Alabama River downstream from Claiborne Dam.

The Cahaba River, a major tributary to the Alabama River in the subbasin, flows about 191 miles and drains an area of 1,872 square miles. The Cahaba River is one of the essentially free-flowing rivers in the southeastern U.S. and supports exceptional diversity of native fishes and aquatic invertebrates (Freeman et al., 1997; FWS, 1998). It provides habitat for up to 135 fish species and 50 mussel species, including 12 Federally protected aquatic species, such as goldline darter (*Percina aurolineata*), Cahaba shiner (*Notropis cahabae*), and fine-lined pocketbook mussel (*Lampsilis altilis*).

The upper Cahaba River also serves as an important source of water supply and as receiving waters for Birmingham, Alabama. As a result of water diversion and extensive point and nonpoint pollution in the watershed, notable faunal declines coincident with water quality degradation have been documented (Freeman et al., 1997; Mayden and Kuhajda, 1989; Pierson et al., 1989; Shepard et al., 1994).

Coosa River Subbasin

The mainstem Coosa River, from its origin at the confluence of the Etowah and Oostanaula Rivers to its confluence with the Tallapoosa River, is impounded and regulated by six dams, which are operated by Alabama Power Company (APCO) for hydropower generation. Four of these facilities generate hydropower in a peaking mode, and two operate in a run-of-river mode, releasing outflows that approximate reservoir inflows. Together, these six dams impound 238 miles of the Coosa River (Freeman et al., 1997), fragmenting the few remaining reaches of

free-flowing riverine habitat.

At least 147 fish species have been documented from the Coosa River drainage, including the Oostanaula-Conasauga-Coosawattee and Etowah subbasins (FWS, 1998). Historically, the Coosa River supported productive sport and commercial fisheries, including lake sturgeon (*Acipenser* sp. cf. *fulvescens*) in the upper reaches. However, as a result of riverine habitat loss, modification and fragmentation from impoundments, and water quality degradation, aquatic biodiversity has declined (Burkhead, 1993, Burkhead et al., 1992, Freeman, 1993, FWS, 1986 and 1993a). The remaining significant reaches of free-flowing riverine habitat on the mainstem Coosa River are described below:

- An 8-mile reach extends downstream from Jordan Dam in the lower Coosa River. This reach is substantially affected by highly fluctuating hydropower releases from Bouldin and Jordan Dams. The downstream effects of highly fluctuating flow releases are limited to a degree by the downstream minimum flow requirements on weekends. The Jordan Dam tailwaters provide habitat for two Federally protected species, the endangered tulotoma snail (*Tulotoma magnifica*) and the threatened fine-lined pocketbook mussel. The tailwaters also support a regionally important spotted bass fishery, as well as locally important fisheries for striped/white/hybrid bass, catfish, sunfish, and freshwater drum (*Aplodinotus grunniens*). Southern walleye also are occasionally caught in this reach (FWS, 1998). The shoal lily/Cahaba lily (*Hymenocallis* sp.) occurs occasionally on shoals in this reach. Paddlefish, a species of concern, is restricted in this subbasin to downstream of the Fall Line (i.e., downstream of Jordan Dam) (FWS, 1998).

- A 21-mile reach of bypassed river channel extends downstream from Weiss Dam, which results from diversion of flow at Weiss Dam for hydropower generation. Although few aquatic surveys have been reported from this reach, aquatic habitat is severely degraded by reduced flows and channel dewatering.

- A 9-mile free-flowing reach extends downstream from Rome, Georgia, to the headwaters of Weiss Lake. This reach provides potentially suitable habitat for striped bass migrating upstream from Weiss Lake and other game fishes. Flows are influenced by releases from Allatoona and Carters Dams, as well as point and nonpoint source discharges from upstream communities, which also degrade water quality in the reach. Georgia Department of Natural Resources (1996) has issued a fish consumption advisory in the Coosa River because of elevated polychlorinated biphenyl (PCB) levels in fish tissue. Based on preliminary mussel survey data, few mussel species persist in this reach (FWS, 1998), suggesting that poor water quality may be the principal limiting factor. The riverine habitat performance measure developed as part of the Comprehensive Study (Freeman, 1998a) showed relatively high habitat values for this reach, reflecting attenuation of upstream discharges from Carters and Allatoona Dams, as well as substantial addition of unregulated flow from the Conasauga River and other tributaries.

Etowah River Subbasin

The Etowah River originates as a high-gradient stream in the Blue Ridge province of the Southern Appalachian Mountains and flows about 69 miles westward through Piedmont upland to Allatoona Reservoir. These upper reaches of the system provide important refuge for riverine fauna native to the Coosa River drainage. Because of habitat loss and modification resulting from a variety of influences, including impoundment, timbering, agriculture, gold mining, and urban development, at least 35 mussel species and 7 fish species have been extirpated from the Etowah River subbasin. However, the upper mainstem river and tributaries continue to support the Federally endangered amber darter (*Percina antesella*), the Federally endangered Etowah darter (*Etheostoma etowahae*), the Federally threatened Cherokee darter (*E. scotti*), and four additional State protected species. Other native fishes include freckled darter (*P. lenticula*), rock darter (E. *rupestre*), frecklebelly madtom (*Noturus munitus*), southern walleye, redhorses, several undescribed minnow and darter species, and possibly lake sturgeon (Freeman, 1998a; Burkhead et al., 1997). Significant riverine fisheries exist for striped and white bass, catfishes, spotted bass, redeye bass, and other species (Freeman et al., 1997).

The lower Etowah River subbasin contains a potentially significant remnant of mid-sized riverine habitat within the Coosa and Etowah River subbasins. About 48 miles of mainstem riverine habitat remain from the tailwaters of Allatoona Dam to Rome, Georgia. Historically, this reach probably contained over 90 fish species, including lake sturgeon and at least 51 mussel species. It currently supports substantial fisheries for striped/white bass, spotted bass, and catfishes. However, cursory sampling efforts in 1993 indicate that the overall native fish assemblage is drastically reduced (e.g., extremely low abundances and species diversity). Of the 22 fish species collected from the Etowah River mainstem in 1993, only four species were collected immediately downstream from the dam. Fish species diversity does not reach a downstream maximum until 40 miles below the dam (Burkhead et al., 1997). The Federally threatened Cherokee darter occurs in two tributaries downstream from Allatoona Dam.

Substantial daily fluctuations in stage and discharge occur in the reach downstream of Allatoona Dam as a result of hydropeaking operations; releases may vary from 240 cfs to 8,900 cfs on a daily basis. Poor quality waters discharged from Allatoona Dam, industrial and municipal discharges from the Cartersville vicinity, and erosional silt loads have historically degraded water quality in the lower subbasin. Georgia has issued a fish consumption advisory in the lower subbasin because of high PCB levels in fish tissue (Freeman et al., 1997).

Based on RVA analysis comparing pre-impoundment and post-impoundment hydrologic regimes downstream of Allatoona Dam (FWS, 1998), significant post-impoundment hydrologic alterations included shorter duration but increased frequency of low flow pulses, increased frequency of high flow pulses, and increased frequency of flow reversals. Hydropeaking at Allatoona Dam has resulted in extreme destabilization of downstream habitat, as reflected in low habitat values under existing conditions (Freeman, 1998a, 1998b).

In 1996, American Rivers' list of the top 10 most endangered river systems in the U.S. included the Etowah River. The diversity of fish and mussels in the Etowah River is equal to the Conasauga River, which was considered to have the highest biodiversity in the Coosa River drainage. However, current data suggest that this subbasin was the historic center of aquatic biodiversity in the eastern Mobile River drainage (Burkhead et al., 1997). The Etowah River subbasin may have more imperiled fishes (17 species) and invertebrates (16 species) than any other river system of similar length in the southeast United States. Seventeen imperiled fishes have been identified in the subbasin, and many are believed to be extirpated. Of an estimated 105 fish species that have been reported from this subbasin, 91 are native fishes of which 15 species have been eliminated. It has been estimated that up to 65 percent of the 51 mussel species reported from this subbasin have been extirpated (Burkhead et al., 1997). Preliminary study data show that unionid mussels were not found at any of the 10 sites in Allatoona Dam's tailwaters (FWS, 1998).

Oostanaula-Conasauga-Coosawattee River Subbasins

The Oostanaula River extends about 47 miles from the junction of the Conasauga and Coosawattee Rivers to its confluence with the Coosa River at Rome, Georgia. As a result of habitat changes and degraded water quality, aquatic biodiversity has declined (Burkhead, 1993; Burkhead et al., 1992; Freeman, 1993; FWS, 1986, 1993a, 1993b). Nevertheless, the potential exists for a significantly enhanced fishery in this portion of the subbasin with improvements in water quality. Although no impoundments occur in the Oostanaula River mainstem, flows are affected by Carters Dam and Re-regulation Dam upstream on the Coosawattee River. However, based on RVA analysis of pre- and post-impoundment hydrologic regimes in the Oostanaual River, the frequency and duration of low and high flow pulses are not greatly affected (FWS, 1998).

Preliminary mussel survey data from the Oostanaula River indicate that its extant mussel community, although less than historic, is relatively intact and healthy as compared to most of the Coosa River basin. One snail species (*Leptoxis formani*) has been recently collected here that was formerly thought to be extinct. In addition, a rare large-form of the endangered triangular kidneyshell mussel (*Ptychobranchus greeni*) has also been found in its lower reach (FWS, 1998). These initial data tend to support the above determination that this river's flow regime is relatively less altered compared to most of the Coosa River basin.

The Conasauga River is an unregulated stream that flows for about 91 miles from southeast Tennessee and north Georgia to its junction with the Coosawattee River. Historically, about 90 fish and 44 mussel species have been reported from this drainage. Today, mussel diversity has been reduced by about 50 percent; fish diversity has been similarly impacted. It is believed to be second only to the Etowah River in the number of imperiled fishes and invertebrates in any other river system of similar length in the southeast (Burkhead et al., 1997). Despite these declines, there are reaches of the Conasauga River upstream from Dalton that are considered high priority resource areas because they continue to support good native aquatic communities, including lake

sturgeon (possibly) and holiday darter (*Etheostoma sp.* Cf. *E. brevirostrum*), which may be an undescribed endemic species. Runs of striped bass and walleye have been reported in this drainage (FWS, 1998). The drainage also provides habitat for Federally protected aquatic species (six mussel and three fish species) and seven State protected fish species (Georgia and Tennessee) whose continued existence and recovery are largely dependent on the improvement of water quality in the watershed.

The regulated reach of the Coosawattee River extends about 25 miles downstream from Carters Dam and Re-regulation Dam to its confluence with the Conasauga River. Minimum continuous flows of 240 cfs are released from the dam. This tailwater reach supports sport fisheries, including catfishes, spotted bass, redeye bass, southern walleye and striped bass. This reach may also contain some imperiled fishes, such as the trispot darter (*Etheostoma trisella*) and river redhorse (*Moxostoma carinatum*). As a result of habitat changes and water quality degradation, aquatic biodiversity has declined in this portion of the subbasin. About 9 miles of unregulated mainstem habitat occur in the headwaters upstream from Carters Reservoir, which are isolated from other mainstem riverine habitats in the subbasin (Freeman et al., 1997).

Based on RVA analysis conducted by FWS (1998) for the Coosawattee River 16 miles downstream of Carters Dam, significant post-impoundment alterations in hydrologic regime included increased high pulse length and decreased rise rate, with minimal overall effects on frequency and duration of low flow pulses in spring and summer. Relatively high habitat values for this reach (Freeman, 1998a) indicate that reregulated discharges from Carters Re-regulation Dam help to moderate stream flow fluctuations.

Preliminary mussel survey data suggest that the lower portion of the Coosawattee River supports a fairly good mussel fauna, including two Federally protected species (*Pleurobema georgianum* and *P. greeni*). However, the mussel fauna is much reduced in the middle and upper reaches of Carters Dam tailwaters (FWS, 1998). These data suggest that the aquatic community, particularly mussels in the upper three-quarters of this reach, are being affected by flow regulation and/or degraded water quality at or downstream from Carters Dam and Re-regulation Dam.

Although Alabama and Georgia have not recently stocked striped bass in this subbasin between Carters/Allatoona Reservoirs and Weiss Reservoir, varying age classes of this species are frequently caught by recreational anglers in this subbasin (FWS, 1998). In addition, white bass, as well as subadult and adult striped bass, including males in spawning condition, have been collected in the subbasin (FWS, 1998). These are compelling observations that suggest that white and striped bass from Weiss Reservoir are successfully reproducing somewhere in this subbasin, particularly since potential spawning habitat is present in the Conasauga River and the tailwaters of Allatoona Dam (83 miles) and Carters Dams (109 miles) to Weiss Reservoir. If further studies demonstrate that striped bass in Weiss Reservoir are self-sustaining, it would be a regionally important resource because only two other self-sustaining reservoir populations of striped bass are known in the eastern United States, i.e., Santee-Cooper (South Carolina) and Kerr (Virginia

and North Carolina) Reservoirs.

Studies by the USGS-BRD in Athens, Georgia, and Gainesville, Florida, have been initiated in this subbasin to provide additional information on protected, rare, and endemic fish and mussel species. Preliminary freshwater mussel data indicate that the unusual, large river form of the endangered triangular kidneyshell mussel (*Ptychobranchus greeni*) continues to persist in the lower Oostanaula and Coosawattee Rivers (FWS, 1998). In addition, a freshwater mussel species tentatively identified as the endangered southern pigtoe mussel *(Pleurobema georgianum*) was collected in the lower Coosawattee River during this study. A previously believed extinct species of freshwater snail (*Leptoxis formani*) was collected in the Oostanaula River as well (FWS, 1998).

Tallapoosa River Subbasin

This subbasin originates in the Piedmont Upland physiographic section. Downstream of the Fall Line, the subbasin enters the Coastal Plain region and is characterized by low gradient relief and sedimentary rock substrates (FWS, 1998). Because of the nature of the subbasin's metamorphic and igneous rocks in the subbasin's middle to upper reaches, the dissolved mineral content and resulting fertility of its waters are relatively low compared to the rest of the ACT basin.

Historically, the Tallapoosa River supported diverse and productive fisheries. At least 134 fish species have been reported from this subbasin (FWS, 1998). Riverine fisheries presently include striped/white/hybrid basses, paddlefish (season closed since 1987), black basses, sunfishes, catfishes, and crappie. Although there are four hydroelectric facilities in this subbasin, about 70 percent (168 miles) of the mainstem channel remains free-flowing (Freeman et al., 1997). About 95 miles of this mainstem riverine habitat is regulated by the Harris Dam (50-mile tailwater) and Thurlow Dam (45-mile tailwater).

The remaining riverine habitat (about 170 miles), located in the upper mainstem and Little Tallapoosa River above Harris Reservoir, is unregulated. The upper unregulated portion and the Harris and Thurlow Dam tailwaters are effectively isolated from other riverine reaches in the subbasin by impoundments.

Upper Reach. The unregulated portion of this subbasin upstream from Harris Reservoir supports at least 50 fish species, four of which are endemic to the subbasin: Tallapoosa shiner (*Cyprinella gibbsi),* lipstick darter *(Etheostoma chuckwachatte),*Tallapoosa darter *(E. tallapoosae),* and mottled sculpin *(Cottus* sp. cf. *C. bairdi*). Eight native fish species are protected by Georgia State law. In addition, secondary trout habitat, which is capable of supporting stocked trout, occurs in the uppermost portions of the system. Two crayfish species of concern (*Cambarus englishi* and *Orconectes holti*) also occur in the subbasin (FWS, 1998). The proposed West Georgia Regional Reservoir near the Georgia/Alabama State line would partially impound and fragment this remaining unregulated riverine habitat, and could alter flow regimes and stream habitat conditions downstream to Harris Reservoir (Freeman et al., 1997).

Middle Reach. The middle 50-mile reach of the Tallapoosa River reach from Harris Dam downstream to the head of Martin Reservoir is the only remaining Piedmont large-river habitat in this subbasin. Before the construction of Harris Dam in 1983, this reach supported productive fisheries, particularly spotted bass, redeye bass and flathead catfish, which are now much reduced or eliminated. Today, over 60 fish species are known from the tailwaters and tributaries in this reach, including four endemic species mentioned in the preceding paragraph. Shoals in the lower portion of this reach (e.g., Griffin Shoals) contain a few stands of the Cahaba lily. Aquatic resources in this reach are adversely affected by highly fluctuating discharges that occur almost daily from Harris Dam, which is operated as a peaking hydroelectric facility by Alabama Power Company.

Hydropeaking operation of Harris Dam causes flows to fluctuate from leakage (200 cfs) to 7,000 to 12,000 and more cfs depending on generation levels. As a result, hourly fluctuations in habitat type and location, which normally occur at least 5 days per week, prevent stable habitat for foraging and reproduction of fishes longer than 24 hours at a time. Exceptions occur only when generation releases are constant over several days or are restricted to small pulses to maintain minimum flows at Wadley. These exceptions in the operation of Harris Dam provide rare opportunities for fish to grow and reproduce in this reach of the Tallapoosa River (FWS, 1998).

RVA analysis revealed that the greatest changes in annual flow regime are in low flow pulse frequency (increased 450 percent) and duration (decreased 70 percent), high flow pulse frequency (increased 108 percent), and frequency of flow reversals (increased 81 percent). Significant changes from the pre-dam flow regime also occur in fall rate (increased 58 percent) and 1-day and 3-day minimum flows (increased 63 percent and 47 percent). Under existing conditions, low flow pulses (July to September) with a duration of $\geq$ 10 days occur on average every 2.6 years compared to 1.2 years in the pre-dam record. During the 1986 to 1988 drought, spring (April to June) low flow pulses $\geq$ 10 days had a recurrence interval of 4.3 years under existing conditions, whereas the post-dam recurrence interval was 9.5 years. Therefore, the frequency of low flow pulses ($\geq$ 10 days) has been reduced by half during the summer and increased twice during the winter (Freeman, 1998a, 1998b).

Riverine habitat values (existing conditions, 1995 demands) are low to moderate (0.37 to 0.48) in the lower tailwaters near Horseshoe Bend National Military Park based on average daily flow data. When these values are adjusted for *hourly* fluctuations resulting from hydropeaking, riverine habitat values decline (about 0.21) (Freeman, 1998a, 1998b). Past biological studies in the Harris Dam tailwaters have reflected the generally poor riverine habitat values shown in the above analysis. Significant degradation of the downstream fisheries has been documented since its construction in 1983 (FWS, 1998).

Lower Reach. The lower 45-mile riverine reach of the lower Tallapoosa River downstream from Thurlow Dam is characterized by numerous rocky shoals at the Fall Line for about

two miles downstream from the dam, after which it is a typical low gradient Coastal Plain river down to its confluence with the Coosa River. This reach historically supported a rich fish fauna of over 120 species, including native Gulf Coast striped bass, Gulf sturgeon, and southern walleye. These fisheries have declined drastically since the construction of upstream hydropower dams and downstream navigation dams on the Alabama River. Nevertheless, a diverse fish community (60 or more species) persists in the lower Tallapoosa River including paddlefish, freckled darter (*Percina lenticula*), and at least one State protected species, crystal darter (*Crystallaria asprella*). It also contains potential habitat for Alabama sturgeon, a Federal candidate species (Freeman et al., 1997). The April 1991 implementation of a minimum continuous flow (1,200 cfs) by Alabama Power Company, which reduced the severity of daily flow fluctuations downstream from Thurlow Dam, significantly increased fish abundance and diversity in this reach (Kinsolving, 1989; Kinsolving and Bain, 1993; Scheidegger and Bain, 1995; Travnicek and Maceina, 1994; Travnicek et al., 1995).

Reservoirs

The ACT basin has more than 170,000 surface acres of reservoir habitat. The largest reservoirs are Martin Lake (40,000 acres) on the Tallapoosa River and Weiss Lake (30,200 acres) on the Coosa River (FWS, 1998). Although these impoundments were constructed for navigation, flood control and/or hydroelectric purposes, they also provide significant public recreation opportunities. Generally, all of the mainstem reservoirs in the ACT basin support significant populations of at least the following popular fisheries: striped and white basses; largemouth and spotted basses; sunfishes or bream (particularly bluegill and redear sunfish); crappie; and channel, blue and flathead catfishes (FWS, 1998). Past management efforts have included stocking (e.g., temperate basses and hybrids, Florida largemouth bass, bluegill and redear sunfish, channel catfish) and regulation (e.g., number and size limits, closed-season species). Additional recreational and commercial fisheries specific to each subbasin are noted below.

Alabama River Subbasin

R.F. Henry Lock and Dam impound the Alabama River at river mile (RM) 245 and create Woodruff Lake, which extends about 81 miles upstream and covers about 12,510 acres at normal pool elevation (125 feet above mean sea level [msl]) (Corps, 1987). Millers Ferry Lock and Dam, located at RM 142 near Selma, Alabama, create Dannelly Lake, which extends 103 miles upstream to R. F. Henry Lock and Dam. This reservoir covers about 18,500 acres at normal pool elevation (80 feet msl). Claiborne Lock and Dam, located at RM 82, form Claiborne Lake, which extends upstream about 60 miles upstream to Millers Ferry Dam. This reservoir covers 5,930 acres at normal pool elevation (35 feet msl).

These impoundments support the above-mentioned fisheries, as well as southern walleye, and commercial fisheries for catfishes, freshwater drum and smallmouth buffalo (FWS, 1998). Other important fish species of concern that occur in this subbasin's lacustrine habitats include

paddlefish, Alabama shad, blue sucker and Alabama sturgeon (FWS, 1998).

The Cahaba River is free-flowing along its 191-mile length. Consequently, no significant lacustrine habitats or associated fisheries occur in this drainage.

Coosa River Subbasin

The six mainstem reservoirs in the subbasin (Weiss, H. Neely Henry, Logan Martin, Lay, Mitchell, and Jordan) impound about 238 miles of the Coosa River and cover a total area of about 81,300 acres (FWS, 1998). These impoundments support the sport fisheries mentioned in the introduction to this section, as well as commercial fisheries for freshwater drum, smallmouth buffalo, and catfishes. Redeye bass (*Micropterus coosae*) also occur in these reservoirs but are generally restricted to the head of those lakes in which tailwater discharges from upstream dams occur. In addition, southern walleye have been reported from Logan Martin and Weiss Lakes (FWS, 1998). The well-known crappie fishery in Weiss Lake is particularly popular and consistently draws fishermen from out-of-state (FWS, 1998).

Etowah River Subbasin

Lake Allatoona impounds about 30 miles of the Etowah River and creates about 19,200 acres (full flood pool elevation 860 feet msl) of lacustrine habitat. This reservoir supports the common sport fishes as mentioned in the introduction to this section, as well as southern walleye, redeye bass and rainbow trout (*Oncorhynchus mykiss*) (Beissser, 1989). Fish and wildlife management efforts at Allatoona Reservoir are limited to a minimum continuous release of 240 cfs (= 7Q10 flow) from the dam and regulating water levels to control rough fish and improve black bass spawning success whenever possible (Corps, 1991, 1992).

Oostanaula-Conasauga-Coosawattee Subbasins

Carters Dam and Carters Reregulation Dam impound about 13 miles of the Coosawattee River subbasin and create a reservoir covering about 4,250 acres (maximum power pool elevation). Carters Lake supports a varied sport fishery. There are no impoundments on the mainstems of the Oostanaula and Conasauga Rivers.

Tallapoosa River Subbasin

The four reservoirs (Harris, Martin, Yates, and Thurlow) in this subbasin impound about 71 miles of the Tallapoosa River and create about 53,200 acres of lacustrine habitat. These reservoirs support the common sport fisheries mentioned in the introduction to this section, except for hybrid bass (no stocking since late 1980s), freshwater drum, and southern walleye. Smallmouth buffalo are absent from the two upstream impoundments, Martin and Harris Reservoirs. In addition, no striped or white bass fisheries occur in the uppermost Harris Reservoir (Freeman et al., 1997; FWS, 1998). Redeye bass are reported to occur in these reservoirs but are generally restricted to the head of those lakes in which tailwater discharges from upstream dams create flowing water conditions (FWS, 1998).

Estuarine

The Mobile Bay estuary consists of numerous habitat types, including marine waters, brackish bays and marshes, and inland rivers and swamps. Because of its habitat diversity, the estuary provides spawning, nursery, and feeding grounds for a great number of estuarine-dependent fish and aquatic invertebrates.

Benthic invertebrates are considered to be the most important link for the overall biological production within Mobile Bay. Nematodes, copepods, polychaetes, and turbellarians are the most abundant groups of meiofaunal (less than 0.5 millimeter [mm]) benthic invertebrates that occur within the bay (TechCon, Inc., 1980). Annelids, primarily polychaetes, dominate the macrofaunal (greater than 0.5 mm size) benthos, both in diversity (147 species) and abundance (70 percent of total individuals collected) (TechCon, Inc., 1980). Other common macrofaunal benthic groups include arthropods, molluscs, and echinoderms. Comprehensive studies on the benthos of the Mobile-Tensaw River Delta are lacking. Unpublished studies of the lower delta have shown that river sediments are inhabited primarily by euryhaline marine macrofauna dominated by capitellid and spionid polychaetes. The freshwater benthos within the lower delta consists mostly of various insect larvae. In the upper delta areas, the dominant taxa includes the white crawfish (*Procambrus acutus acutus*), water boatman (*Corixidae*), and grass shrimp (*Palaemonetes kadiakensis*).

The primary commercial fishery species of the Mobile Bay estuary have been shrimp (brown shrimp [*Penaeus aztecus]*, white shrimp [*P. setiferus]*, and pink shrimp [*P. duorarum])*, blue crab (*Callinectes sapidus*), oysters (*Crassostrea virginica*), and various finfish (e.g., flounder, croaker, mullet, and menhaden). The Mobile Bay estuary is considered one of the most important habitats for these species in the Gulf of Mexico. Industrialization and natural impacts within the estuary watershed have resulted in reduced populations of these important aquatic resources. However, due to insufficient data, population trends for blue crab, shrimp, and finfish can not be accurately estimated.

Since 1986, oyster reefs in the estuary have been decimated by record drought conditions, infestation by the oyster drill (*Thais haemastoma*), and poor spat set. Presently, natural oyster reefs occur primarily in the lower reaches of the estuary with the most extensive reefs around the Dauphin Island Bridge at Cedar Point. In addition to the commercial value of the oyster itself, the oyster reefs of the Mobile Bay estuary support numerous fish and aquatic invertebrates that are important components of the estuarine foodweb, including the Gulf stone crab (*Menippe adina*), black drum (*Pogonia cromis*), red drum (*Sciaenops ocellatus*), and spotted seatrout (*Cynoscion nebulosus*).

Approximately 165 fish species have been documented in the Mobile Bay estuary (O'Neil and Metee, 1982). The single most important sportfishery species in the estuary is the spotted seatrout. The brackish seagrass flats of the estuary serve as the primary habitat for this species. Other sportfish species that occur in the estuary include the red drum, bluefish (*Pomatomus*

saltatrix), jack crevalle (*Carynx hippos*), king and spanish mackerel (*Scomberomorus cavalla* and *S. maculatus*), sand seatrout (*Cynoscion arenarius*), and southern flounder (*Paralichthys lethostigma*). The upper reaches of Mobile Bay and the Mobile-Tensaw River Delta also support a significant freshwater sportfishery, which includes largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), redear sunfish (*L. microlophus*), warmouth (*L. gulosus*), and black and white crappie (*Pomoxis nigromaculatus* and *P. annularis*).

The aquatic habitats of the Mobile Bay estuary are also recognized as one of the most important stopover areas for migratory birds in North America. Dauphin Island and the Fort Morgan Peninsula serve as rest stops for numerous migratory bird species on their way to and from Central and South America. The Mobile-Tensaw River Delta and Mobile Bay provide essential wintering and stopover habitat for a wide variety of waterfowl, and also support about 70 species of resident bird species.

Protected Species

The ACT basin is within the geographic range of numerous Federal and State protected species. Proposed increases in water releases from Corps reservoirs fall within the guidelines of Water Control Manuals for the projects and do not represent a change from current management practices. Protected species at or below the dams of those projects are described.

The Etowah darter, *Etheostoma etowahae*, is restricted to the headwaters of the Etowah River above Lake Allatoona, specifically the mainstem of the Etowah River, Amicalola Creek, and Long Swamp Creek (Freeman, 1998). Recent genetic studies suggest that the Etowah darter may also occur in the main stem of the Etowah River downstream of Lake Allatoona (Goodloe, USFWS, pers com, July 2007)

The goldline darter, *Percina aurolineata*, is endemic to the ACT basin and has only been found in the Coosawattee River in Georgia and the Cahaba River in Alabama. Recent research by Freeman (1998) documented the species in the lower Coosawattee River below Carters Dam.

The triangular kidneyshell, *Ptychobranchus greenii*, is endemic to the Mobile River basin in Alabama, Georgia, and Tennessee. In the ACT basin it has been found from the upper Conasauga River, the Oostanaula River, and Coosawattee River downstream of Carters Dam (FWS, 1993; Williams and Hughes, 1998)

Because of the nature of the APC request to reduce minimum required water releases during current drought conditions, it is expected that such changes in water releases would be temporary. Therefore, only those aquatic species directly impacted by the reduced flow of water below the APC reservoirs are described.

The tulatoma snail, *Tulatoma magnifica*, is currently found in the lower reach of the mainstem Coosa River between Jordan Dam and Wetumpka, and has also recently (2006) been found downstream of Claiborne Dam. The species requires cool, clean, well oxygenated, free-flowing

water with riffle and shoal areas. It is found on the underside of boulders in swift currents.

The Cherokee darter, *Etheostoma scotti*, is found below Allatoona Lake on the Tallapoosa River and upper Coosa River in Georgia. The species is found in small to medium sized streams with gravel and cobble substrates.

The Alabama sturgeon, *Scaphirhynchus suttkusi*, is found in low numbers below Millers Ferry and Claiborne Lock and Dam. The habitat requirements are not well known. They likely migrate upstream in late winter and spring to spawn. They appear to prefer stable gravel and sand substrates in deep river channels.

The heavy pigtoe, *Pleurobema taitianum*, occur in the Alabama River near Claiborne and Selma, in the lower Cahaba River, and possibly in the Coosa River. A recent discovery of the species was found on the Alabama River near Selma (Hartfield and Garner 1998). It prefers clear, fast-flowing water in shallow reaches where substrate is sand, gravel or cobble. It appears not to tolerate silt and sediment.

The southern clubshell, *Pleurobema decisum*, is endemic to the Mobile River basin in Alabama, Mississippi, Georgia and Tennessee. The current range in the ACT basin includes Bogue Chitto Creek in the Alabama River, the mainstem of the Alabama River, and Chewacla Creek in the lower Tallapoosa River. It has also been found in the lower Coosa River mainstem below Weiss Lake. It inhabits large creeks and small to large rivers. It is found on stable gravel and sandy substrates in free-flowing waters.

Water Resources

A significant amount of information that is used in this section was developed in preparation for the 1998 Draft EIS and has therefore been extracted from that source and updated as appropriate. The ACT basin (22,820 square miles) has approximately the same drainage area size as the Tombigbee River basin (20,200 square miles). Thus, flows from the ACT basin are diluted roughly in half by the time the Alabama River joins the Tombigbee River to form the Mobile River. The discussion includes the Mobile River resources, but not to the level of detail of other resources in the ACT basin.

This water quantity discussion addresses the amount of water in the ACT basin by examining flow rates, flow durations, reservoir water levels, and groundwater quantities. There are many factors that can affect water quantity, including weather, municipal and industrial (M&I) consumption, agricultural use for irrigation, the operation of hydro- and thermal power plants, and flood control dams.

In the southeast United States, rain falls nearly every month. However, the need for water in the summer and fall often is greater than the supply of water in the river basin. An important function of the many reservoirs in the ACT basin is to store water when there is an abundance of rain and to release water when there is less rain, ensuring that all water needs can be met

throughout the year. This management of water is a complex process that must consider the many competing demands for water in the basin, take past and future hydrologic conditions into consideration, and determine the most appropriate operating conditions for all the reservoirs in the basin to optimize the use of water. The Corps takes an active role in water management in the ACT basin to supply water to meet the various competing demands.

The various uses of water in the ACT basin include hydropower, navigation, water quality (such as assimilative capacity for wastewater discharges) and water supply, flood control, fish and wildlife habitat, and recreation. Water demands can be consumptive or nonconsumptive. *Consumptive* demands withdraw water from the basin for some purpose and return only a portion or none of it back to the basin. An example of consumptive uses are municipal, industrial, and some forms of steam generation water supplies, which return only a portion of the water back to the basin. For purposes of this analysis, agricultural water supply withdrawals are assumed to provide no return flow to the surface water streams. In contrast, hydropower demand is a *nonconsumptive* use of water. It uses the flow in the river to drive turbines to generate electricity, but no water is withdrawn or lost from the system.

There are three main rivers in the ACT basin—the Alabama, Coosa, and Tallapoosa Rivers. The Coosa and Tallapoosa join to form the Alabama River about two-thirds of the way downstream in the basin. The Coosa and Tallapoosa Rivers have numerous smaller tributary rivers.

Rivers in the ACT basin include both natural (unregulated) and regulated rivers. Natural rivers exhibit a more consistent pattern, responding to precipitation and drought periods as expected with short periods of high flows and prolonged periods of low flows, respectively. Regulated streams exhibit a variable pattern, with daily variations due to hydropower operations (most prominent below peaking projects), and lower flood peaks and higher sustained minimum flows through dry periods as the upstream reservoirs augment low flows. The highest monthly average flows for these rivers occur in the later winter/early spring months of February to April, which is typically the rainy season. Through late spring and summer, low precipitation and high evapotranspiration combine to reduce river flows. The lowest average monthly flow typically occurs at the end of the summer in September.

Coosa River

The Coosa River basin originates in the Blue Ridge Mountains and extends to Wetumpka, Alabama, north of Montgomery, Alabama. The basin has a drainage area of 10,200 square miles. The Coosa River has several main tributary streams that significantly affect flows in the river.

The Coosa River basin begins in southeast Tennessee with the Conasauga River. The Conasauga River drains an area of 727 square miles, about 20 percent of which is in Tennessee and 80 percent in Georgia. The Conasauga River has a fairly steep slope of 35.5 feet per mile for the upper 41 miles through the mountains, then falls at a more gentle slope of 3 feet per mile for the 47 miles to its mouth. The Conasauga River joins the Coosawattee River (865 square miles) to

form the Oostanaula River (2,150 square miles), which is a primary tributary to the Coosa River. The Coosawattee River initially falls at a steep rate of 29 feet per mile for 19 miles, then falls at a more gently slope of 2 feet per mile for the 27 miles to its mouth. There are two dams on the Coosawattee River: Carters Dam and Carters Reregulation Dam. Carters Dam, located about 27 miles upstream of the Coosawattee/Conasauga River confluence, is a peaking hydroelectric power facility that causes a regular pulsing of downstream flows and is the only hydroelectric facility in the basin with pumpback capabilities. Carters Reregulation Dam was constructed to return the stream flow to a more normal pattern, removing the pulsing caused by the peaking facility. The dam also serves as the lower reservoir for the pumpback operation. With the upper reservoir (Carters Lake) and the lower reservoir (Carters Reregulation Reservoir), water is released from Carters Dam during peak electrical demands and pumped back up to from the reregulation reservoir to Carters Lake during off-peak time.

The Oostanaula River is formed by the confluence of the Conasauga and Coosawattee Rivers near Resaca, Georgia. The Oostanaula River flows in a southerly direction for 47 miles to join the Etowah River at Rome, where the two rivers form the Coosa River. The Oostanaula River has a drainage area of 2,150 square miles. The slope of the Conasauga River is relatively flat with a fall averaging 1 foot per mile. The Etowah River begins in the Blue Ridge Mountains near Dahlonega, Georgia, and flows about 150 miles in a southwesterly direction to its confluence with the Oostanaula River at Rome, Georgia. The Etowah River basin drains an area of 1,860 square miles, all in Georgia. The Etowah River has a very steep slope initially, falling at a rate of 45 feet per mile, then becomes more gently with a slope of 4.5 feet per mile for 93 miles to Allatoona Dam. Downstream of the Dam, the slope is 3.2 feet per mile to its mouth. There is one dam on the Etowah River—Allatoona Dam, which is about 48 miles above Rome near Cartersville, Georgia (Corps, 1997).

The Oostanaula and Etowah Rivers converge near Rome, Georgia, to form the Coosa River. The Coosa River flows 286 miles from Rome, Georgia, to north of Montgomery, Alabama, where it joins the Tallapoosa River to form the Alabama River. The Coosa River drains an area of 10,200 square miles. The river falls approximately 420 feet in 267 miles, or 1.6 feet per mile, in a series of six successive pools, from its source to Jordan Dam. Seven Alabama Power Company dams form continuous, impoundments over nearly the entire length of the Coosa River, with each dam discharging into the upper end of the next downstream impoundment. These seven dams are Weiss, H. Neely Henry, Logan Martin, Lay, Mitchell, Jordan, and Bouldin. The upper three Alabama Power Company projects operate as hydropower peaking facilities, with releases occurring several hours each weekday and with no releases on the weekends. The lower four Alabama Power Company projects operate generally as run-of-river projects for hydropower production and to maintain stable flows from Jordan Dam over the weekends when the upstream peaking facilities do not operate. Because the reservoirs provide continuous inundation from one dam to the next, the effects of the peaking operation are tempered and attenuated.

The first of these seven dams is located 60 miles below Rome and the last one 19 miles above the confluence with the Tallapoosa River. As required by their FERC license (Corps, 1997), the Alabama Power Company projects on the Coosa River are operated to maintain a continuous

minimum flow at Jordan Dam of 4,000 cfs in April and May. The flows are reduced during June to 2,000 cfs by July 1 and remain at 2,000 cfs from July through March. The Coosa River channel varies from 300 to 500 feet wide, with banks 25 feet high along the flood plain. Numerous tributaries enter the Coosa River below Rome, Georgia. The largest of these is the Chattooga River, which has a drainage area of 675 square miles.

The capacity of the Coosa River within its banks varies substantially throughout the river's length. Capacity is about 15,000 cfs at Rome, Georgia, and about 50,000 cfs near Gadsden, Alabama (Corps, 1997). Historically, average daily flows at the USGS gage on the Coosa River at Rome, Georgia have been as low as 907 cfs (in October 1988) and as high as 64,600 cfs (in January 1947) and 64,200 cfs in more recent years (March 1990).

Tallapoosa River

The Tallapoosa River begins in northwest Georgia, 40 miles west of Atlanta, at an elevation of 1,145 feet. The river flows 235 miles into Alabama to join the Coosa River north of Montgomery. The basin drains a total area of 4,680 square miles, of which 15 percent are in Georgia and 85 percent in Alabama. From its source, the river falls at a rate of 12 feet per mile for the first 15 miles, then descends at a more gradual rate of 3.4 feet per mile. In the lower reach from Thurlow Dam to its mouth, the river falls at a rate of 1.6 feet per mile.

Alabama Power Company constructed four dams across the Tallapoosa River. The upper two projects (Harris and Martin) are hydroelectric peaking facilities that generally operate several hours each weekday and do not generate power on the weekends. The two downstream projects (Yates and Thurlow) operate as run-of-river facilities, slightly reregulating peak releases and maintaining downstream minimum flows over the weekends when the upstream projects do not operate.

The river's width varies from 250 feet to 700 feet and has banks that are 20 feet high along the flood plain. The principal tributary streams are the Little Tallapoosa River and Sougahatchee, South Sandy, Uphapee, and Hillabee Creeks (Corps, 1997). The river has a capacity of 2,500 cfs in the upper reaches, 22,000 cfs near Wadley, Alabama, and 60,000 just below Thurlow Dam (Corps, 1997). Historically, flows at the USGS gage on the Tallapoosa River at Wadley, Alabama, have been as low as 41 cfs (in August 1987) and as high as 67,900 cfs (in April 1979).

Alabama River

The confluence of the Coosa and Tallapoosa Rivers forms the Alabama River near Wetumpka, Alabama, north of Montgomery. The Alabama River, excluding the Coosa and Tallapoosa River tributary areas, drains an area of 7,940 square miles, all of which is in Alabama. Montgomery, the largest city located on the stream, is about 14 miles downstream from the source of the Alabama River. The river meanders generally in a westerly direction for 100 miles to Selma and then southwesterly 210 miles to join the Tombigbee River. The Alabama and Tombigbee Rivers merge to form the Mobile River near Calvert, Alabama. The Alabama River has a relatively flat slope, averaging 0.3 foot per mile. The channel varies in width from 400 to 600 feet with banks

10 feet high (Corps, 1997).

By letter of agreement from APC to the Corps dated 2 May 1972, APC agreed to maintain a weekly minimum flow rate of 4,640 cfs at the confluence of the Tallapoosa and Coosa Rivers, based on combined flows from the two tributaries to the Alabama River. The rationale for the combined flow rate is based on a 7Q10 (statistical flow calculation for lowest consecutive 7 days over a 10 year period) formula for maintaining adequate flow for water quality purposes. Under natural conditions, without the mitigating effect of water releases from the various reservoirs in the ACT basin, unimpaired flows on the Alabama River would be much lower than 4,640 cfs. Using the HEC-5 model developed during the Comprehensive Water Resources Study, based on the 1939-1993 period the unimpaired (Non parametric IHA Scorecard), 7-day minimum flows at Montgomery would be as low as 3,735 cfs, and at Claiborne as low as 5,176 cfs. The difference between the two locations is due to the confluence with the Cahaba River and other lesser tributaries. The unimpaired flow dataset is based on the removal of the effects of dams, municipal, industrial and agricultural water use within the basin, and represent an approximation of the "natural" flows during the 54-year period of record (1939-1993).

The Cahaba River is a major tributary of the Alabama River. The Cahaba River originates on the southern slope of Cahaba Mountain northeast of Birmingham, Alabama, at an elevation of approximately 1,200 feet. The river drains an area of 1,825 square miles. It flows southwesterly and southerly for 196 miles where it joins the Alabama River 17 miles downstream from Selma, Alabama, within Dannelly Lake. Purdy Dam, a water supply project owned by the Birmingham Water Works Board, is on the headwaters of the Cahaba River. The Cahaba River has an average slope of 15 feet per mile for the first 25 to 30 miles, then drops to a slope of 2.5 feet per mile for 44 miles, and finally flattens to a slope of 0.6 feet per mile to its mouth.

The Corps constructed three multi-purpose dams on the Alabama River. R. F. Henry, located 30 miles above Selma and 245 miles above the mouth, and Millers Ferry, located 73 miles downstream of Selma and 142 miles above the mouth; each has a navigation lock and a hydroelectric powerhouse. Claiborne, located 82 miles above the mouth, only has a navigation lock. The Alabama River has a carrying capacity that varies from 100,000 to 150,000 cfs (Corps, 1997). Historically, flows at the USGS gage on the Alabama River at Claiborne Lock and Dam have been as low as 3,890 cfs (in September 1986) and as high as 255,000 cfs (in March 1990).

Mobile River/Delta/Mobile Bay

Below the confluence of the Tombigbee and Alabama Rivers, the Mobile River continues a gentle fall in a broad delta, dividing from a single channel into multiple intertwined channels. Most of the delta is composed of palustrine swamps. As the river sea level, tidal influence and salinity gradually increase as the delta enters the Mobile Bay Estuary. The natural environment of the delta region is dependent on the salinity of the water with the greater flow of fresh water in the upper reaches providing conditions more favorable for freshwater adapted organisms, while the mixing of saltwater in lower reaches provides more brackish environments in the upper bay

to near marine conditions in the lower bay.

Reservoirs/Hydropower

There are 18 dams in the ACT basin, which form 16 major reservoirs (Jordan and Bouldin share a common reservoir and Carters Dam and Carters Reregulation function as a single system). Six dams are Federally owned by the Corps and 12 are privately owned projects. Of the 18 dams, there are 2 on the Coosawattee River, 1 on the Etowah River, 7 on the Coosa River, 4 on the Tallapoosa River, 1 on the Cahaba River, and 3 on the Alabama River. Of the 16 reservoirs, Martin Lake on the Tallapoosa River has the greatest amount of storage, containing over 30 percent of the entire storage in the ACT basin. Allatoona, Harris, Weiss, and Carters are the next four largest reservoirs in terms of storage.

Carters Lake

The Corps' Carters Dam and Carters Reregulation Dam on the Coosawattee River is a multipurpose project for flood control, hydropower, navigation, water quality, fish and wildlife enhancement, and recreation. The Carters project is a pumped-storage peaking facility. Water is released from Carters Dam, flows through the penstock, and generates power as it is discharged to the reregulation dam pool. The Corps generates power at Carters Dam only a few hours each weekday, when demand for electricity is greatest. When demand for electricity is low, usually during the night or on weekends, the turbines reverse and pump water back up from the reregulation pool to Carters Lake. Water is available again for hydropower generation in the next peak use period, and Carters Lake is maintained at its optimal power generation level.

Carters Lake has a total storage capacity of 472,800 acre-feet at elevation 1,099 feet. Of this, 141,400 acre-feet is usable for power generation, 95,700 acre-feet is reserved for flood control, and 242,200 acre-feet is dead storage. The minimum power pool elevation is 1,022 feet and the maximum power pool (maximum conservation pool) elevation is 1,074 feet in the summer and 1,072 feet in the winter. Carters Lake has a surface area of 3,220 acres at elevation 1,072 feet. The normal year-round operating range for the reregulation dam is 677 to 696 feet. The Carters Reregulation Dam provides a minimum continuous flow of 240 cfs to the Coosawattee River.

As expected with a peaking/pumped storage operation, both Carters Lake and the reregulation pool experience frequent elevation changes. Typically, water levels in Carters Lake vary no more than 1 to 2 feet per day. Levels can rise more than this during flooding events, however, as the lake captures and retains flood flows.

Lake Allatoona

The Corps' Allatoona Dam on the Etowah River creates the 19,200-acre Allatoona Lake. The project was built for flood control, regulation of streamflow for navigation, hydroelectric power, and recreation. Other purposes of the project are water supply, water quality, and fish and wildlife enhancement. Major withdrawals from, and releases to, this reservoir are made by the Cartersville and Cobb County-Marietta water systems. The Northwest Cobb water pollution

control plant also discharges into this lake. The lake has a flood control storage capacity of 265,300 acre-feet and a conservation storage of 284,580 acre-feet.

A minimum flow of about 240 cfs is continuously released through a service unit, which generates power while providing a constant flow to the Etowah River downstream. Allatoona Dam operates in a peaking mode, generating power typically between 2 and 6 hours during normal operations each weekday. Weekend generation may occur if required to meet customer needs. The period of power generation is related to the stage of Conservation pool drawdown. Generally, only the 240 cfs minimum flow is released on the weekends. The total generating capacity of the project is 80 megawatts (MW). During droughts the amount of generation may vary based on reservoir elevation (zone), inflows, hydropower needs, downstream needs, and other considerations.

Water levels in Lake Allatoona remain fairly stable during normal operating conditions. Lake levels vary only several inches except during high inflows to the basin and during flood storage drawdown in the winter, which reduces the pool from 840 feet to 823 feet. Flood flows that are captured in the reservoir are generally released slowly over the subsequent weeks, unless additional flood flows are anticipated. Power releases during the low flow season augment flows at the Alabama Power Company's projects along the Coosa River. The releases also provide water for municipal and industrial needs in the Rome, Georgia, area and for navigation on the Alabama River below Montgomery during the dry season.

These two Corps lakes are located in the upper portion of the ACT watershed, without other reservoirs that can provide releases to provide inflows, and therefore are particularly vulnerable to drought conditions. The two lakes together provide approximately 15% of ACT water storage from approximately 10% of the total watershed area. The Corps operates the lakes using a management philosophy of reserved storage, holding as much water as practicable, while fulfilling other water needs. This philosophy provides greatest system flexibility in drought conditions that are of unknown length and magnitude, less flow for longer periods during drought, greater control over meeting systemwide needs, and reserves water for potential emergencies.

Weiss Lake

Weiss Lake is the first of seven Alabama Power Company reservoirs on the Coosa River. Weiss Lake has a surface area of 30,200 acres and a storage capacity of 305,800 acre-feet. The project is operated for peaking power production, with typical operation for power generation of 1 to 6 hours per day during the week but with no generation on the weekend. The dam's operation is coordinated with releases from the downstream reservoir (H. Neely Henry Lake) to keep the pool levels in balance and fairly stable. The H. Neely Henry Lake affects the Weiss Dam tailwater at the power plant, inundating the tailwater. The issue of minimum flows or leakage flows is not critical where the tailwater is inundated with a downstream reservoir because there is no free-flowing stretch of river that could dry up.

Weiss Dam also operates as a flood control facility. Flood control storage is 10 feet in the summer and between 10 and 16 feet in the fall, winter, and early spring. Between 3 and 5 feet is allowed for conservation storage, depending on the season. Conservation storage is used for hydropower and water supply. The generating capacity of the project is 88 MW. APC is currently proposing to decrease the amount of flood storage as part of their ongoing FERC relicensing for this project.

H. Neely Henry Lake

H. Neely Henry Dam is a multi-purpose project on the Coosa River owned by Alabama Power Company. The reservoir's purposes include hydropower, navigation, water quality, water supply, and recreation. There is no flood control storage in the reservoir, although Alabama Power Company lowers the pool elevation to minimize flood damages in the Gadsden area in advance of an impending flood.

The reservoir has a surface area of 11,200 acres and a storage area of 120,600 acre-feet. Normal lake elevation is 508 feet. Alabama Power Company typically operates the project with a fairly stable pool, although reservoir levels can fluctuate a foot or more if necessary to meet high power demands. The dam is operated as a peaking facility, with no generation on the weekends and several hours of generation each weekday, as power needs require. The generating capacity of the project is 72.9 MW. Logan Martin Lake inundates the tailwater of the H. Neely Henry Dam. APC is currently proposing to permanently decrease the amount of flood storage as part of their ongoing FERC relicensing for this project (interim approval granted by the FERC and Corps in 1999).

Logan Martin Lake

Logan Martin Lake is the third in a series of seven Alabama Power Company reservoirs on the Coosa River. The reservoir is created by the Logan Martin Dam, which is a peaking hydropower facility. There is no flood control storage in the reservoir; all inflow is passed through the project when the reservoir reaches the top of the conservation pool. Although Logan Martin Lake has no flood control storage, Alabama Power Company coordinates the operation with other projects on the Coosa River to minimize flooding. When inflow exceeds the power plant's capacity (32,700 cfs), the excess is released through the spillway. Another approximate 800 cfs is lost through under seepage.

Logan Martin Lake has a surface area of 15,300 acres and a storage capacity of 273,300 acre-feet. The peaking facility operates several hours each weekday, depending on electrical power demand. The generating capacity of the project is 128 MW. APC is currently proposing to decrease the amount of flood storage as part of their ongoing FERC relicensing for this project.

Lay Lake

Lay Lake, a 12,000-acre reservoir on the Coosa River downstream of the Logan Martin Dam, is a hydropower facility owned by Alabama Power Company. The project's primary purpose is

hydropower production, but the reservoir also provides storage for water quality, water supply, and recreation. A major paper products company also releases treated wastewater into Lay Lake. The reservoir is typically maintained near the top of the conservation pool (465 feet), but can be drawn down a foot to meet high power demands. The power plant operates as necessary to keep the lake from exceeding the top of the conservation pool. Generally, the project is operated in a run-of-river mode, releasing outflows that approximate reservoir inflows on a daily basis. The generating capacity of the Lay Lake project is 142 MW.

Lay Lake has storage capacity of 262,749 acre-feet. Although this lake has no flood control storage, APC coordinates the operation with other projects on the Coosa River to minimize flooding. The Lay Dam is also operated together with the Mitchell and Jordan Dams to maintain downstream flow requirements on weekends, since the upper storage projects do not normally operate on weekends. Lay Dam contributes its run-of-river flows in meeting the downstream requirements at Jordan Dam.

Mitchell Lake

Mitchell Dam is operated by Alabama Power Company primarily for hydropower production; however, the 5,850-acre reservoir also provides storage for water quality, water supply, and recreation. Alabama Power Company maintains the reservoir as close to the top of the conservation pool as possible (312 feet). If necessary, the reservoir can be drawn down 1 foot to meet power demands. The project has a generating capacity of 170 MW. Mitchell has storage of 170,710 acre-feet. There is no flood control storage at the Mitchell project. The Mitchell Dam is also operated together with the Lay and Jordan Dams to maintain downstream flow requirements on weekends, since the upper storage projects do not normally operate on weekends. Mitchell Dam contributes its run-of-river flows in meeting the downstream requirements at Jordan Dam.

Jordan Lake

The Jordan and Bouldin Dams are both Alabama Power Company facilities on the Coosa River. Jordan Lake, which is a 6,800-acre reservoir, is maintained at 252 feet under most circumstances; however, the level is frequently lowered by 1 foot to meet power or minimum flow demands. Jordan has storage of 236,178 acre-feet.

Lay, Mitchell, and Jordan Dams operate as necessary to maintain downstream flow requirements on weekends since the upper storage projects normally do not operate on weekends. The minimum flow at Jordan Dam is 2,000 cfs from July through March, 5,000 cfs during April and May, and 3,438 cfs during June. Jordan Dam contributes its run-of-river flows in meeting this downstream requirement. Jordan Dam has a leakage flow of approximately 187 cfs. APC has recently submitted a request to FERC to reduce the 2,000 cfs minimum flow requirement to 1,000 cfs due to the current severe drought conditions. FERC issued an order granting temporary reduction in the minimum flow at Jordan Dam for study purposes on 18 July 2007. The APC is proposing to conduct studies to determine the impact of flow reductions below 2,000

cfs on the federally endangered tulatoma snail and other aquatic resources in the Coosa River downstream of Jordan Dam. The USFWS has agreed to handle the ESA consultation for flow study under emergency consultation procedures, with the FERC and USFWS conducting any required formal consultation after-the-fact.

Water from Lake Jordan supplies both Jordan and Bouldin Dams for hydropower peaking generation. All flows in excess of the minimum flow requirement at Jordan Dam pass through a canal to Bouldin Dam. Flows greater than the 30,000 cfs penstock capacity at Bouldin Dam pass through the Jordan Dam's turbines or spillway (Bouldin Dam has no minimum flow requirements and no spillway). Jordan and Bouldin facilities have generating capacities of 100 and 225 MW, respectively.

R.L. Harris Lake

The R.L. Harris Dam is an Alabama Power Company facility on the Tallapoosa River, creating the 10,700-acre Harris Lake. Harris Dam is the most upstream of a series of four dams on the Tallapoosa River. The two most upstream projects (Harris and Martin) are peaking facilities and the two most downstream (Yates and Thurlow) are run-of-river projects, passing inflow as it enters each reservoir. Harris operates to maintain a continuous minimum flow of 45 cfs at the Wadley gage, which is about 15 miles downstream of the dam.

Alabama Power Company operates the Harris project in a peaking mode, generating power as demands dictate, typically on a Monday through Friday schedule. The generating capacity of the project is 135 MW. The penstock capacity is 16,000 cfs. The project maintains between 2 and 10 feet of flood control storage, depending on the season, equal to 425,666 acre-feet, and a conservation pool of between 17 and 25 feet, depending again on the time of year. The City of Wedowee maintains a water supply intake on Harris Lake. Generally, Alabama Power Company operates the project to keep the reservoir from exceeding the top of the conservation pool.

Lake Martin

The Martin Dam and Lake is the second in a series of four Alabama Power Company projects on the Tallapoosa River. Martin Lake has a surface area of 40,000 acres and a storage capacity of 1,623,000 acre-feet, making it the largest storage reservoir in the ACT basin. The primary purpose of the Martin project is hydropower production, but the reservoir also provides storage for water quality, water supply, and recreation. Alexander City and Elmore County are major users of water from this project, and Alexander City also releases treated wastewater into the reservoir. The Martin project is a peaking facility that normally operates on a Monday through Friday schedule to meet peak power demands. The generating capacity of the project is 154 MW. The penstock capacity is 16,700 cfs.

Alabama Power Company operates the Harris and Martin Dams to provide a minimum flow of 1,200 cfs at the Thurlow Dam. Alabama Power Company also operates the project as necessary to keep the reservoir level from exceeding the top of the conservation pool. Martin Lake has no

storage reserved for flood control, although seasonal winter drawdowns are used to prepare for spring inflows and may provide incidental flood control benefits. Alabama Power Company also coordinates the operation of Martin with other projects on the Tallapoosa River in the interest of flood control to the extent possible.

Yates Lake

The Yates project is the third in a series of four Alabama Power Company projects on the Tallapoosa River. Alabama Power Company operates the Yates facility together with the Thurlow facility downstream to meet the 1,200 cfs minimum flow requirement at Thurlow on weekends, since the upper two storage projects normally do not operate on weekends.
Yates Lake has a surface area of 2,000 acres and a storage capacity of 53,800 acre-feet. The Yates Dam has an open-crest spillway with an elevation of 344 feet. Flows in excess of turbine capacity flow over the spillway. The generating capacity of the project is 37 MW. The penstock capacity is 9,755 cfs.

Thurlow Lake

The Thurlow Dam is the fourth Alabama Power Company dam on the Tallapoosa River. Alabama Power Company operates the Thurlow project together with the Yates project to meet downstream flow requirements on weekends, when the upper two storage projects (Harris and Martin) are typically not operating. The Thurlow project's primary purpose is hydropower, but the reservoir also provides storage for water quality, water supply, and recreation. Alabama Power Company also operates the project to provide a continuous minimum release of 1,200 cfs. Together with the minimum flow requirements of the Jordan and Bouldin Dams, this provides a continuous minimum flow of 4,640 cfs to the Alabama River at Montgomery. The Thurlow reservoir has no flood control storage. Alabama Power Company coordinates the Thurlow operation with the other Tallapoosa River projects to minimize flooding.

Thurlow Lake is by far the smallest of the four Tallapoosa River reservoirs. The surface area of the lake is 574 acres, and the storage capacity is 18,500 acre-feet. Alabama Power Company typically operates the project at 289 feet with little fluctuation. Generating capacity at the project is 58 MW.

Purdy Lake

Purdy Lake is a small, 990-acre reservoir at the headwaters of the Cahaba River. It has a drainage area of only 43 square miles. The primary purpose of the lake is to provide water supply for the City of Birmingham. The dam and reservoir are owned by the Birmingham Water Works Board. There are no hydropower generating facilities at the project.

R.E. "Bob" Woodruff Lake

The R.E. "Bob" Woodruff Lake is created by the Robert F. Henry Lock and Dam, located 281 miles upstream of Mobile Bay. This is the first of three Corps projects on the Alabama River, also known as the Alabama River Lakes. Woodruff Lake extends from the Robert F.

Henry Lock and Dam upstream to the Walter Bouldin Dam. The City of Montgomery, Alabama, is located on the lake. In addition to hydropower and navigation, Woodruff Lake provides recreation and fish and wildlife enhancement.

Woodruff Lake is 77 miles long and averages 1,300 feet wide. It has a surface area of 12,500 acres and a storage capacity of 234,200 acre-feet at a normal pool elevation of 125 feet. There is an authorized 9-foot-deep by 200-foot-wide navigation channel over the entire length of the lake. The Corps operates the project for navigation and hydropower generation. The facility has a generation capacity of 68 MW. The R.F. Henry Dam is operated in tandem with the downstream Millers Ferry Dam to provide an average daily outflow of 6,600 cfs from the Millers Ferry Dam for navigation and waste assimilation needs on the Alabama River. The project is operated as a run-of-the-river reservoir with limited storage, and lake levels are typically fairly stable with minimal fluctuation. The lake is a popular recreation destination, receiving up to 2 million visitors annually.

William "Bill" Dannelly Lake

The William "Bill" Dannelly Lake is created by the Millers Ferry Lock and Dam on the Alabama River, 178 miles upstream of Mobile Bay. Dannelly Lake is 103 miles long and averages almost 1,400 feet wide. The reservoir partially inundates several tributary streams. The Cahaba River flows into the upper reaches of Dannelly Lake.

Dannelly Lake has a storage capacity of 331,800 acre-feet at a normal pool elevation of 80 feet. It has a surface area of 18,500 acres. There is an authorized 9-foot-deep by 200-foot-wide navigation channel extending the entire length of the reservoir. The facility is a multi-purpose reservoir constructed by the Corps for both navigation and hydropower. The reservoir also provides recreational benefits and has lands managed for wildlife mitigation. The hydropower generating capacity of the project is 75 MW. An average daily outflow of 6,600 cfs is provided from the Millers Ferry Dam for navigation and assimilative flow needs on the Alabama River.

The project is operated as a run-of-the-river reservoir with limited storage, and lake levels remain fairly stable on a day-to-day basis, but rise slightly, up to 0.5 feet, in wet weather. The reservoir provides ample recreation opportunities. Recreation visitors number 3 million annually.

Claiborne Lake

Claiborne Lake is created by the Claiborne Lock and Dam on the Alabama River about 118 miles upstream of Mobile Bay. The lake is similar to a wide river, averaging about 800 feet wide, with a surface area of 5,850 acres. Claiborne Lake extends 60 miles upstream to the Millers Ferry Lock and Dam. Storage capacity in the lake is 96,360 acre-feet at a normal pool elevation of 35 feet. The lake has an authorized 9-foot-deep, 200-foot-wide navigation channel extending its entire length. The primary purpose of this Corps project is navigation. There is no hydropower generating capability at the project. The lake also provides recreation benefits and has lands managed for wildlife mitigation.

The project is operated as a run-of-the-river reservoir with limited storage, and is the most primitive of the three Alabama River Lakes. The lake remains mostly within its original river banks and is surrounded by a rustic atmosphere. The Corps is allowing the shoreline to revert to its natural state, providing important wildlife habitat. Recreation visitors number over one million annually.

Water Supply

Fresh water is withdrawn from both surface water and groundwater sources in the ACT basin to meet regional water supply purposes. Major users of water include municipalities in the Atlanta metropolitan area, the North Georgia metropolitan area, Rome, Georgia, Birmingham, Alabama, Montgomery, Alabama, and Anniston, Alabama. A complete list of municipal water users within the Alabama portion of the ACT is shown in Table 1.

In addition, there are numerous industrial water users located throughout the basin that depend on a supply of fresh water either for industrial processes or for cooling. Water use follows a seasonal pattern. In general, the peak water demand months are June through September, when irrigation and residential water demands peak with the warm temperatures (Davis et al., 1996). The seasonal demands on surface water affect how decisions are made to manage project operations in the ACT basin. For example, the Lay, Mitchell, and Jordan Dams on the Coosa River are operated on the weekends to maintain minimum flow requirements at Montgomery, ensuring that the City has sufficient water to meet its demands and navigation needs. In addition, project operations during drought periods must take water demands into consideration to provide minimum flows to meet navigation, water supply, and water quality demands.

As part of the Comprehensive Study, the Natural Resources Conservation Service (NRCS) evaluated historic and existing agricultural activities and water demand in the ACT basin. The study prepared by NRCS developed projections of agricultural water demands for 1995 and future years (NRCS, 1996). These projections included demands by the agricultural sector, including irrigation of crops/orchards, turf grasses and plant nurseries, and water demands for aquaculture, livestock, and poultry.

Table 1. Municipal Water Users in the Alabama Portion of the ACT Basin.

PWS NAME	RAW WATER INTAKE SOURCE
LAFAYETTE WATER WORKS	LAFAYETTE RESERVOIR
AUBURN WATER WORKS	LAKE OGLETREE
FIVE STAR WATER SUPPLY DISTRICT	LAKE JORDAN
FORT PAYNE WATER WORKS BOARD	BIG WILLIS CREEK
FORT PAYNE WATER WORKS BOARD	ALLEN SPRING
GOODWATER UTILITIES BOARD	HATCHET CREEK
ALEXANDER CITY WATER DEPARTMENT	TALLAPOOSA RIVER ADAMS PLANT
ANNISTON WATER & SEWER BOARD	HILLABEE CREEK
ANNISTON WATER & SEWER BOARD	COLDWATER SPRING
PIEDMONT UTILITIES BOARD	LADIGA CREEK
CENTRE WATER & SEWER BOARD	COOSA RIVER-LAKE WEISS RESERVOIR
CLAY COUNTY WATER AUTHORITY	CROOKED CREEK
HEFLIN WATER WORKS	CAHULGA CREEK
CLANTON WATER DEPARTMENT	CARGILE CREEK (COOSA RIVER)
TALLASSEE WATER WORKS	TALLAPOOSA RIVER (LAKE THURLOW)
CENTRAL ELMORE WATER AUTHORITY	LAKE MARTIN
GADSDEN WATER WORKS	COOSA RIVER
TALLADEGA WATER & SEWER BOARD	TALLADEGA CREEK
TALLADEGA WATER & SEWER BOARD	MUMP CREEK
OPELIKA WATER WORKS BOARD	SAUGAHATCHEE LAKE
TUSKEGEE UTILITIES BOARD	TALLAPOOSA RIVER
PINE HILL WATER DEPARTMENT	ALABAMA RIVER - VIA WEYERHAESER
NORTHEAST ALABAMA WATER SYSTEM	WATERLOO SPRING
MONTGOMERY WATER WORKS	CT PERRY-TALLAPOOSA RIVER
ROANOKE (THE UTIL. BD. OF THE CITY OF)	CRYSTAL LAKE
ROANOKE (THE UTIL. BD. OF THE CITY OF)	JONES CREEK
SYLACAUGA UTILITIES BOARD	LAKE HOWARD
SYLACAUGA UTILITIES BOARD	HIGHTOWER QUARRY (QUARRY LAKE)
TALLADEGA-SHELBY WTP	COOSA RIVER
WEDOWEE WATER, SEWER, & GAS BOARD	LAKE WEDOWEE

The annual average agricultural water use in the Alabama portion of the ACT basin was estimated to total 75.1 mgd in 1995. Two planning areas, the Coosa and the Alabama-Cahaba, account for a significant portion of the total water use. The Coosa planning area contains the counties of Calhoun, Cherokee, Chilton, Coosa, DeKalb, Elmore, Etowah, St. Clair, Shelby, and Talledega. The Alabama-Cahaba planning area contains the counties of Autauga, Bibb, Dallas, Lowndes, Perry, and Jefferson.

Surface water and groundwater are used almost equally to meet agricultural irrigation demands in the Alabama portion of the basin. Natural runoff is used extensively for aquaculture purposes. Irrigation of crops and orchards and aquaculture accounted for the majority of the existing agricultural water demand. The NRCS study (1995) indicated, however, that irrigation is not heavily used in the Alabama portion of the ACT basin.

The average annual water demands in the Georgia portion of the ACT basin were estimated to be 21.9 mgd in 1995. Livestock and poultry demands accounted for 11.7 mgd of the total demand. Aquaculture (6.5 mgd) and crops and orchards (2.2 mgd) represent other significant water demands in the area. The Georgia Geological Survey found that the majority of agricultural water demands are met through surface collection. Of the other agricultural sectors inventoried, only nurseries obtain water primarily from groundwater.

Seasonal water needs are critical to the production and quality of certain crops, particularly corn and peanuts. Lack of water during key growth stages can essentially destroy the crop. Agricultural water demands in May through August account for the large majority of the annual demand. These months reflect the heart of the growing season for crop and orchards.

Navigation

Navigation is an important use of water resources in the ACT basin. Keeping the rivers clear for navigation was one of the first missions for the Corps of Engineers. Today's commercial barge lines still use rivers to move significant quantities of bulk materials by barge, although barge traffic on the Alabama has been limited in recent years due to low water levels and reduced dredging. A 9-foot-deep by 200-foot-wide navigation depth is needed to provide the full authorized navigation channel on the Alabama River to Montgomery, Alabama. A minimum depth of 7.5 feet can provide a limited amount of navigation. Under low flow conditions, even the 7.5-foot depth has not been available at all times. In recent years, the minimum depth has not been maintained with routine dredging and navigation has not been a significant use of the Alabama River.

Flood Control

Flood control is achieved by storing damaging flood waters, thus reducing downstream river levels below that which would have occurred without the dams in place. All of the APC reservoirs listed above provide flood storage. Of the Corps reservoirs, only the Lake Allatoona and Carters Lake were designed with space to store flood waters.

Water Quality

Federal law (the Federal Clean Water Act) and State laws (the State water quality regulations) regulate water quality in the ACT basin. State regulatory agencies establish water quality standards to protect the designated uses of the States' waters. Water quality standards consist of water use classifications, general narrative standards, and numeric standards for water quality parameters and toxic substances. Many of the regulations managing water quality have a direct impact on industrial and municipal users discharging waste waters into ACT waterways. Such regulations require for example that discharges of waste be in relation to the flow rate or existing water quality (e.g. dissolved oxygen) of the receiving water.

Water quality in the ACT basin is of interest to the many people who live in the basin and use its water resources. Surface water is a drinking water source and thus its quality is of utmost importance. The ACT basin has widely ranging land uses, which have significant effects on

water quality.

Although the quality of treated wastewater discharges in the basin has improved since the 1970s with the adoption of improved wastewater treatment processes, water quality continues to be a concern from both point sources and unregulated nonpoint sources. Nonpoint source pollution includes suspended sediment, bacteria, pesticides, fertilizer, metals, oils, grease, and a variety of other pollutants that are washed into surface waters from urban and rural runoff.

Recreation

All of the Corps and APC lakes have become important recreational resources on the ACT system. Many of the reservoirs have facilities for camping, fishing, boating, swimming and picnicking. Some of the lakes have very high rates of use. For example Lakes Martin (APC) and Allatoona (Corps) have visitation of approximately 2.0 million visitor days per year with most of the recreational use occurring in the spring and summer months. Because the use of these facilities is dependent on the existence of the lakes, water levels and water quality are necessarily important factors in considering potential impacts.

3. DESCRIPTION OF THE RECOMMENDED ACTION (Corps Proposed Action)

The recommended action during current and future drought conditions is that the Corps allow APC to temporarily reduce the combined flows on the Alabama River at Montgomery by 10% to 4,176 cfs. However, the Corps would not approve the request to alter releases from its reservoirs by any amount in tandem with the APC reduction. Instead, the Corps would continue its current independent operation of its reservoirs at Carters Lake and Lake Allatoona according to its current Water Control Manual guidelines with no predetermined link to the minimum flows required of APC. The releases by the Corps over the past couple of months at the two lakes total approximately 900 cfs, based on one hour of hydropower generation per day, although the combined inflows into these lakes has been approximately 300 cfs.

A reappraisal of drought conditions will be made at approximately one week intervals to consider maintaining the then current reduction from the minimum flow agreement or to approve a further reduction of up to an additional 10% (3,712 cfs), or alternatively, to return to the required minimum flow of 4,640 cfs. This action is proposed because of the various alternatives considered, it is considered to have the greatest potential to have the least overall adverse impacts to the affected environment, and to maintain the most flexible position for making water management decisions during the continuing current drought and future droughts. The described action would maintain sufficient water reserves in Lakes Allatoona and Carters to insure that minimum environmental flows can be maintained, assure reliability of water intake by the municipalities on those lakes, and at the same time allow increased future releases if warranted, due to continuing sustained drought conditions. It would also allow APC to safeguard its hydropower generation for the short term, maintain sufficient water flow for downstream water users to continue withdrawals from water intake structures and the discharge of wastewater while meeting State water quality standards, and not adversely impact listed threatened and endangered

species in the affected waterways. While this appraisal of water releases is considered accurate at the time it is written, it will require a continual reevaluation while drought conditions continue. Therefore, this adaptive management approach could result in the described strategy, or a variation within the range of different alternatives described below. Those alternatives constitute Corps approval of various degrees of APC reductions from the minimum flow agreement and the Corps' own independent management of water releases from its lakes as prescribed in its Water Control Manual for those lakes.

4. ALTERNATIVES TO THE RECOMMENDED ACTION

"No Action" Alternative (Alternative 1)
The CEQ regulations require analysis of the "no action" alternative 40 C.F.R. § 1502.14. Based on the nature of the proposed action, "no action" represents "no change" from the current water management practices at APC reservoirs in the ACT basin, and no change from the requirements of the existing 1972 minimum flow agreement would be approved. Corps reservoirs are managed independently from APC reservoirs according to its Water Control Manuals, and allows the Corps to use its discretion within stated guidelines. Therefore, under the "no action" alternative, the Corps would continue to make releases from Lakes Allatoona and Carters of at least 240 cfs at each lake, or as much as those releases based on six hours of hydropower generation per day.

Current combined water flow on the Alabama River at Montgomery (below APC Thurlow Lake and Jordan/Bouldin Lake) is 4,640 cfs, the minimum required by the 1972 agreement between APC and the Corps. At the upstream Corps lakes in the ACT basin, current combined water releases have been approximately 900 cfs based on one hour of hydropower generation per day, averaged over seven days during the past couple of months.

Action Alternatives
A total of ten alternatives have been evaluated. Each would include either a reduction in required water flow releases by APC or an increase in water releases from upstream Corps reservoirs, using its existing discretion under guidelines of Water Control Manuals, or a combination of the two actions. Alternative 3 contains three variations of the full 40% reduction considered in Alternative 2. Those alternatives that include reductions in releases from APC reservoirs would include sustained reductions for the remainder of drought conditions. This represents a significant difference from the recommended action, whereby the Corps would adaptively manage the releases on a weekly basis. Each alternative is described as follows:

> **Alternative 2**. Allow the full 40% reduction in water release as requested by APC, resulting in a minimum flow on the Alabama River of 2,784 cfs.
>
> **Alternative 3A**. A reduced water release by APC, less than the full 40% requested, of 10% (4,176 cfs).

Alternative 3B. A reduced water release by APC, less than the full 40% requested, of 20% (3,712 cfs).

Alternative 3C. A reduced water release by APC, less than the full 40% requested, of 30% (3,248 cfs).

Alternative 4. No reduction in APC minimum flow, and increase the combined flow from Corps Lakes Carters and Allatoona by 10% of 4,640 cfs (an additional 464 cfs).

Alternative 5. No reduction in APC minimum flow, and increase the combined flow from Corps Lakes Carters and Allatoona by 20% of 4,640 cfs (an additional 928 cfs).

Alternative 6. Allow 10% reduced water release by APC and an increased release from Lake Allatoona based on power generation of 2 hours per day (approximately equivalent to an additional 200 cfs per week).

Alternative 7. Allow 10% reduced water release by APC and an increased release from Lake Allatoona based on power generation of 3 hours per day (approximately equivalent to 400 cfs per week).

Alternative 8. No reduction in APC minimum flow, and an increased release from Lake Allatoona based on power generation of 2 hours per day (approximately equivalent to 200 cfs per week).

Alternative 9. No reduction in APC minimum flow, and an increased release from Lake Allatoona based on power generation of 3 hours per day (approximately equivalent to 400 cfs per week).

5. ENVIRONMENTAL IMPACTS OF THE RECOMMENDED PLAN

The proposed action was designed to allow conservation of water stored at APC reservoirs in the ACT basin during changing drought conditions, while minimizing adverse effects to other water resource users in the basin, endangered and threatened species and the overall aquatic environment. Consideration was given to the need to balance releases to the Alabama River downstream of the APC reservoir projects for municipal and industrial water users with the need to conserve water storage at APC reservoirs for future hydropower generation and municipal water use, and with the need to conserve water in Corps lakes in the headwaters of the ACT basin for municipal water users and future hydropower generation. Although the Corps independently uses its discretion to manage water releases from the upstream lakes under the existing Water Control Manuals, such releases in combination with the approval of the proposed reduction in flow on the Alabama River by APC could have environmental and human impacts in various geographic areas within the ACT basin. Therefore, the impacts of various alternative

combined courses of actions are considered.

Hydrology

The largest overall impact as a result of the proposed action would be on the hydrology of the ACT system, including flow rates on the Alabama River, and water levels on the APC reservoirs and on Corps reservoirs on the Alabama River below Montgomery. Water flows on the Alabama River would be reduced for each alternative as previously described. The 20% reduction in flow would yield a flow rate of 3,712 cfs, essentially the same as the calculated unimpaired flow of 3,735 cfs for the Montgomery area on the Alabama River. The 30% and 40% reductions would result in flow rates below the 3,735 cfs unimpaired flow by 13% and 25% respectively. Because of the changes in the flow rates and water depths, other impacts could occur, as discussed in following paragraphs within this section. HEC-5 model simulations based on drought conditions during the 1986 year (drought of record for the ACT basin) were run for the "no action" and action alternatives that predicted the hydrological impacts. The models were run based on the assumption that drought conditions persist as they did during 1986. Current weather predictions indicate that 2007 will validate that assumption, with no general relief from the drought. Graphical representations of the results were generated for reservoir elevations and river flows for the no action alternative, the requested 40% reduction in flow and requested increases in flow from Lakes Allatoona and Carters. These figures are provided in Appendix A. Representative impacts on APC lake levels are shown in Figures 2a-c and 3a-c for Weiss Lake on the Coosa River and Lake Martin on the Tallapoosa River, and in Table 2 for both lakes. APC lakes would experience the greatest drop in water level with the No Action alternative and the least for Alternative 2, the 40% reduction from minimum flow of 4,640 cfs. For reductions less than the full 40% (Alternatives 3a, 3b and 3c) lake water levels would drop proportionally between the No Action and Alternative 2 levels. Increased water releases from Lake Allatoona and Lake Carters would provide only small rises in APC lake levels.

Figure 4 shows effects of the No Action and action alternatives on the tailwater levels below Claiborne Dam. Corps reservoirs on the Alabama River below Montgomery are "run of the river" with almost no storage, rising and falling with changes in open reaches of the river. Therefore impacts seen below Claiborne Dam and at Montgomery would be reflective of changes in water levels along the river below Montgomery. As shown in the figure, the greatest impact would occur for Alternative 2 for which the river would drop approximately 1.5 feet by September 2007, compared to the No Action Alternative. Proportionally lesser declines would occur for the 10, 20, and 30% reductions from the minimum flow agreement, compared to the No Action Alternative.

Predicted hydrologic impacts to Corps Lakes Allatoona and Carters caused by increased water releases from them (Alternatives 4, 5, 6, and 7) are shown in Figures 5a and 5b and 6a and 6b respectively. Alternatives 8 and 9 include the same water releases as Alternatives 6 and 7 respectively. As shown in the figures, the No Action alternative would result in a steady decline of lake levels based on the modeled hydrology of the 1986 drought. Lake levels would approach or fall below the winter pool levels by late summer or early fall. The greatest declines in lake

Figure 2(a). HEC-5 Model Simulations for Lake Levels at APC Weiss Lake, Alternatives 1, 2, 4, and 5.

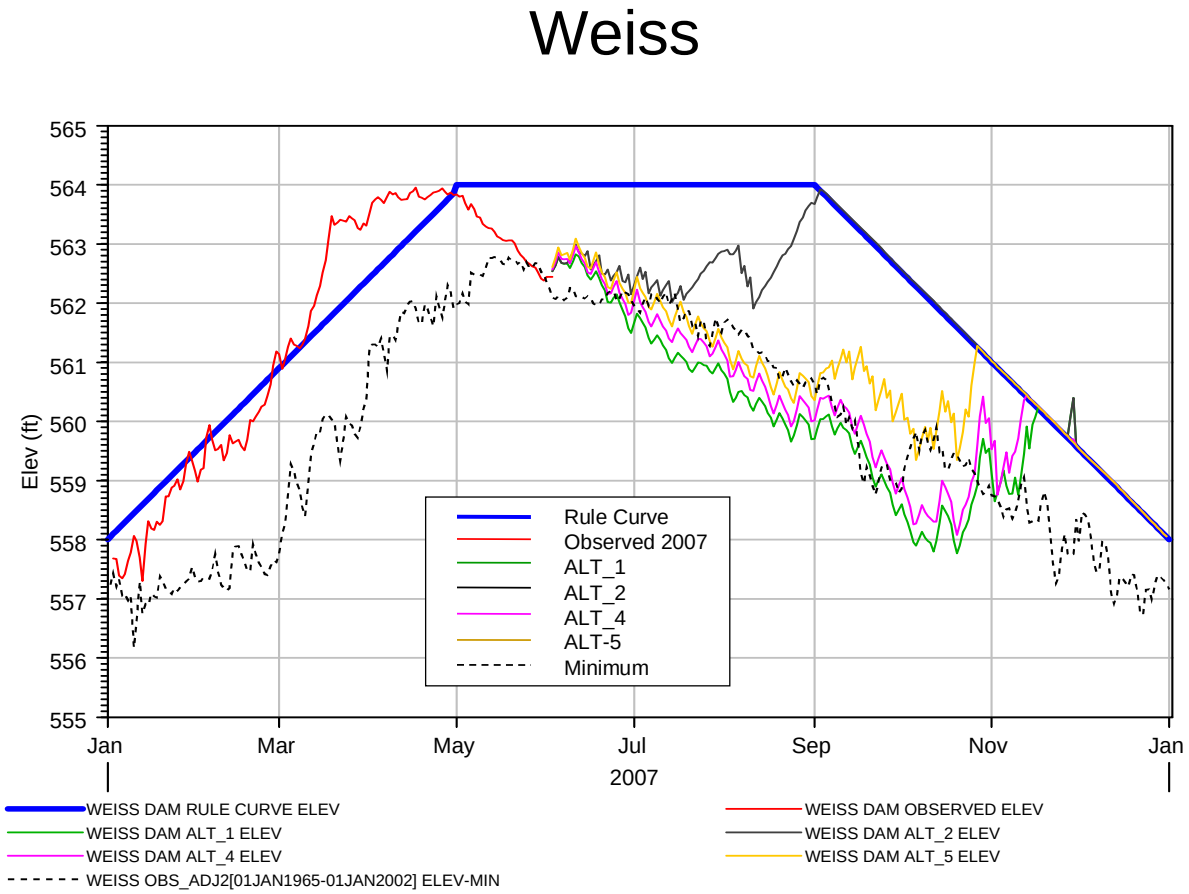


Figure 2(b). HEC-5 Model Simulations for Lake Levels at APC Weiss Lake, Alternatives 6 and 7.

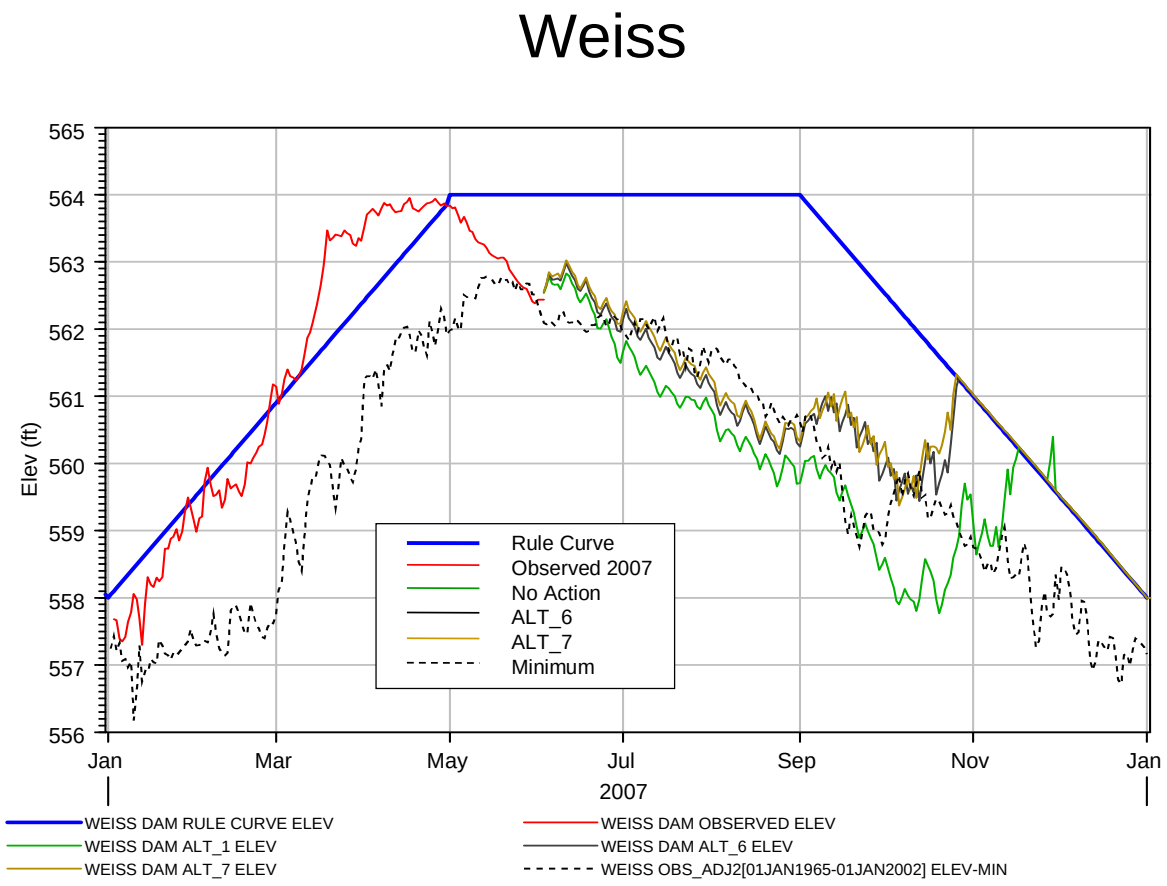


Figure 2(c). HEC-5 Model Simulations for Lake Levels at APC Weiss Lake, Alternatives 8 and 9.

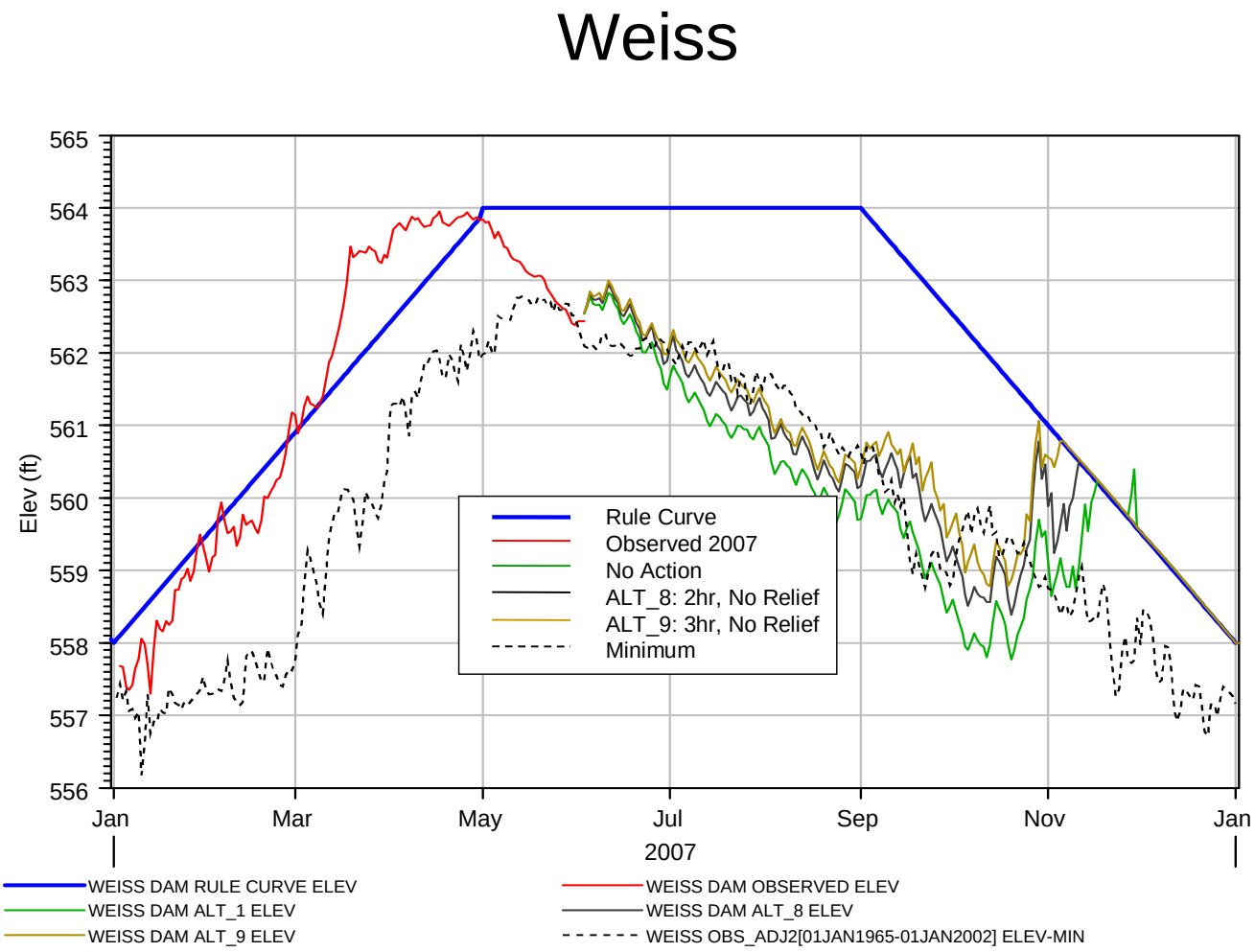


Figure 3(a). HEC-5 Model Simulations for Lake Levels at APC Lake Martin, Alternatives 1, 2, 4, and 5.

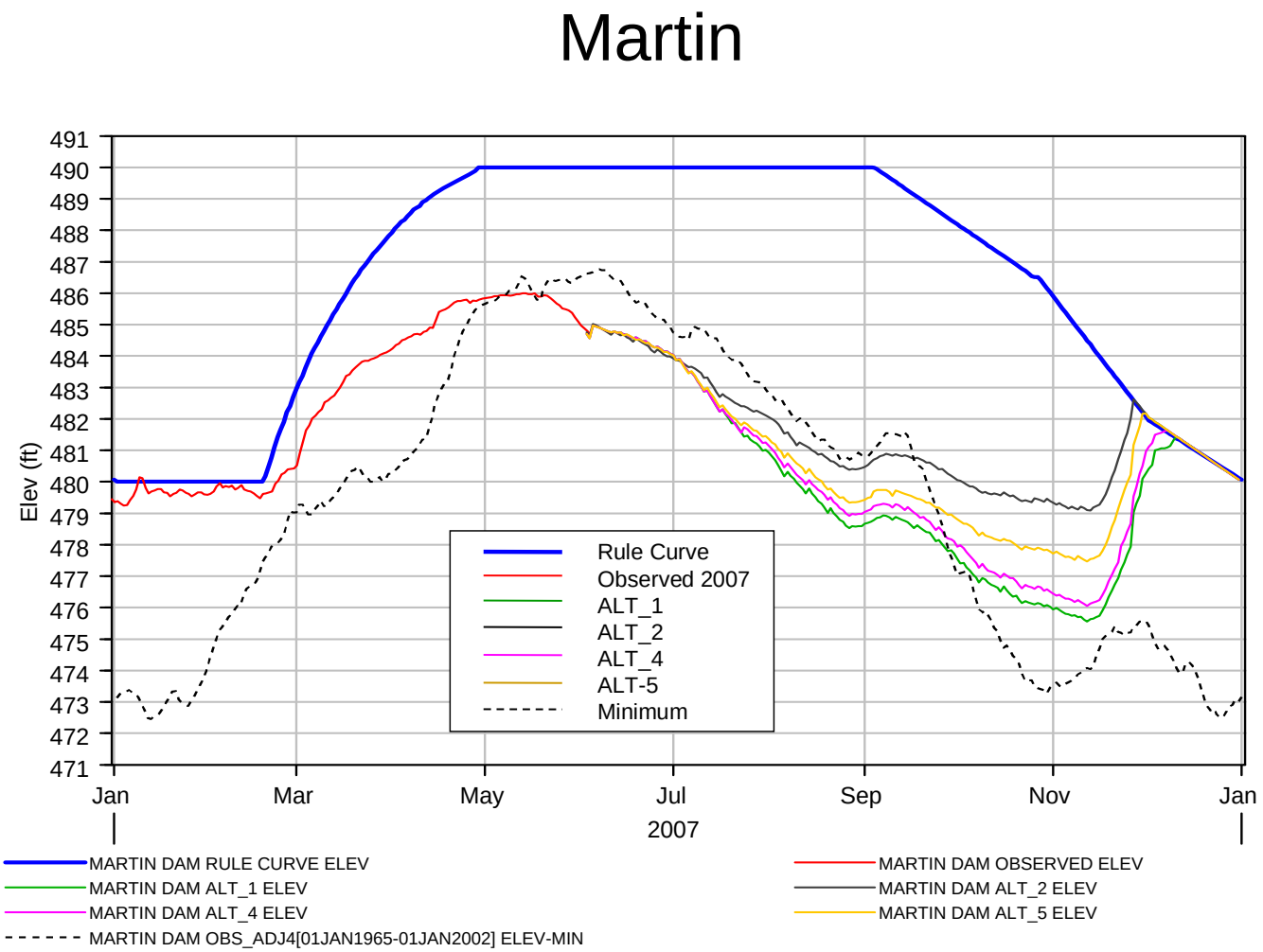


Figure 3(b). HEC-5 Model Simulations for Lake Levels at APC Lake Martin, Alternatives 1, 2, 4, and 5.

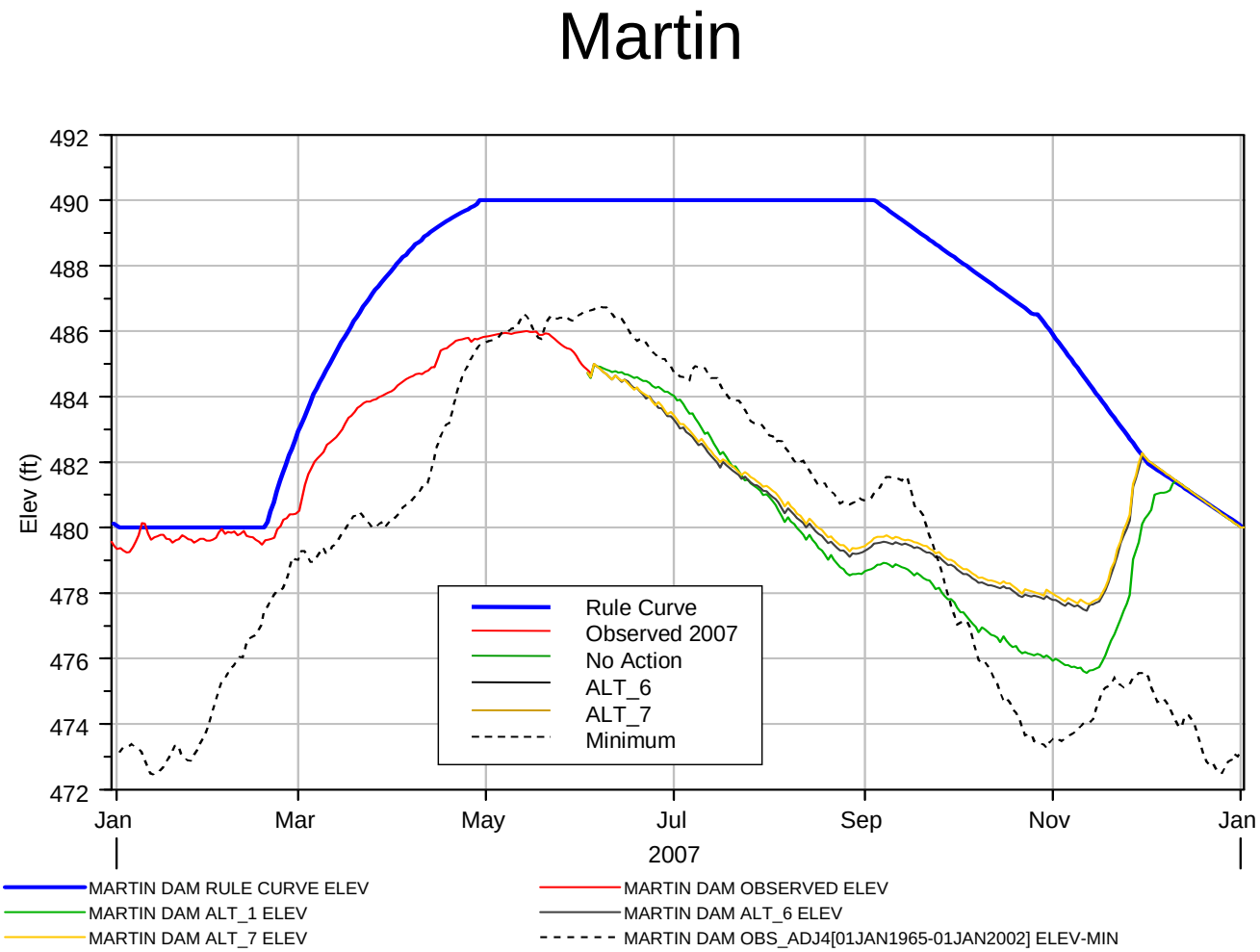


Figure 3(c). HEC-5 Model Simulations for Lake Levels at APC Lake Martin, Alternatives 1, 2, 4, and 5.

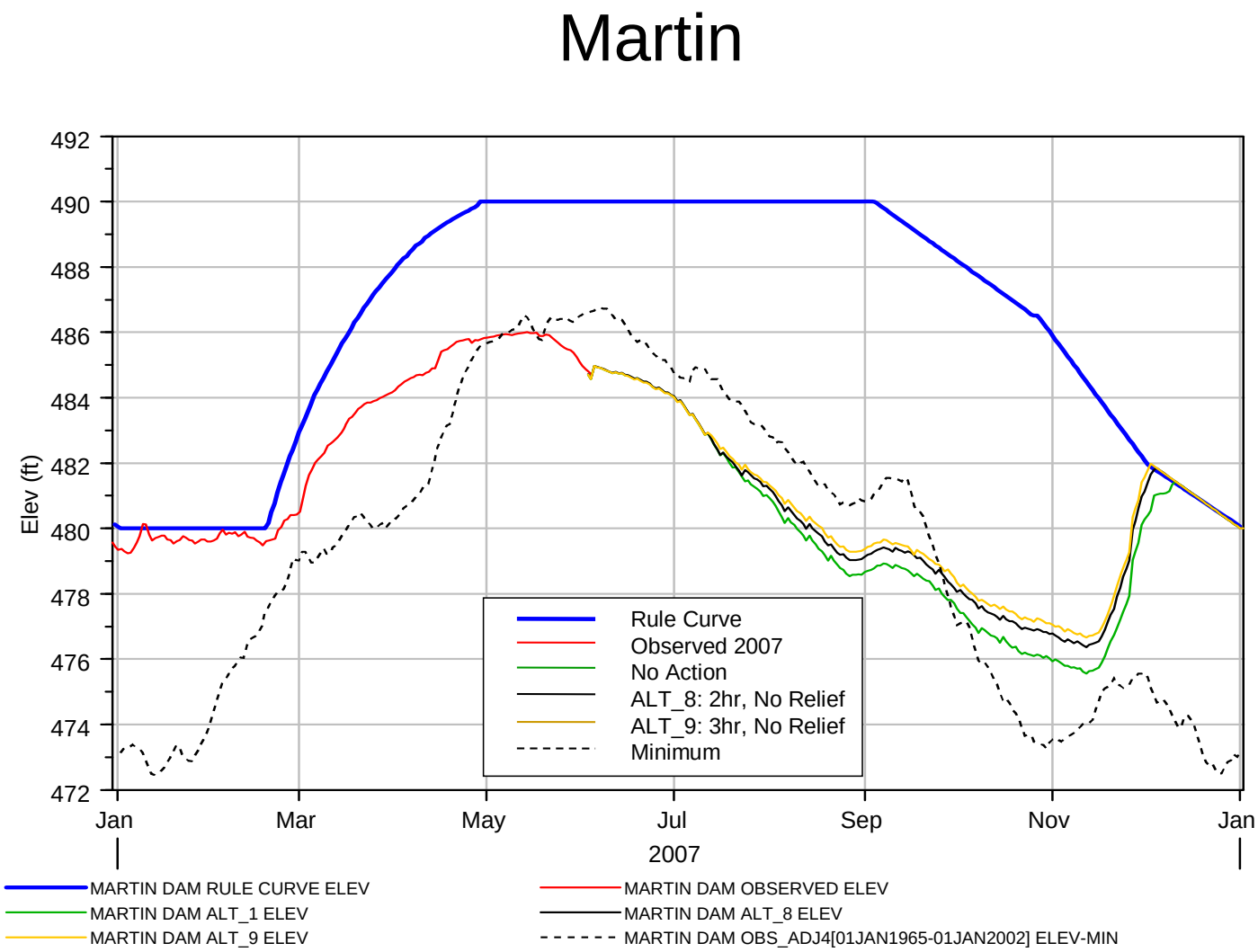


Table 2. Water Levels at Weiss and Martin Reservoirs for Alternatives 1, 2, 3a, 3b, 3c, 4, and 5, compared with minimum for date and change from Alternative 1 (No Action).

Weiss Comparison

Weiss

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**561.67**	562.31	562.04	562.14	562.26	562.05	562.24	562.00
01-Aug-07	**560.81**	562.88	**560.92**	**561.07**	**561.30**	**561.14**	**561.33**	561.70
01-Sep-07	**559.71**	563.67	**559.86**	**560.23**	**560.50**	**560.01**	**560.36**	560.60

Weiss change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	**0.64**	0.37	0.47	0.59	0.38	0.57
01-Aug-07	**2.07**	0.11	0.26	0.49	0.33	0.52
01-Sep-07	**3.96**	0.15	0.52	0.79	0.30	0.65

Greatest drawdown – Alt 1
Greatest relief – Alt 2

*Note: RED value < min

Martin Comparison

Martin

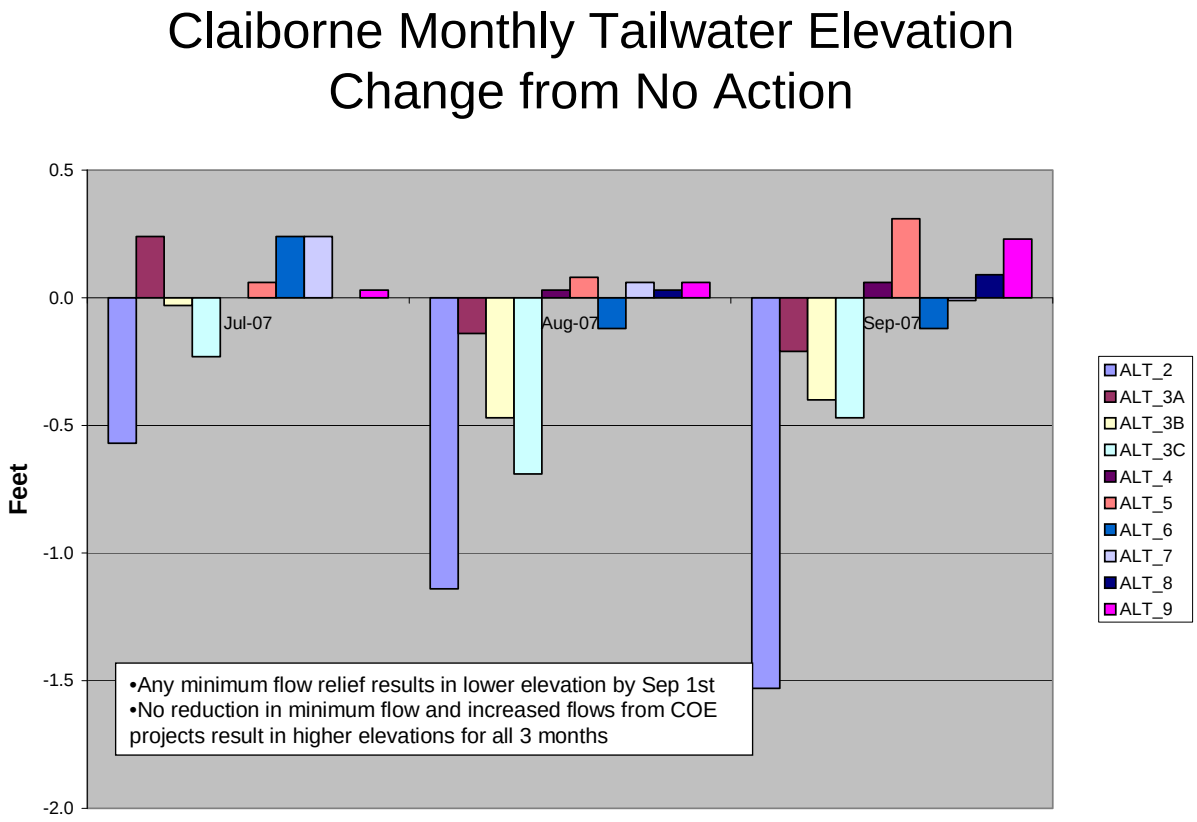
Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**484.03**	**483.93**	**483.21**	**483.45**	**483.69**	**484.03**	**484.01**	484.80
01-Aug-07	**480.92**	**482.06**	**480.72**	**481.26**	**481.77**	**481.15**	**481.35**	482.80
01-Sep-07	**478.66**	**480.47**	**478.79**	**479.68**	**480.04**	**479.03**	**479.43**	480.80

Martin change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	-0.1	-0.8	-0.6	-0.3	0.0	0.0
01-Aug-07	**1.1**	-0.2	0.3	0.8	0.2	0.4
01-Sep-07	**1.8**	0.1	1.0	1.4	0.4	0.8

Greatest drawdown – Alt 3A
Greatest relief – Alt 2

Figure 4.



*Positive value indicates elevation is higher than no action

Figure 5a. HEC-5 Model Simulations for Lake Levels at Corps Lake Allatoona, Alternatives 1, 4, and 5.

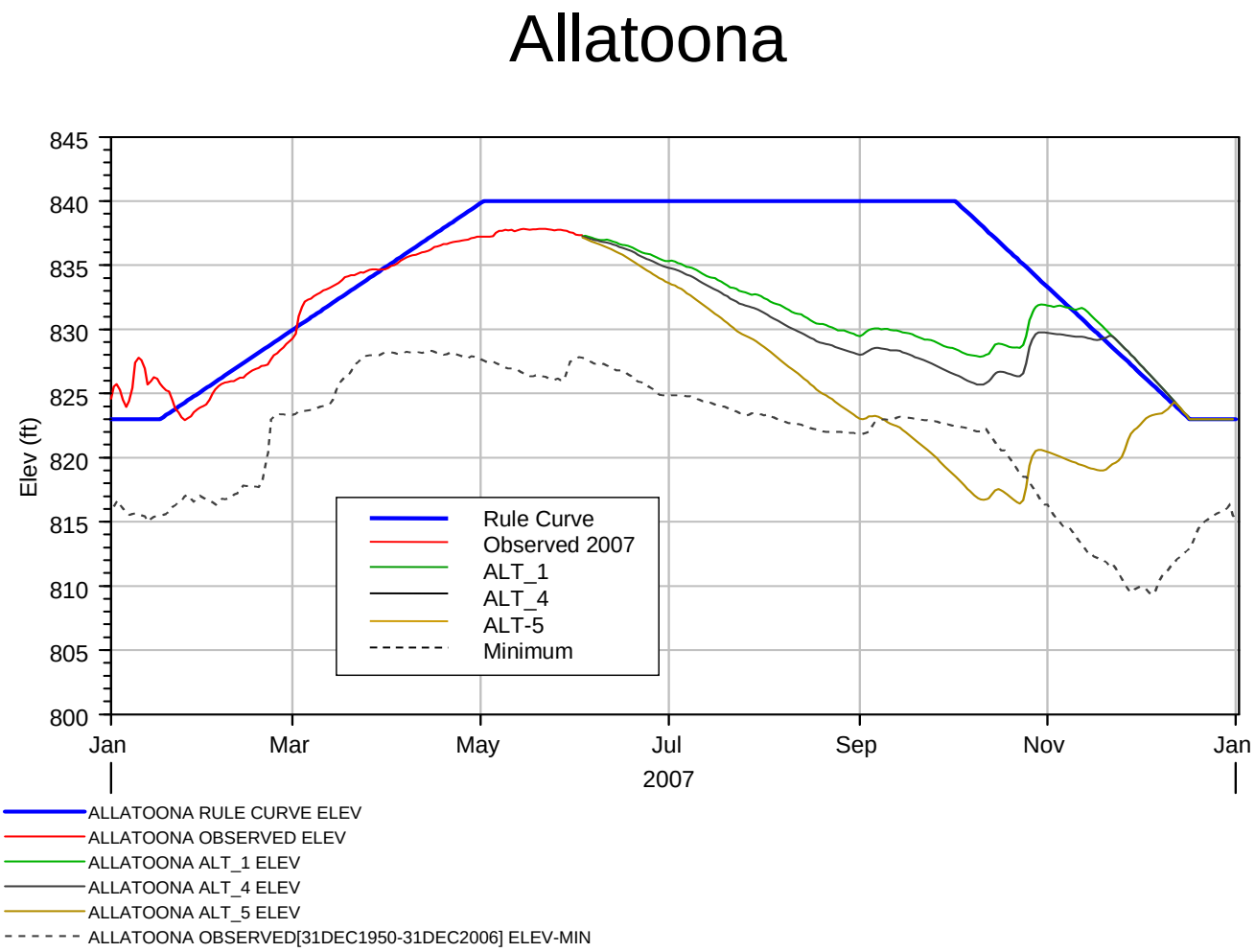


Figure 5b. HEC-5 Model Simulations for Lake Levels at Corps Lake Allatoona, Alternatives 6 and 7.

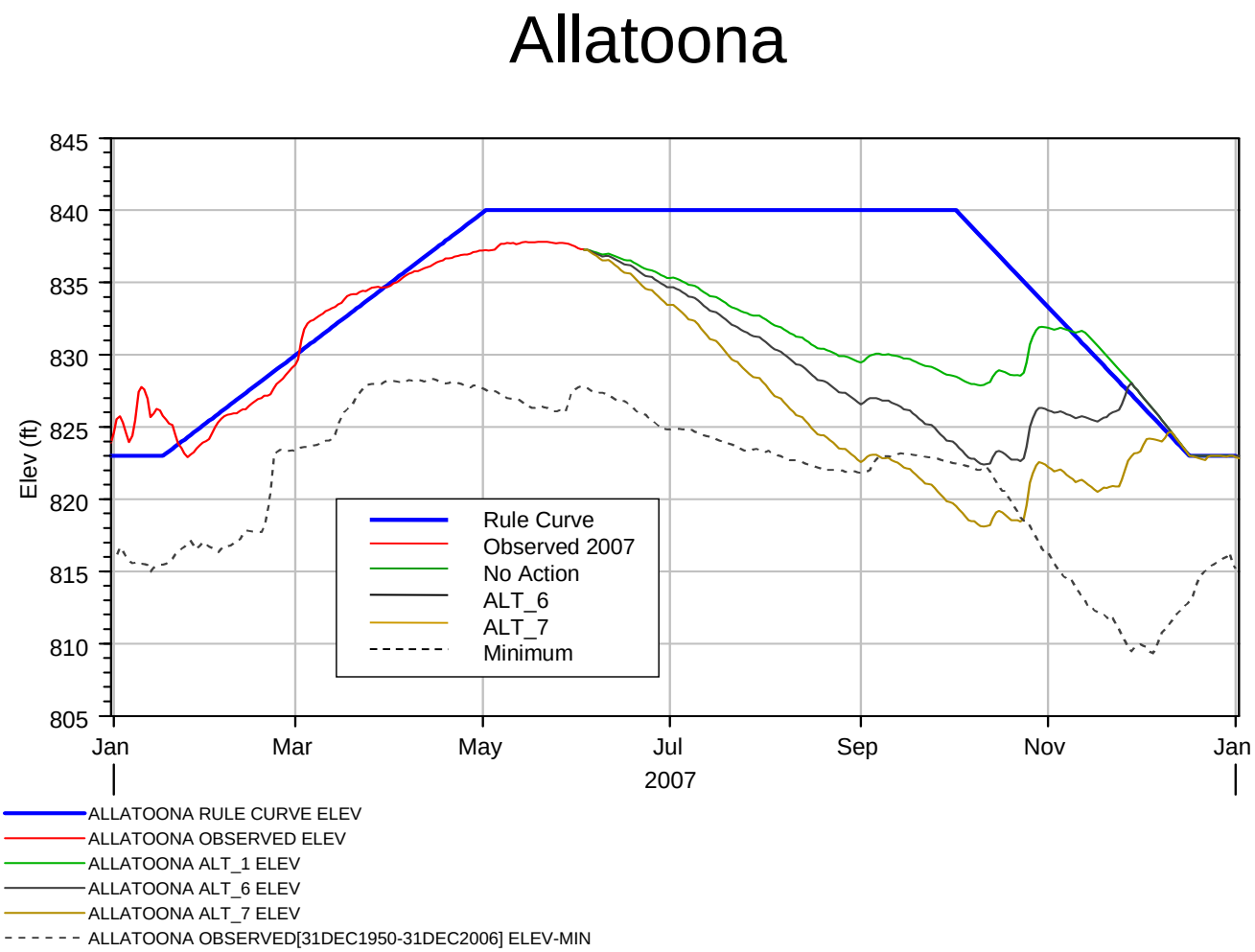


Figure 6a. HEC-5 Model Simulations for Lake Levels at Corps Lake Carters, Alternatives 1, 4, and 5.

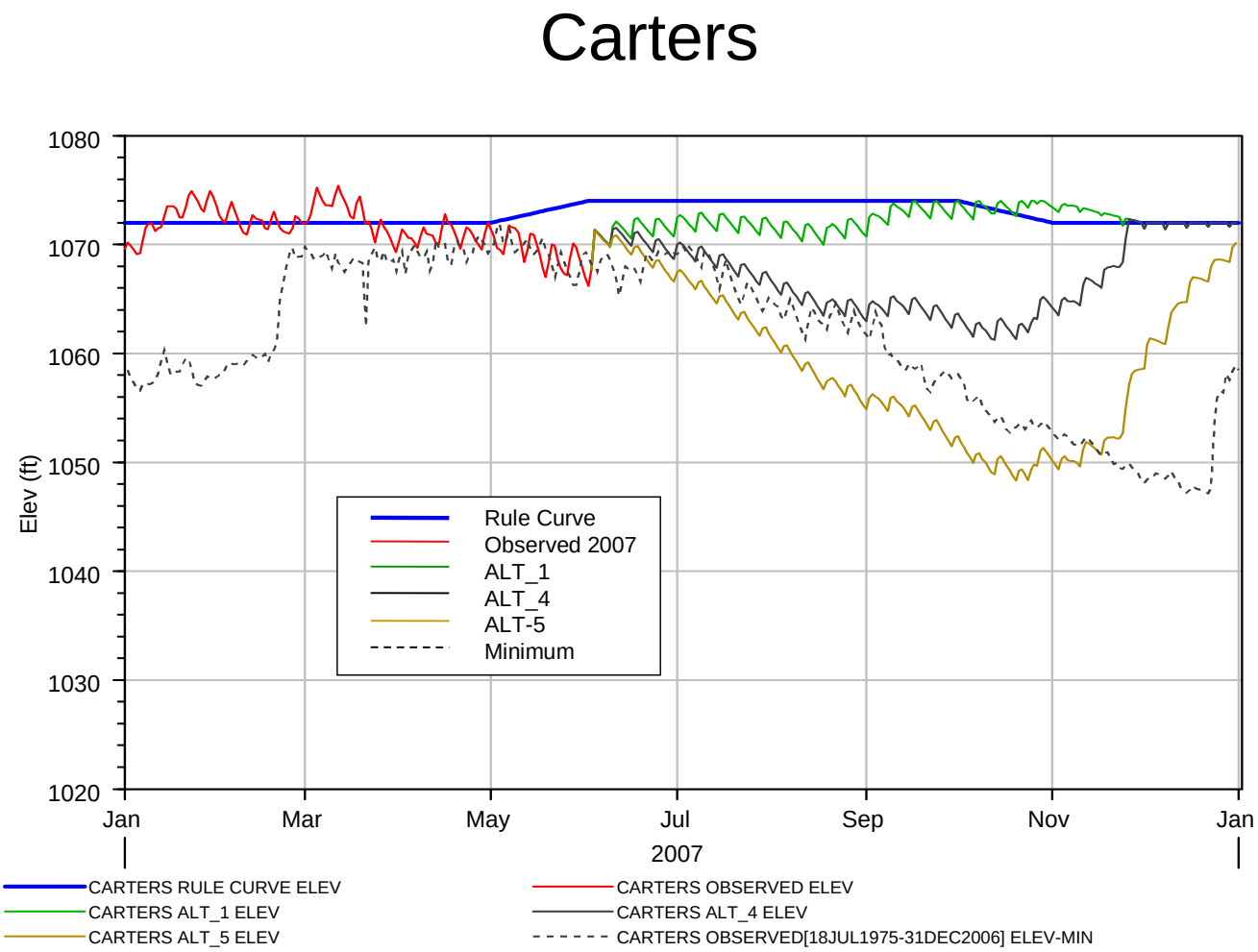
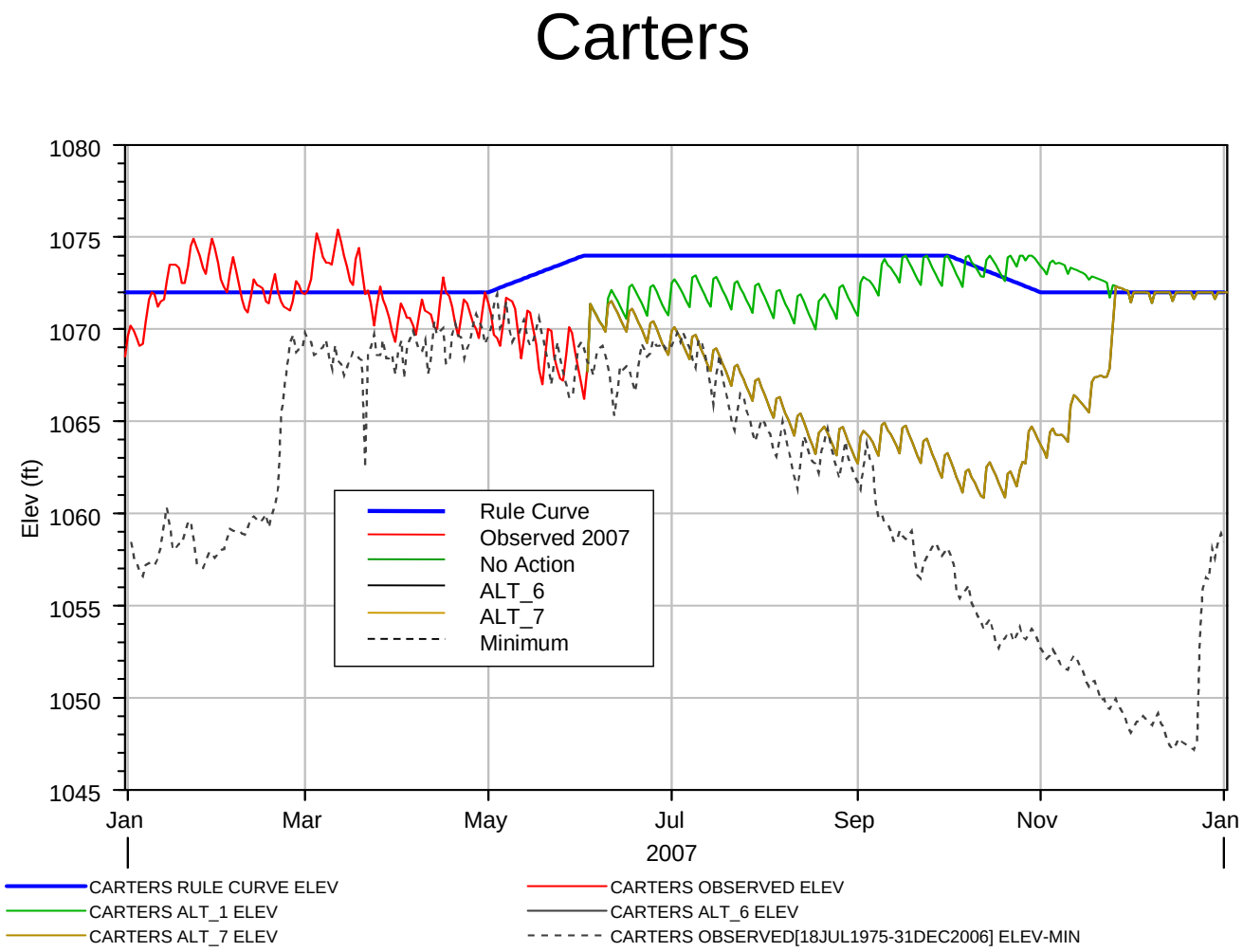


Figure 6b. HEC-5 Model Simulations for Lake Levels at Corps Lake Carters, Alternatives 6 and 7.



levels would occur with Alternatives 5 and 7 corresponding approximately to the increased releases from the lakes that were requested by APC. The figures show that if those release rates were sustained through the drought, water levels would fall approximately 20 feet below winter pool level at Carters Lake and 7 feet below winter pool level at Lake Allatoona. In both lakes, levels would be near or below historic minimum low elevations. Because of the position of these reservoirs in the upper portion of the ACT basin these impacts, over the long term would be greater, and would result in longer time to recover to normal water levels than APC and Corps reservoirs lower in the basin. For example, Lake Allatoona has 7% of the total water storage of all lake projects in the basin, and Carters Lake has 8%. This compares to a single lake owned by APC, Lake Martin which has 32% of the water storage of the ACT basin. Likewise, Carters has a drainage basin of 376 square miles providing runoff to it, Allatoona has a drainage basin of 1,110 square miles, and Lake Martin has 2,984 square miles. Current remaining storage by individual lake is approximately 70-80%, for all lakes. Therefore, the impacts of lake drawdowns are disproportionately larger when considering lakes in the upper drainage basin, especially Lakes Carters and Allatoona which are the uppermost reservoirs in their respective basins.

Flow rates and water depths on the Coosa River would also be impacted by increasing releases from Lakes Allatoona and Carters as described in Alternatives 5-10. Modeling results (Appendix B) show that for the No Action alternative, flows at Rome, Georgia would be 1,561 cfs by 1 August 2007, 1,250 cfs by 1 September 2007, and 1,174 cfs by 1 October 2007. For releases resulting from three hours of hydropower generation per day at Lake Allatoona, flows would be 2,153 cfs on 1 August 2007, 1,455 cfs on 1 September 2007, and 1,625 on 1 October 2007. Releases from Lake Allatoona from three hours of hydropower generation per day would result in the maximum increase in flow at Rome, Georgia of any of the proposed alternatives. Other alternatives involving increased water releases from Lakes Allatoona and/or Carters would result in proportionally less increased flow. Likewise for water elevations at Rome, the results show that for the No Action alternative water depth would be 10.8 feet, 10.5 feet and 10.5 feet on 1 August, 1 September, and 1 October respectively. For increased releases from three hours of hydropower generation per day at Allatoona, depths would be 11.1 feet, 10.7 feet, and 10.8 feet on the same dates respectively. For increased releases of 20% from Lakes Allatoona and Carters water depths would be 11.1 feet, 11.2 feet, and 10.9 feet on the same dates respectively.

Using the HEC-5 model developed during the Comprehensive Water Resources Study, based on the 1939-1993 period the unimpaired (Non parametric IHA Scorecard), 7-day minimum flows at Rome is calculated as 1,408 cfs. Unimpaired flows represent those flows calculated from past data, that would occur without the presence of manmade reservoirs (natural flow). Therefore, the No Action alternative would result in releases below the unimpaired flow, whereas increasing releases to three hours of hydropower generation per day would result in flows exceeding the unimpaired flow by more than 700 cfs.

Water Supply

Because of the hydrological effects described in the above hydrology discussion, water supply to

municipal and/or industrial users could be affected depending on location and on the actual drop in water elevation for any of the described alternatives. As shown above, the No Action alternative would have the least impact on water levels on the Alabama River below Montgomery, and therefore would have the least impact on users of water along that reach. For each incremental decrease in flow on the river, water levels would drop and a greater chance that water supplies would be interrupted as drought conditions persist. At the 40% reduction from the minimum flow agreement, water levels at the tailwater of Claiborne Dam would drop approximately 1.5 feet compared to the no action alternative. This compares, as an example, with current conditions at the International Paper Riverdale Paper Mill in Dallas County, Alabama. Tailwater elevation at the R.F. Henry dam was 78.5 feet msl on 12 July 2007. Information supplied by International Paper Company indicated that minimum tailwater elevation to ensure continued water supply was 76.5 feet. Therefore, only at the 40% reduction in flow would that particular industry be threatened with loss of water supply. By contrast tailwater elevations at Claiborne on 12 July 2007 were 6.5 feet msl. For the Alabama River Pulp Company elevations below 5.0 feet would cause the plant to shut down because of lack of water supply according to data supplied by them. The 30% flow reduction would cause a drop of water level by almost 1.0 foot and the 40% flow reduction would cause water levels to drop by more than 1.5 feet, below the company's water intake. At the 10% and 20% flow reductions, projections indicate greater assurance exists that water supplies would be uninterrupted. While modeling results of the alternatives do not allow a quantitative analysis of the effects on water supply intakes downstream of the confluence of the Alabama and Tombigbee River, e.g., City of Mobile and industries such as APC's Barry Steam Plant, some qualitative impact analysis is presented. The water elevations on the Mobile River and lower portion of the Alabama River are more influenced by tidal action than the river flow. Tidal influence extends up the Alabama River approximately 30 miles to near the Dixie Landing area. The more significant concern for water supply intakes in this tidal reach is therefore not elevation, but is salt water intrusion. During the 2000 drought and already during the 2007 drought there are concerns about salt water intrusion upstream to some of the key water intakes on the Mobile River. Alternatives that include provisions for reduction of the minimum flow requirements at Montgomery would cause increased saltwater intrusion up the Mobile River; however, the 10% reduction level would be similar to the HEC-5 calculated unimpaired 7-day minimum flow level at Montgomery thus not anticipated to cause significant adverse impacts. Higher percentage reductions in the minimum flows at Montgomery (20%, 30%, or 40%) would have a higher risk for adverse impacts on the Mobile River water supply intakes. Therefore at this time, the recommended plan would be for a 10% reduction followed by frequent stakeholder coordination for these downstream water supply users regarding the status of salinity intrusion in the Mobile River relative to their intake structures.

There are at least three municipal water supply intakes on the APC lakes that could be impacted. The No Action alternative would result in the most rapid lowering of lake levels and would therefore have the greatest chance of interrupting water supplies. The City of Wedowee on Harris Lake has its existing intake at 784 feet msl. The lake level on 12 July 2007 was 786.5 feet and with the No Action alternative would be 782.14 feet by 1 September 2007, and 779 feet in

early November. However, the City of Wedowee has indicated that it has a drought contingency plan including submergible water pumps that would insure a continued supply of water for the city down to an elevation of at least 777 feet msl. Alexander City has an intake structure on Lake Martin at 470 feet msl. The Central Elmore Water Authority has a water intake on Lake Martin at 483.5 feet msl and another at 471 feet msl. The lake level on 12 July 2007 was 481.50 and with the No Action alternative it would be 478.6 feet by 1 September 2007 and below 475 in early November. Therefore, all three cities would have an adequate supply of water when the water levels reach their typical lowest point in November, when rainfall generally begins to refill the lakes. With the 10% and 20% reductions in required flow, 1 September levels would be at 782.2 and 783.7 feet respectively on Lake Harris and 478.8 and 479.7 feet respectively on Lake Martin. Wedowee would continue to rely on its drought contingency plan, but would have adequate water supply. Critical water supply intakes on Lake Weiss for the Town of Centre is located at elevation 547 feet msl. For the No Action alternative water levels are projected to drop to 557 feet. All action alternatives would result in higher water levels.

There are several communities that use Lake Allatoona and Carters Lake as a source for municipal water supply. Because managing the water release from those reservoirs would be conducted according to the Corps Water Control Manuals for those projects, a continuance of current water management practices, and because those communities have water intake structures at several elevations within the lake, no impact to water supply would occur for any alternative providing increased water releases from those lakes.

Water Quality

The minimum flow provided by the agreement with APC of 4,640 cfs is based on a 7Q10 formula for maintaining adequate flow for water quality purposes on the Alabama River. Most industry NPDES discharge permits for effluent discharges are based on that figure to ensure compliance with the terms of the permit. Failure of adequate river flow or other parameters such as dissolved oxygen or temperature would result in limited ability of those permittees to discharge waste and thus conduct normal operations. At the International Paper Prattville Paper Mill discharges must be limited when river flow falls below 8,930 cfs, as is occurring during the current drought. Discharges must be reduced incrementally as flows decrease and discharges must be made only when dissolved oxygen is greater than 5.0 ppm. The International Paper Riverdale Mill may only discharge when flow is greater than 2,000 cfs, 6 hours per day and dissolved oxygen must exceed 6.4 ppm. The Weyerhaeuser Pine Hill Paper Mill may only discharge when dissolved oxygen is greater than 5.0 ppm. The No Action Alternative would maintain current flow conditions and would allow continued operation of these industries. Information provided by those industries states they have holding ponds in which effluent can be stored whenever flow conditions are below the limit for full discharge. Therefore, under the No Action and other alternatives, discharges can be limited during low flows or poor water quality conditions and greater discharges can be made upon the resumption of normal flow. At the greatest reduction in flow of 40% or 2,784 cfs most holding ponds would be full by approximately 1 August 2007, requiring limited plant production or shutdown.

Increased flows on the Coosa River as a result of alternatives increasing releases from Corps Lakes would result in greater dissolved oxygen and lowered water temperatures along that river. Such effects would be considered a beneficial impact resulting from the action. Under current conditions (No Action) Georgia Power Plant Hammond has reported that cooling water discharges have exceeded temperature limits (one day) as regulated by the Georgia Department of Natural Resources, Environmental Protection Division.

Physical Impacts

Channel morphology in free-flowing reaches of the Coosa, Tallapoosa and Alabama Rivers and associated physical habitat conditions for aquatic organisms are largely determined by flow regime. For the no-action alternative, the existing flow regime would be maintained and there would be no expected change in morphology or physical habitats. The only alternatives that would alter the existing flow regimes would be those involving reductions in flow from those required by the minimum flow agreement with APC. Because of the temporary nature of the flow reductions in response to drought, no long-term impacts related to channel morphology or habitat are expected. Short-term impacts in the Alabama River below Montgomery would be expected in the reduced flow alternatives as water levels drop, exposing parts of the riverbed. The least impact would occur at the 10% reduced flow (Alternate 2), increasing with each incremental 10% reduction in flow, and the greatest impacts would be expected at the 40% flow reduction (Alternate 1). At 40% reduced flow, the tailwater below Claiborne Dam on the Alabama River would be expected to be approximately 1.5 feet lower than for the no-action alternative. Because of the temporary nature of the flow reduction, there would be no expected changes to bottom substrates. After return to normal flow conditions at the end of drought conditions, and the return to normal river levels, the physical river morphology would be unchanged from current conditions. Therefore, it was determined that the proposed action will not significantly impact physical habitat conditions in the project area.

Land Use Changes

Land uses in the ACT basin are exceptionally varied, and include urban areas such as metropolitan Atlanta, Montgomery and Mobile, small towns, industrial, agricultural, upland forests, and wetlands. The no-action alternative would result in continuing the current pattern of land use. Any of the alternatives causing long-term changes in flow on the affected rivers could affect land use because of the related demands for water for various human activities. However, because of the short-term nature of the proposed activity, the action would not result in any foreseeable change in land use.

Historic and Archaeological Resources

The no-action alternative would result in no change to any known cultural resources in the project area. As described in hydrology and physical effect discussions above, the approval of any of the reduced-flow alternatives on the Alabama River is not expected to impact stream channel stability or alter channel substrates. Therefore, no potential adverse effects to cultural resources due to increased erosion or deposition would be anticipated.

Potential adverse impacts could occur as a result of minimum flow reductions below historic flow levels such as greater than a 10% reduction in the form of increased potential for looting. For example the higher flow reductions at Montgomery could expose cultural resource areas along the banks of the Alabama River below Claiborne Dam. This exposure could increase the potential for vandalism and looting in this normally inundated area. Potential impacts to cultural resources on reservoirs are less likely as these areas are periodically subject to elevation changes within the conservation pool.

Therefore, it was determined that the proposed action should not have an adverse effect on historic or archeological properties listed in or eligible for listing in the National Register of Historic Places.

An exception to this finding is a slight potential for increased looting/vandalism downstream of Claiborne Dam. The potential increased risk to sites downstream of the Claiborne Dam would be mitigated through an increased focus on the area by resource specialists as part of the periodic site monitoring required under Section 110 of the National Historic Preservation Act (NHPA).

The operation and maintenance of the ACT system has been coordinated with the Alabama State Historic Preservation Officer in compliance with Section 106 of the NHPA per regulations at 36 CFR 800. This coordination has included all aspects of the operation and maintenance program. Specifically, the SHPO concurred with the operation and maintenance program for the rivers in a letter dated May 25, 1987. As per the comments provided, cultural resource inventories have been completed for the operation area and coordinated with the SHPO. Continued site inspection and monitoring will be used to ensure that any potential effects of operations on Historic Properties will be considered and the necessary consultation completed should effects be identified.

Fisheries

No fisheries impacts below Montgomery would be expected as a result of the No Action Alternative. Impacts to fisheries in the ACT basin as a result of the proposed action could result from decreased flow in the Alabama River. Degraded habitat could result from lower dissolved oxygen levels associated with slower moving water, more concentrated pollutants as the volume of water decreases, greater eutrophication due to concentration of nutrients, higher water temperatures and greater salinity in tidally influenced reaches. Such impacts would be expected to incrementally increase as flow in the river decreases; i.e., the least impact would occur at the 10% flow reduction from the minimum flow agreement and the greatest impact would occur at the 40% flow reduction. In addition, the magnitude of those impacts would increase in proportion to the time that flows remained reduced. Coordination with the Alabama Department of Conservation and Natural Resources indicate that they recommend no more than a 10% flow reduction due to potential adverse impacts to fishery resources on the Alabama River. Therefore, a 10% flow reduction followed by monitoring by appropriate water quality and natural resource agencies would allow for an adaptive management approach regarding fisheries impacts. The results of this monitoring would help determine whether to hold with the 10% reduction, return

to the full 4,640 cfs minimum flow requirement, or consider going up to the 20% reduction.

On APC-owned lakes, impacts on fish populations would be expected to increase in proportion to falling lake levels. During drought conditions the lakes experience lower inflows and tend to have greater water retention times within them. Although each of the APC reservoirs is independently managed by APC and may have different water conditions at any given time, they are also managed as a system supporting the APC hydropower production. Therefore, for the No Action Alternative, with the greatest required water releases, and least inflows (See hydrology impact discussion above) APC lakes would generally show the greatest declines in water levels, although there may be variation between the individual lakes with some lakes showing no change or even increasing water levels, depending on water management practices and drought conditions. Lakes experiencing the greatest declines in water levels would tend to experience the greatest potential for concentration of pollutants, greatest water retention times, greatest eutrophication, and higher water temperatures. However, any of these impacts would also be dependent on the overall size, depth, and water storage capacity of the affected lake. For example, Lake Weiss is a relatively shallow lake and would tend to have greater potential for eutrophication, algal blooms, lowered dissolved oxygen and increased fish stress and mortality than Lake Martin, a larger, deeper, less fertile lake.

Increased releases from Lake Allatoona could have adverse impacts on striped bass populations for releases that result in lake levels below the winter pool level of 823 feet msl (personal communication, Jim Hakala, GADNR-WRD, 11 Jul 07). As lake levels drop below winter pool level the available amount of cool water refuge utilized by this species becomes increasingly small, thus increasing stress on this fish. Alternatives that would result in lake levels below winter pool would be Alternative 5, the 20% increased release, and Alternatives 7 and 9, releases based on 3 hours of hydropower generation per day. For those alternatives, lake levels would drop to between 815-820 feet msl and striped bass stress and mortality could be expected.

In estuarine ecosystems in Mobile Bay and Mobile Delta the assessment of potential impacts to estuarine fish and aquatic resources within the ACT basin is based on the scientific literature and limited to general discussion of how fish and aquatic resources that are common to the Mobile Bay estuary may be affected by alterations to freshwater inflows.

The quantity, quality, and timing of river discharge into the Mobile Bay estuary is an integral component of estuarine habitat, affecting temperature and salinity regimes, nutrient loading, and primary productivity. These in turn largely determine the distribution and availability of habitats for estuarine-dependent life stages of fish, shellfish, and other aquatic organisms. Significant changes in the season-specific salinity characteristics of the estuary could preclude certain species' life stages from using previously suitable refuges, feeding areas, and nursery grounds. Substantial alterations in freshwater inflow could dramatically reduce the area or availability of some bottom types preferred by certain species or life stages (e.g., oyster reefs), resulting in crowding and interspecific competition for food or space. Significantly increased summer salinities also could allow nearshore juvenile stages of the snapper-grouper complex of species to

enter estuaries and prey upon shrimp and other estuarine-dependent species in areas previously serving as safe refuge.

Decreases in freshwater inflow associated with reductions of the minimum flow requirement at Montgomery could potentially impact the Mobile Bay estuary ecosystem. A study conducted by NOAA (1998) for the Apalachicola-Chattahoochee-Flint (ACF) River Basin concluded that decreases in freshwater input into Apalachicola Bay indirectly increase oyster mortality by allowing predators of the oyster, such as the oyster drill, to colonize oyster beds. Although comparable studies have not been conducted in Mobile Bay, these results suggest that levels of oyster mortality could also be affected in Mobile Bay in response to substantial reduction in freshwater inflow from the Alabama River. The No Action alternative would result in maintaining the greatest freshwater inflow and hence, lowest salinity, with overall greater oyster survival. The 40% flow reduction would result in the least freshwater inflow and therefore, the greatest oyster mortality.

Changes in cyclic freshwater inflow to Mobile Bay could also reduce nutrient loading. Altered nutrient loading could result in changes in seasonal levels of primary productivity, including the distribution and extent of floating and submersed aquatic vegetation.

Essential Fish Habitat

Significant reductions in freshwater inflows associated with the greatest reduced flow alternative (30% and 40% reduced flow, Alternatives 1 and 4) to the Mobile River Delta and Mobile Bay could cause increases in salinity, which in turn could adversely impact organisms such as oysters and juvenile shrimp of various species as discussed in the above paragraph. In the short term the increased salinity could be beneficial to certain species such as the snapper-grouper discussed above, but longer term impacts could include the depletion of estuarine-dependent prey species leading to potential declines in predator species. In addition, low-salinity-adapted estuarine vegetation could suffer declines and be replaced by more salt tolerant species. Such adverse impacts would be expected only in the event that salinity was elevated over an extended period of time. As proposed, any of the action alternatives would involve temporary reductions in flow and therefore temporary increased salinity levels. Upon a return to normal salinity (such as anticipated during return of normal rainfall and freshwater flow quantities), the estuary and delta would be expected to recover from adverse effects, because salinity levels in the area normally fluctuate. Therefore, we determined that EFH in the Mobile Bay system will not be significantly impacted by the proposed action or the no action alternative.

Wildlife

Due to the nature of the proposed action, the evaluation of potential impacts focused on those species associated with aquatic and riparian communities. Current drought conditions have already resulted in water levels lower than normal stream bank levels. Any approved cutbacks from the no action flows would not impact wildlife species other than fish and aquatic species within the river channel, which are discussed in further detail in other sections of this document. We have determined that aquatic and terrestrial wildlife resources occurring in the project area

will not be significantly impacted by the proposed action or the no action alternative.

Threatened and Endangered Species
Because there would be no change from current water management practices described in the Water Control Manuals for the upstream Corps lakes in Georgia, i.e. water release increases would be within the guidelines contained therein, there would be no adverse effect to protected species described for those sites.

Two potential types of impacts could occur to protected species in the Alabama River because of reduced flows. First, should flows become too low, sufficient water depth or sufficient flowing water would no longer exist that would allow survival of one or more of the described species. For the No Action, 10% reduction and 20% reduction alternatives, this type of impact would be minor and constitute a "not likely to adversely effect" any of the federally listed species because flow rates continue at or above the unimpaired flow rates discussed in hydrology effects paragraph above. For the 30% and 40% reduction alternatives, potential impacts to threatened and endangered species are unknown and would likely require Formal Consultation with the U.S. Fish and Wildlife Service.

The second potential impact would occur under extreme low-flow conditions when pollutants from municipal, industrial dischargers and other sources could become concentrated to the point that lethal or damaging concentrations to the species could occur. As discussed in the water quality paragraph above, M&I discharges are regulated by their NPDES permits. When flows do not meet specific limits, discharges must be curtailed, either by cutting industrial production, or by holding effluent in holding ponds. Therefore, because adequate dilution of pollutants would occur, this impact would not occur for any of the alternatives, as long as the NPDES permit holder maintained compliance with their permit. The most vulnerable federally listed species on the Alabama River would be those less mobile species that are located downstream of industrial discharges, such as the heavy pigtoe mussel near Selma and the tulatoma snail downstream of Claiborne. The monitoring of water quality and aquatic fauna in an adaptive management approach by regulatory and resource agencies throughout the drought will assure protection of these federal trust resources.

For potential impacts to threatened and endangered species at individual APC reservoirs and associated downstream reaches of the Coosa and Tallapoosa Rivers, water management is conducted in accordance with the FERC license issued for each facility. Impacts have been coordinated through FERC in their environmental evaluation for those projects, and should not occur as long as compliance with the licenses is maintained.

The potential for impacts on threatened and endangered species was coordinated through informal consultation, including meetings, letters, e-mails, and telephone conversations. By e-mail dated 18 July 2007, Mr. Jeff Powell with the Daphne Field Office stated that the proposed action, not to exceed a 20% reduction in flow on the Alabama River would not likely adversely effect threatened or endangered species, including the Alabama sturgeon, heavy pigtoe, and

tulotoma snail.

Recreation
In general, greater recreational opportunities on APC and Corps reservoirs correlates with higher pool levels up to the top of the conservation levels. During drought conditions, lake levels will continue to drop even with 40% reduced flow alternative, and with other alternatives discussed in the hydrology effects paragraph above. However, with reduced releases, a return to the water management rule curve will occur sooner than under the No Action alternative. Impacts associated with lowered lake levels would occur as a result of reduced boating opportunities, docks and piers exposed above the water level, beach areas without adequate water access, and impacts to fisheries previously discussed, and would occur during the peak recreation summer months. For all of the alternatives, impacts would be temporary, with normal recreational opportunities resuming upon return to normal pool levels expected during winter months. Impacts to recreation therefore are considered minor for the recommended action and the no action alternatives.

Flood Control
Because the proposed action is being considered because of an ongoing drought, flood conditions do not exist nor are they expected in the near term. The proposed action will not result in reservoir levels that limit the ability to manage flood waters. Therefore, the Corps has determined that none of the alternatives would adversely impact flood control.

Navigation
Navigation channel maintenance dredging on the Alabama River has not been conducted in recent years. Because of the lack of dredging and ongoing drought caused water levels, significant navigation does not currently occur on the Alabama River. Due to anticipated navigation channel needs in the Fall of 2007, the Corps plans to initiate dredging of the navigation channel in early August. Reductions in the minimum flow requirements at Montgomery will have an attendant adverse impact on the available navigation channel depth. However, due to the current low volume of navigation channel use we have determined that proposed action will not significantly impact navigation.

Hydropower
Hydroelectric power generation is achieved by passing flow releases to the maximum extent possible through the turbines at each project, whether APC or Corps projects, even when making releases to support other project purposes. The Millers Ferry and Jones Bluff projects are operated as “run-of-the-river” plants by the Corps, with little reservoir storage, where inflows are passed and electricity is generated typically during peak demand times daily. To the extent that water flows are reduced on the Alabama River below Montgomery, the ability of these Corps projects to produce hydropower and respond to peak power demands would be adversely impacted. When R.F. Henry and Millers Ferry reach pool elevation 122 feet msl and 77 feet msl respectively, generation stops until the pool builds back up. The greatest limitations on

hydropower production would occur at the 40% flow reduction alternative, whereas the No Action alternative would maintain the current hydropower capacities.

For all other APC and Corps hydropower projects in the ACT basin, the alternatives which result in higher lake levels, as discussed in the hydrology effects paragraph above, would result in increased hydropower production potential and greater flexibility in managing peak daily power demands and future power production needs in case of continuing or worsening drought conditions. For APC projects the greatest potential impact to hydropower production would occur in the No Action alternative where lake levels are forecast to drop the most. Data provided by APC by e-mail dated 29 May 2007 indicates that critical lake levels that would impact hydropower production would occur at 556 feet msl for Weiss Lake, 496 feet msl at H.N. Henry Dam and 453 feet msl at Logan Martin Lake. These figures correspond closely with published information regarding bottom of conservation elevations for these reservoirs. However, modeling results performed by the Corps (Appendix A) indicates that those levels would not be reached in the No Action Alternative. All other alternatives would maintain higher water levels in APC reservoirs.

Increased releases from Carters Lake for Alternative 6 (3 hours per day generation) would potentially impact the Corps' ability to continue to produce hydropower generation at that facility if the release were sustained for the duration of the drought. Because Carters produces the bulk of the Mobile District's hydropower (596 megawatts) as a "pump back" system, and the lake's location in the upper portion of the basin as the uppermost reservoir in that system, reduction of lake levels discussed for Alternative 6 in the hydrology effects paragraph above could have potentially serious consequences for hydropower production if drought conditions persist. At Lake Allatoona for Alternative 6, lake levels would fall as low as 823 feet msl (winter pool elevation); however the Corps hydropower production capacity at that level would not be compromised. Therefore we have determined that implementation of the described action will not significantly impact hydropower generation at APC or Corps dams.

Floodplain/Wetlands

Wetlands or floodplains areas downstream of Claiborne Dam to the tidally influenced area near Dixie Landing could see some adverse impacts related to water elevation and connectivity with the river with the action alternatives for reduction of the minimum flow requirement at Montgomery. However, the extent of these impacts is not expected to be significant, particularly for the proposed action which would include the minimal reduction of 10%. Monitoring conducted on the river elevations below Claiborne Dam as part of the adaptive management approach would insure that unacceptable floodplain/wetland impact do not occur.

Aesthetics

The proposed action will not impact aesthetics in the project area.

Prime and Unique Farmland

The proposed action will have no effect on prime farmlands or unique agricultural lands.

Environmental Justice
Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations (11 February 1994) requires that Federal agencies conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies, and activities because of their race, color, or national origin.

Those alternatives that restrict flow on the Alabama River by 30% or 40% potentially would cause the shutdown of various industries as discussed in water quality effects paragraph above. Although, employment demographic statistics are unavailable for those particular industries, information available from the U.S. Census Bureau (Appendix C) indicates that those counties in Alabama where these potentially affected pulp and paper industries are located, have black majorities in their racial composition. It is probable therefore, that those alternatives would disproportionately have adverse impacts on employment and earnings potential of that ethnic minority. Alternatives not causing such industry shutdown (No Action, 10% reduction, and 20% reduction), by contrast, would not create disproportionately high or adverse human health or environmental impacts on any minority or low-income populations of the surrounding area. The proposed action is not designed to create a benefit for any group or individual.

Protection of Children
The EO 13045, Protection of Children from Environmental Health Risks and Safety Risks (21 April 1997), recognizes a growing body of scientific knowledge that demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink, and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Implementation of the proposed action or the no action alternative does not involve activities that would pose any disproportionate environmental health risk or safety risk to children.

Cumulative Impact
The CEQ regulations define cumulative impacts as "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 action." 40 C.F.R. § 1508.7. Actions considered in the cumulative impacts analysis include implementation of the action and no action alternatives and other

Federal, State, Tribal, local or private actions that impact the resources affected by the proposed action. The resources affected by the proposed action are described above and are generally limited to hydrology, habitat conditions and species closely linked to the flow regime in the Alabama River.

Within the project area, various past Federal, State, and private actions have impacted the ACT basin natural flow regime including construction of the APC and Corps' dams, urban development, agricultural activities, navigation channel maintenance dredging and disposal, water withdrawals, and small impoundments. The dams continue to affect the ACT river systems by trapping sediment in reservoirs that would otherwise move as bed load through the system. The interruption of this bed load movement and past navigation channel maintenance dredging and disposal activities have contributed to the altered channel morphology in the project area. Channel morphology sets the context for the flow regime. Urban development and agricultural activities have adversely affected water quality and riverine and floodplain habitat. The associated water withdrawals have also impacted the flow regime.

Adverse effects to riverine habitat from continued urbanization and agricultural activities in the ACT basin are reasonably certain to occur. The proposed action is temporary in nature, in response to existing drought conditions and would not have implications for channel morphology, future development, use of the aquatic resource, agriculture, or water withdrawals. Therefore, because of its temporary nature, the action should not significantly contribute to any significant adverse cumulative impacts.

Monitoring

In order to ensure that the combined effects of the ongoing drought and the reductions in minimum flow do not result in more than minor impacts as discussed in this and other sections, conditions relating to the drought, climate and weather forecasts, drought impacts and impacts of reduced flows will be closely monitored. All lake levels and flow rates previously discussed will continue to be monitored. The majority of this type information is readily available on websites such as the Corps Water Management homepage, USGS website, and APC website. Likewise key parameters including hydropower production/demand, water quality including State provided data, dissolved oxygen, water temperatures, etc, water supply intake levels, endangered species, such as heavy pigtoe and radio-tagged Alabama sturgeon, and issues relating to industry capacity to discharge effluent/maintain current production etc. should be monitored by the appropriate entities. Using such data, adaptive management of the ACT system water resources will allow return to the agreed to minimum flows as conditions allow.

6. ANY IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS WHICH WOULD BE INVOLVED SHOULD THE RECOMMENDED PLAN BE IMPLEMENTED

Any irreversible or irretrievable commitments of resources involved in the proposed action have been considered and are either unanticipated at this time, or have been considered and determined to present minor impacts.

7. ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Any adverse environmental effects, which cannot be avoided during implementation of the recommended project, are expected to be minor both individually and cumulatively.

8. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed action constitutes a short-term use of man's environment. The proposed action is temporary relief from the minimum flow agreement in response to extreme and ongoing drought conditions. It is anticipated that it will be implemented during the current and future droughts and will be managed by the Corps through adaptive management to permit balancing of water user needs throughout the ACT system under those conditions, and in accordance with existing Water Control Manuals. At this time we do not have an estimate of the duration of those conditions; however, the storage reservoirs in the ACT basin normally refill during the subsequent wet season with the increased precipitation during the winter months or in some cases during tropical storm events. Because ultimately, long term impacts would be determined primarily by drought conditions or weather-provided relief thereof, adjustments will be made as necessary minimize those impacts through adaptive management of available water in the system.

9. COORDINATION

The Corps published a Public Notice advertising the APC request on 31 May 2007, and asked for comments by 11 June 2007. Appendix D contains a copy of the Public Notice.

Appendix E contains copies of comments received in response to the Public Notice. An overview of the coordination is summarized below, and the details of coordination with each specific entity are also provided.

U.S. Fish and Wildlife Service, letter dated 11 June 2007:

The Alabama sturgeon, heavy pigtoe mussel and tulotoma snail occur in the area downstream of R.F. Henry Lock and Dam, and would likely be impacted by reduced flows in the Alabama River.

Several other species could be potentially impacted dependent on the management of the reduced flows in the Alabama River. This could occur because as flows are reduced, concentration of pollutants in the river could increase. Of particular importance are the Alabama sturgeon, and the heavy pigtoe mussel, which occur nowhere else in the world, and their continued existence could be threatened by such exposures.

The tulotoma snail, southern clubshell, Etowah darter, goldline darter, and triangular kidneyshell occur in the mainstem of the Coosa River and in its receiving headwaters in Georgia. The tulotoma snail and southern clubshell both occur in the Coosa River below Jordan and Weiss Dams, respectively. The Etowah darter, goldline darter, and triangular kidneyshell occur in the Coosa headwaters below Allatoona Dam and Carters re-regulation dam. All of the indicated species could be further impacted by how water is managed downstream in the Coosa River.

Sport fisheries could be affected from the reservoirs to the tailraces, down the rivers, to the Mobile Tensaw Delta, to Mobile Bay.

Natural resources, including flora and fauna could be affected by increasing salinity in the Mobile, Tombigbee and Alabama Rivers.

A determination needs to be made as to what the current assimilation capacity of the Alabama River is based on the proposed flow reductions.

Evaluate proposed minimum flows relative to pre-dam monthly 1-day and annual low-flow duration of the affected river reaches, to provide an estimate of natural low-flow conditions to which the riverine biota are adapted.

Department of Energy, Southeastern Power Administration (SEPA) letter dated 7 June 2007:

The proposed flow reduction would have direct adverse impacts on generation ability of both Millers Ferry and Robert F. Henry Dams, requiring the drafting of storage from the Corps-owned lakes Allatoona and Carters, resulting in shifting the burden of required releases from Alabama Power Company to Federal resources to the detriment of Federal customers.

The change in operation at Allatoona and Carters would dramatically affect peaking power production at the Federal projects, and because the Carters project especially, provides generation capacity beyond that combined of the Alabama Power Company projects, could have great impacts to the Federal projects ability to provide hydropower generating flexibility.

The proposed operational changes would cause customers of Federal hydropower to incur significant expenses for replacement energy costs.

Alabama Department of Environmental Management, letter dated 11 June 2007:

As stream flows decline there is potential for significant water quality degradation in a number of State of Alabama waterways. There is insufficient data to support the proposed 40% reduction in flow by Alabama Power Company.

Alabama Department of Conservation and Natural Resources, letter dated 11 June 2007.

A 40% reduction in flow on the Alabama River could be harmful to aquatic wildlife, and such a reduction would require additional study of the potential impacts to both freshwater and saltwater aquatic species. They could support a 10% reduction.

Georgia Department of Natural Resources, by letter dated 8 June 2007.

The requested release from Lakes Allatoona and Carters could adversely affect the water supply of approximately 500,000 people.

The Corps must be conservative in making releases from Allatoona and Carters Lakes because of their location near the headwaters, with small drainage areas relative to conservation storage. The watershed in Georgia is also suffering extreme drought conditions, further exacerbating the potential impacts to public water supply.

The proposed releases would cause disastrous depletion of conservation storage at Lakes Allatoona and Carters. Based on a similar previous drought in 1986, at best all conservation storage would be depleted by next January, and would not refill during the next Spring. Even at minimum required releases, Lake Allatoona water level would fall precipitously throughout the summer.

Alabama Power Company Lakes Weiss, H. Neely Henry, and Logan Martin would not be significantly improved by the proposed releases.

Alabama Power Company has provided no valid resource-based need for greater releases from the Corps lakes.

International Paper Company, by letter dated 7 June 2007.

The proposed flow reduction would require the holding of an additional 15 million gallons of wastewater per day, at which, holding ponds would become full by the end of July and plant production would cease. The impact would affect the largest employer in Prattville, Alabama, including 600 employees, 100 contractors, with a payroll of $42 million.

Southeastern Federal Power Customers, Inc., by letter dated 8 June 2007.

The proposed increased release from Lakes Allatoona and Carters would adversely affect power availability and cost to 238 rural electric cooperatives and municipalities throughout eight southeastern states, including Alabama. The impact would occur because releases at this point in time would affect the availability of hydropower production through the summer and potentially longer.

Weyerhaeuser Corporation Pine Hill Mill, by e-mail dated 7 June 2007:

The proposed flow reduction may affect the ability of the mill to withdraw water, which is used not only for the mill, but for supply of potable water to a community of approximately 16,000 people.

River flows below 3,000 cfs may threaten mill production because wastewater may not be discharged when dissolved oxygen in the river falls below 5 ppm.

Alabama River Pulp, by e-mail dated 7 June 2007:

River flows resulting in water levels below 5.5 feet at the Claiborne tailrace will cause the company to shut down, leaving approximately 800 employees without work and loss of economic production at the plant of over $800,000 per day. Installation of supplemental pumps would cost over $132,000 plus $5,000 dollars per week to operate.

Federal Energy Regulatory Commission (FERC) by e-mail dated 12 June 2007:

FERC has no comments.

State of Alabama, Office of the Governor, by letter dated 11 June 2007:

Letter supported the request by APC for additional releases from Corps Lakes Allatoona and Carters and specifically requested that combined releases total 1,350 cfs for a period of sixty days. Stated that the Corps currently has a Water Control Manual promulgated in accordance with applicable law, but that the Water Control Manual is not being adhered to by the Corps.

Cobb County, Georgia, Water Authority, by letter dated 7 June 2007:

Stated that the water authority's intake on Lake Allatoona was at 810 feet msl and that decreases in lake levels below that point would leave the water authority unable to furnish water to its customers. Stated that there is insufficient information to determine the impact on the hydropower generation impacts as stated by APC and that water supply should take priority over other uses during a drought.

USW Union Local 3-13444 at International Paper Mill, Riverdale Mill, by e-mail dated 7 June 2007:

Stated that their union members were concerned about the water levels on the Alabama River and that they did not wish to see another company put to a hardship while theirs continued to function. However, they stated that there was a need to work together for all to survive, and that they were doing everything possible to conserve water.

The Town of Centre, Alabama by faxed letter dated 11 June 2007:

Stated they were very concerned about lake levels, water quantity, and quality in Weiss Lake and that Weiss Lake is the only water supply for the town.

Central Elmore Water and Sewer Authority, by letter dated 11 June 2007:

Stated they have two water intakes on Lake Martin, one at elevation 483.5 feet msl and another at 471 feet msl. They stated that since the intakes are gravity fed, water levels should not fall below 474 feet msl to ensure continued water supply. They asked that the Corps be mindful when making decisions regarding water releases.

Alabama Rivers Alliance, by letter dated 11 June 2007:

Stated that water flows could fall below the 7Q10 levels used to calculate NPDES permit limits. They stated that the Corps must ensure that the relevant water quality issues have been addressed prior to authorizing the requested cutbacks. They stated that the Corps should consider alternatives to the large requested cutbacks and that passing basin inflows would provide a balanced approach. They also stated that there was no mechanism stated in the public notice that signal an end to the flow cutbacks and that there should be a mechanism included to provide that.

Coosa Alabama River Improvement Association, Inc., by letter dated 11 June 2007:

Stated that they represent numerous members of small businesses, municipalities, counties and individuals from Rome, Georgia to Mobile, Alabama. Stated that dredging has not occurred recently and that navigation on the Alabama River has been subsequently curtailed. Stated that flows from the APC projects support the flow needed for navigation. They stated that it is prudent to do what is necessary to address current conditions and that the Corps consider any and all measures to address the problem including increased releases from Lakes Allatoona and Carters. Recommended that if the APC request for reduced flows is approved that a mechanism be put in place to return to current flows as soon as conditions permit.

City of Cartersville, Georgia, by letter dated 8 June 2007:

Stated that the City of Cartersville receives its water supply from Lake Allatoona and that they are opposed to any lowering of the lake level to augment low flows on the Alabama River. They stated that lowering of the lake level would have environmental and economic impacts on their region. They stated that there would also be reduced recreation opportunities because of the action, and would provide only temporary relief to low stream flows in Alabama.

Alabama Pulp and Paper Council, by letter dated 8 June 2007:

Stated they have serious concerns with the request to modify the flow agreement allowing

reduced flows. They stated they had two main concerns. First, was the ability of the paper and pulp industry to discharge under a low flow condition, when NPDES permits require certain minimum flow and/or certain dissolved oxygen standards. They also expressed concern that water levels would be too low for water intake units to withdraw water as needed by the industry members. They stated that without sufficient water or the ability to discharge effluent there would be the possibility of mill shutdowns putting people out of work. They urged the Corps to consider releasing additional water from Lakes Allatoona and Carters.

Alabama Power Company, by letter dated 11 June 2007:

Stated they supported the proposed reduction from the minimum release agreement and the increased releases from Corps lakes. Restated previous concerns regarding severity of drought conditions and potential impacts to the APC hydropower system. In addition, stated that the water quality of Weiss Lake could decline dramatically due to algal blooms as water levels drop and water retention times increase.

Property owners, property owner associations, other public comments:

Approximately 30 comments were received from members of the public generally in support of the APC request and approximately 30 in opposition. Several commenters sent multiple comments. Support or opposition to the request was significantly divided along State residency. Those with property near the APC lakes in Alabama were in support of the request in order to maximize lake levels at those locations based on needs ranging from boating access, dock and pier access, fishing, the economic impacts to recreation small businesses or water supply. Those with property near the Corps lakes in Georgia were opposed to the request for similar reasons regarding those lakes in Georgia.

ACT Drought Summit and Teleconference:

On 25 June 2007, a meeting was held ("ACT Drought Summit") between major stakeholders, including Corps of Engineers, (Mobile District Engineer and South Atlantic Division Engineer) US Fish and Wildlife Service, US Environmental Protection Agency, Southeastern Power Administration, Federal Energy Regulatory Commission, Alabama Power Company, Georgia Power Company, Georgia Environmental Protection Division, Georgia Wildlife Resources Division, Alabama Department of Environmental Management, Alabama Department of Conservation and Natural Resources, Alabama Office of Water Resources, Alabama Paper and Pulp Council, in the ACT basin to discuss drought-related issues, provide exchange of information, and provide possible solutions to problems. The Corps stated that the purpose of the meeting was not to provide decisions on pending requests such as the one by APC, nor to use the meeting as a forum to negotiate any potential outcomes of this evaluation. APC spokesman Willard Bowers stated that the decision making process needs to be addressed, that previous requests for such variances in the 1980's did not require an Environmental Assessment and that decision makers must agree on a balanced approach. He also stated that it is important to

maintain hydropower generation capability at APC reservoirs to maintain system stability on the electric grid. Brian Atkins with the Alabama Office of Water Resources stated that this agency would like to see more water released from the upstream Corps lakes in Georgia. Carol Couch with Georgia Environmental Protection Division stated that priorities should be considered as well as balance and that approximately 800,000 people in north Georgia depend on water from the Corps lakes in that portion of the state. Georgia Power stated that they have a power plant, Plant Hammond, on the upper end of Weiss Lake which is dependent on a flow of fresh water for cooling. Resultant discharge from such cooling is subject to regulated temperature limits, which have already been exceeded. The plant could shut down, but power would have to be purchased at that point. Rick Oates representing the Alabama Paper and Pulp Council stated that for companies his organization represents, violation of permits is not an option. He stated that if discharges could not be made within the terms of their NPDES permits the plants would have to shut down and would result in large local economic impacts.

As a result of the meeting it was decided that followup teleconferences would be held every two weeks to discuss drought-related issues. The first such teleconference was conducted on 11 July 2007. Updates on the drought situation, status of Corps and APC reservoirs, and other drought-related items of interest were discussed. Opportunity was provided for stakeholders to voice any new concerns or reiterate any previously raised issues.

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APPENDIX A

ANALYSIS OF MINIMUM FLOW ALTERNATIVES

APC Minimum Flow Modification Alternatives

Mobile Distict Analysis
June 2007

Alternative 1

No Action

APC required minimum = 4640 cfs

COE (Carters & Allatoona) required minimum = 240 cfs

Alternative 2

40% reduction in APC minimum flow (2784)

Alternative 3

Varied reduction in APC minimum flow

A. 10% (4176)
B. 20% (3712)
C. 30% (3248)

Alternative 4

Increase required minimum from Carters and Allatoona by 10% of 4640

Alternative 5

Increase required minimum from Carters and Allatoona by 20% of 4640

Alternative 6

10% reduction in APC minimum flow (4176)

Allatoona minimum flow release of 310 cfs

Allatoona generate 2 hours a day

Carters minimum flow release of 385 cfs

Alternative 7

10% reduction in APC minimum flow (4176)

Allatoona minimum flow release of 310 cfs

Allatoona generate 3 hours a day

Carters minimum flow release of 385 cfs

Alternative 8

No reduction in APC minimum flow (4640)

Allatoona minimum flow release of 310 cfs

Allatoona generate 2 hours a day

Carters minimum flow release of 385 cfs

Alternative 9

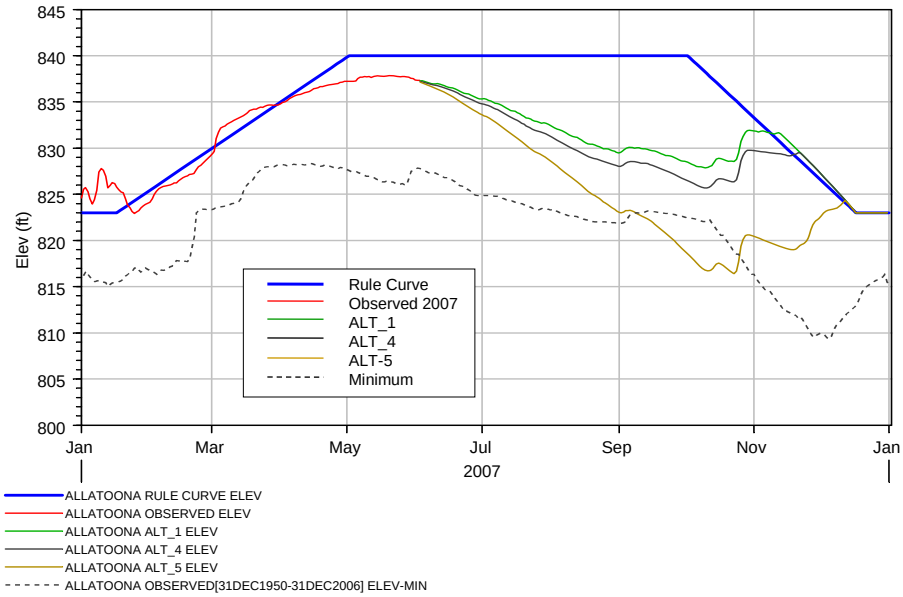
No reduction in APC minimum flow (4640)

Allatoona minimum flow release of 310 cfs

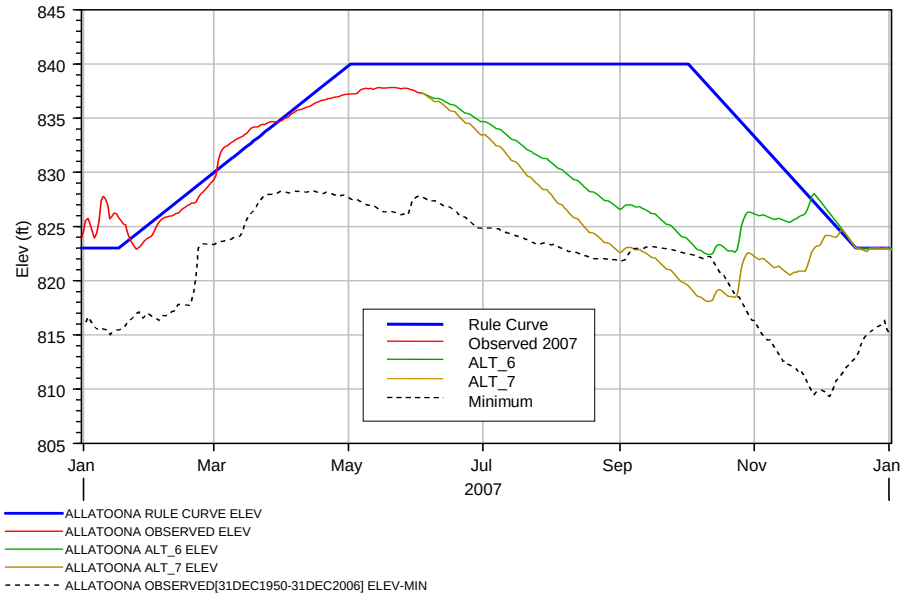
Allatoona generate 3 hours a day

Carters minimum flow release of 385 cfs

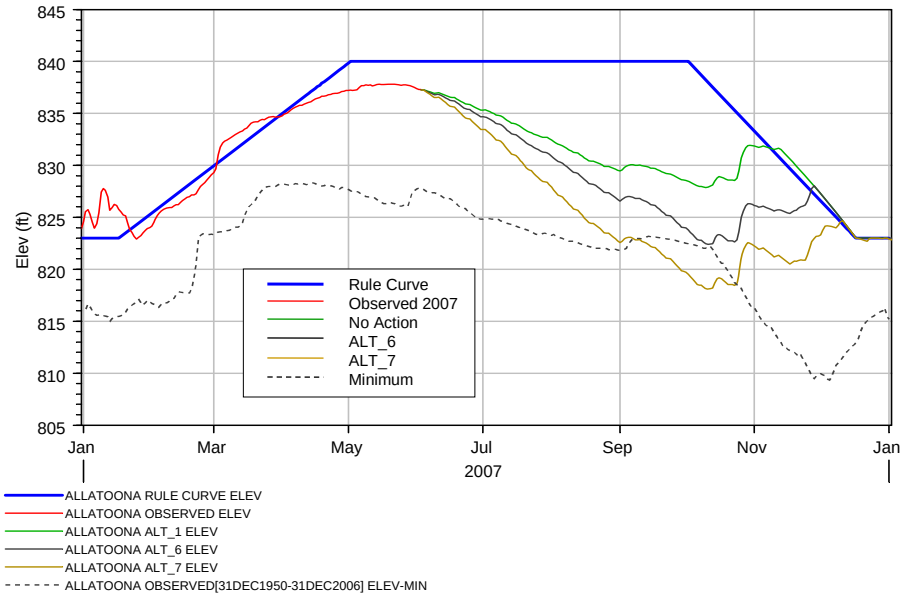
Allatoona



Allatoona



Allatoona



Allatoona Comparison

Allatoona

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	835.32	835.32	835.32	835.32	835.32	834.80	833.61	824.80
01-Aug-07	832.44	832.44	832.44	832.44	832.44	831.28	828.61	823.30
01-Sep-07	829.47	829.47	829.47	829.47	829.47	828.02	823.03	821.80

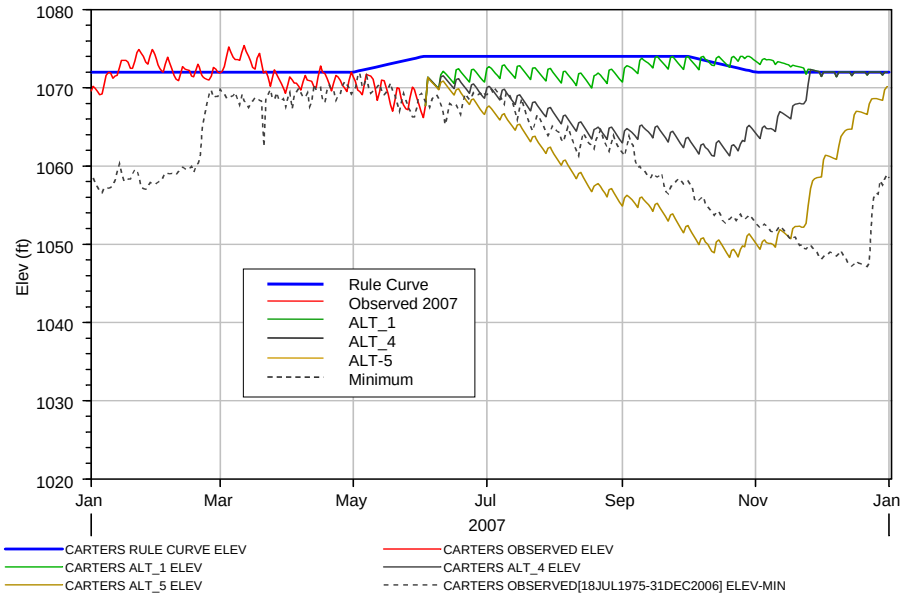
Allatoona change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	0.00	0.00	0.00	0.00	-0.52	**-1.71**
01-Aug-07	0.00	0.00	0.00	0.00	-1.16	**-3.83**
01-Sep-07	0.00	0.00	0.00	0.00	-1.45	**-6.44**

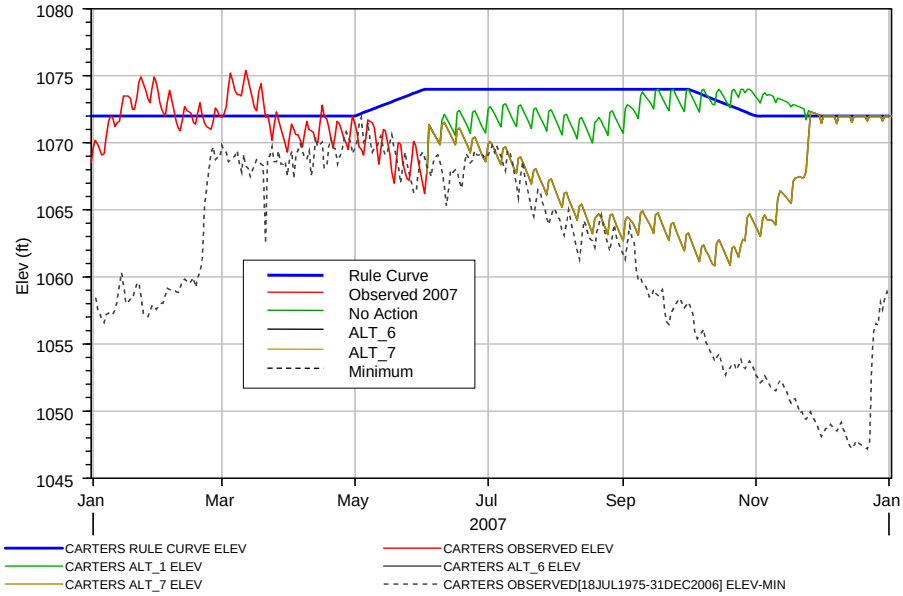
Greatest drawdown – Alt 5

*Note: RED value < min

Carters



Carters



Carters Comparison

Carters

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	1072.50	1072.50	1072.50	1072.50	1072.50	1070.00	**1067.50**	1,069.10
01-Aug-07	1071.70	1071.70	1071.70	1071.70	1071.70	1066.60	**1061.40**	1,064.90
01-Sep-07	1070.70	1070.70	1070.70	1070.70	1070.70	1063.00	**1054.90**	1,061.70

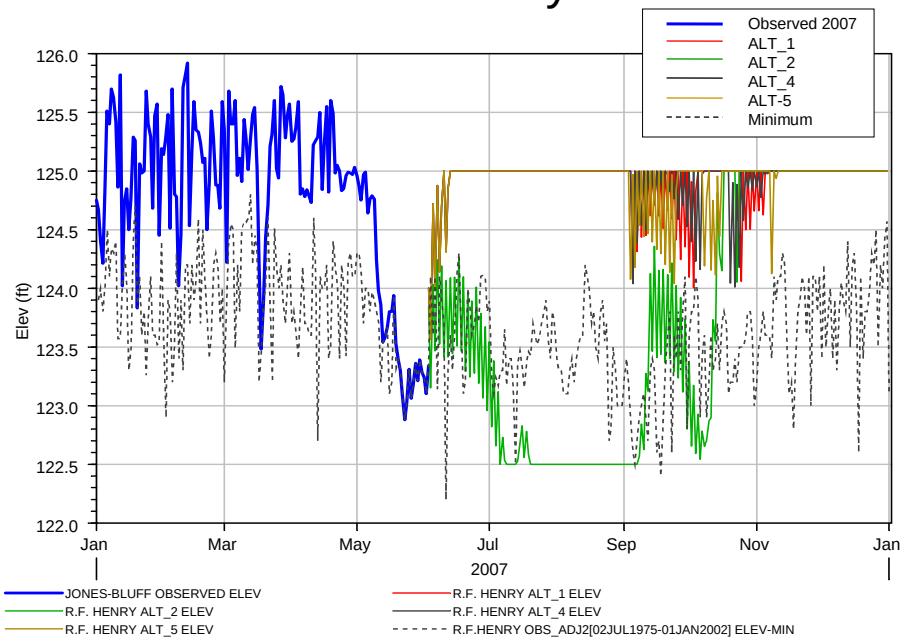
Carters change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	0.00	0.00	0.00	0.00	-2.50	**-5.00**
01-Aug-07	0.00	0.00	0.00	0.00	-5.10	**-10.30**
01-Sep-07	0.00	0.00	0.00	0.00	-7.70	**-15.80**

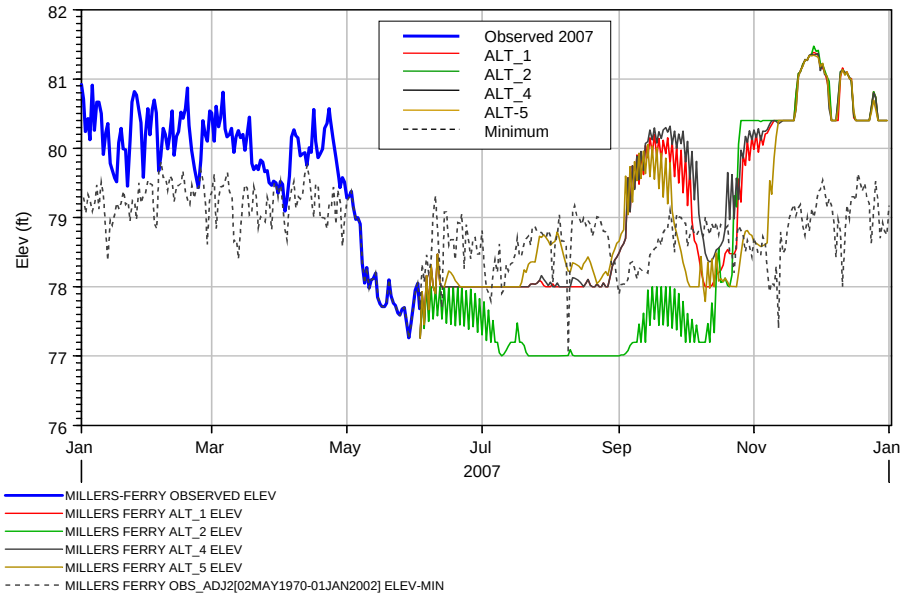
Greatest drawdown – Alt 5

*Note: RED value < min

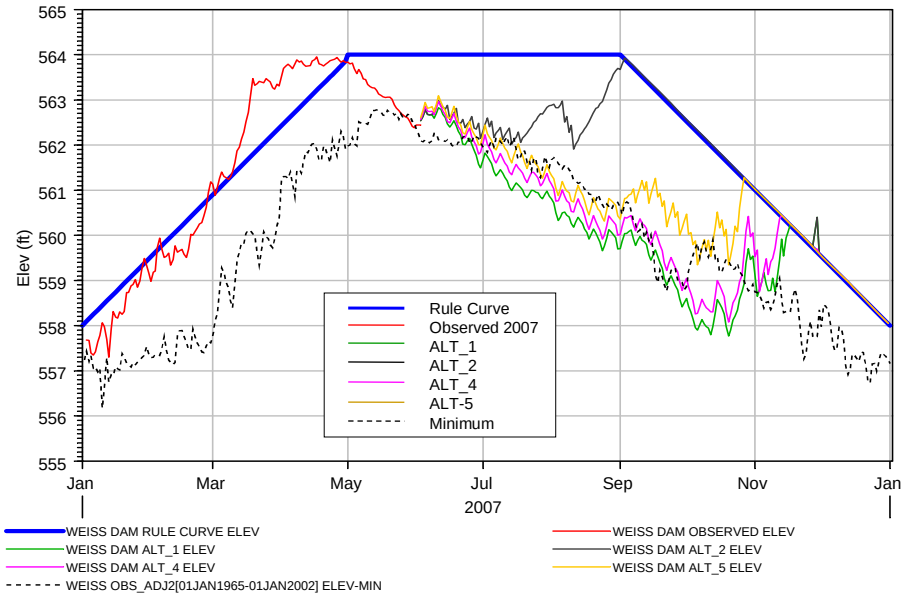
RF Henry



Millers Ferry



Weiss


565
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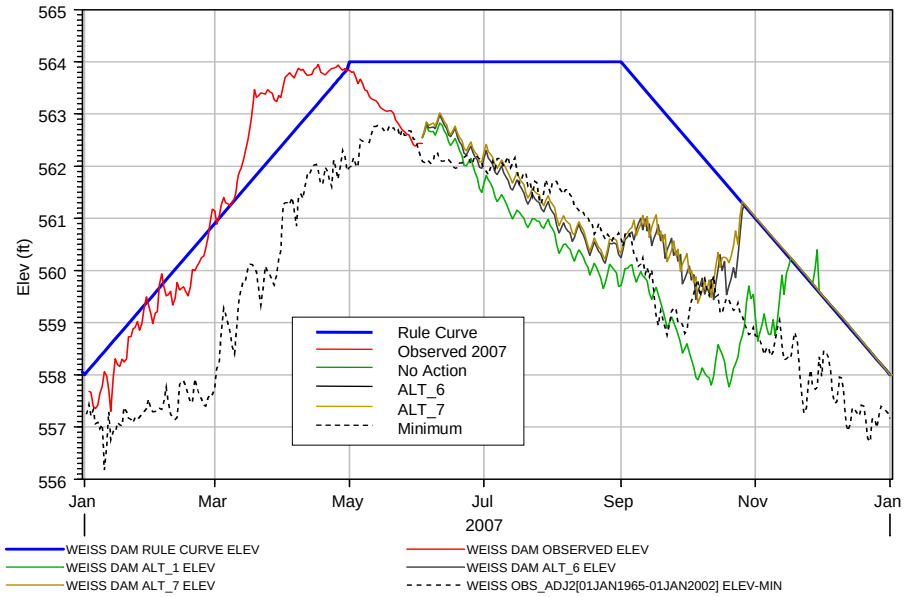
Elev (ft)
Jan
Mar
May
Jul
Sep
Nov
Jan
2007
Rule Curve
Observed 2007
ALT_1
ALT_2
ALT_4
ALT-5
Minimum
WEISS DAM RULE CURVE ELEV
WEISS DAM OBSERVED ELEV
WEISS DAM ALT_1 ELEV
WEISS DAM ALT_2 ELEV
WEISS DAM ALT_4 ELEV
WEISS DAM ALT_5 ELEV
WEISS OBS_ADJ2[01JAN1965-01JAN2002] ELEV-MIN

Weiss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Elev (ft)
Jan
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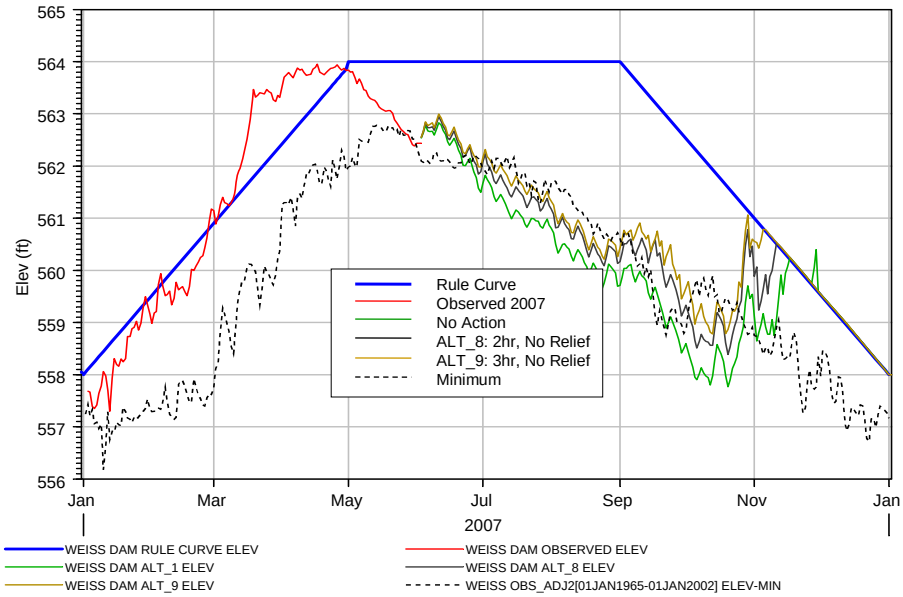
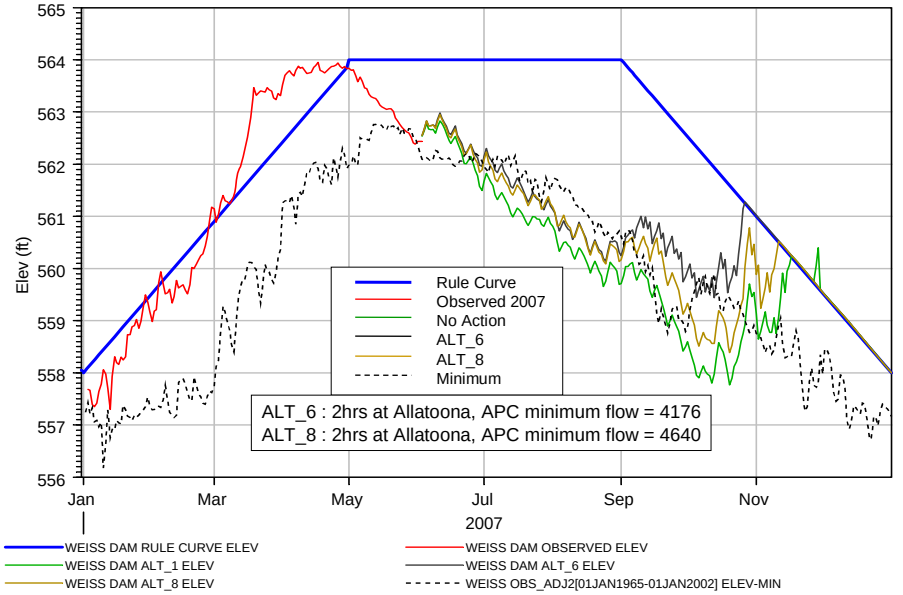
May
Jul
Sep
Nov
Jan
2007
Rule Curve
Observed 2007
No Action
ALT_6
ALT_7
Minimum
WEISS DAM RULE CURVE ELEV
WEISS DAM OBSERVED ELEV
WEISS DAM ALT_1 ELEV
WEISS DAM ALT_6 ELEV
WEISS DAM ALT_7 ELEV
WEISS OBS_ADJ2[01JAN1965-01JAN2002] ELEV-MIN

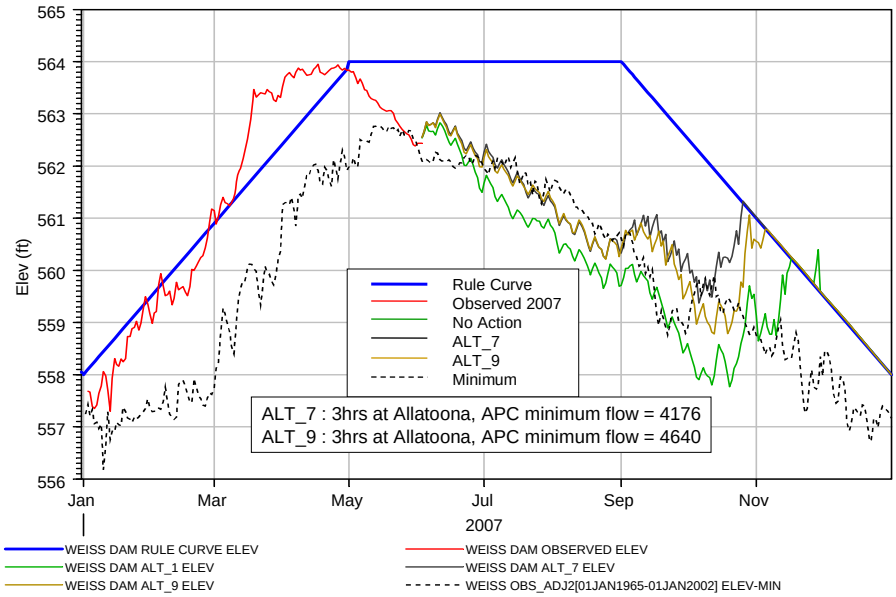
Weiss



Weiss
(2 hours of generation at Allatoona)



Weiss
(3 hours of generation at Allatoona)



Weiss Comparison

Weiss

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**561.67**	562.31	562.04	562.14	562.26	562.05	562.24	562.00
01-Aug-07	**560.81**	562.88	**560.92**	**561.07**	**561.30**	**561.14**	**561.33**	561.70
01-Sep-07	**559.71**	563.67	**559.86**	**560.23**	**560.50**	**560.01**	**560.36**	560.60

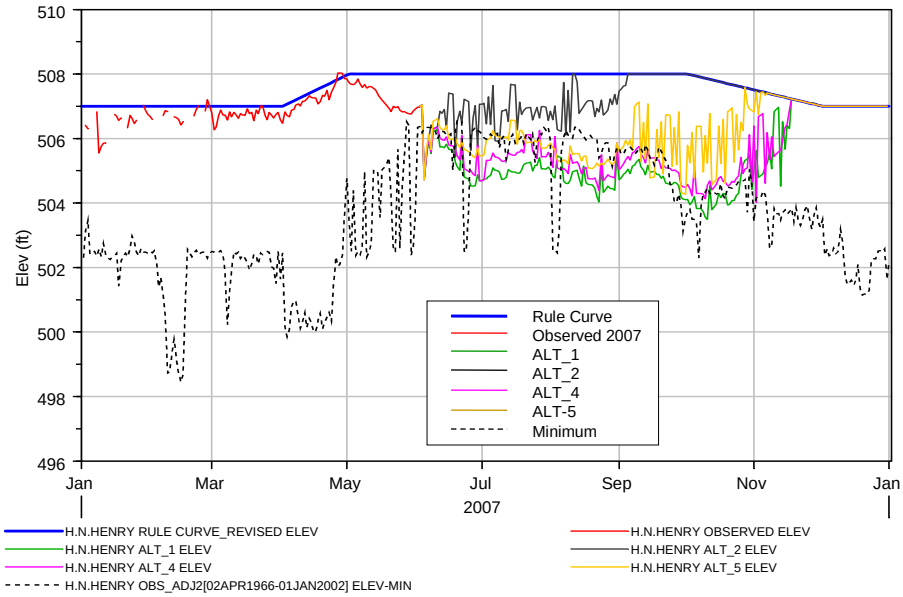
Weiss change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	**0.64**	0.37	0.47	0.59	0.38	0.57
01-Aug-07	**2.07**	0.11	0.26	0.49	0.33	0.52
01-Sep-07	**3.96**	0.15	0.52	0.79	0.30	0.65

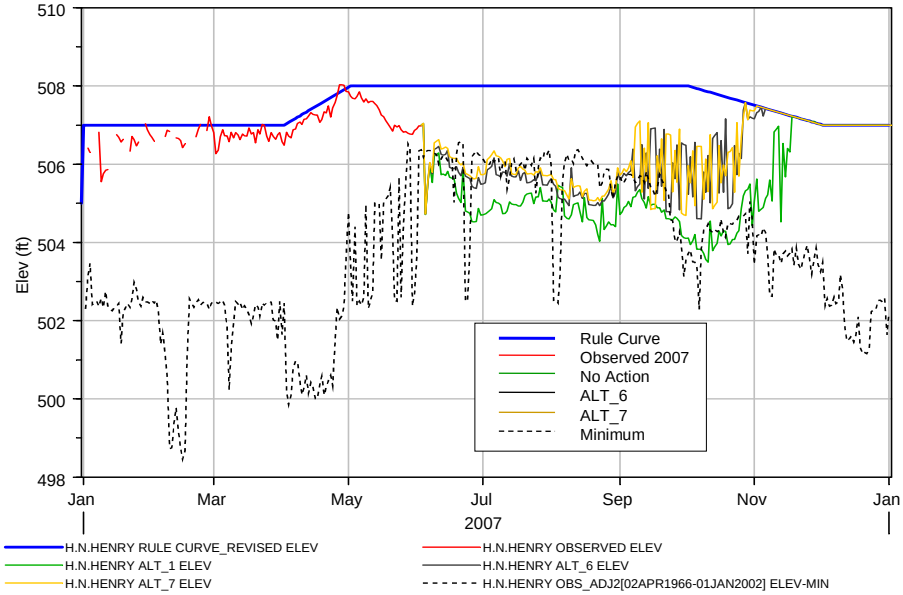
Greatest drawdown – Alt 1
Greatest relief – Alt 2

*Note: RED value < min

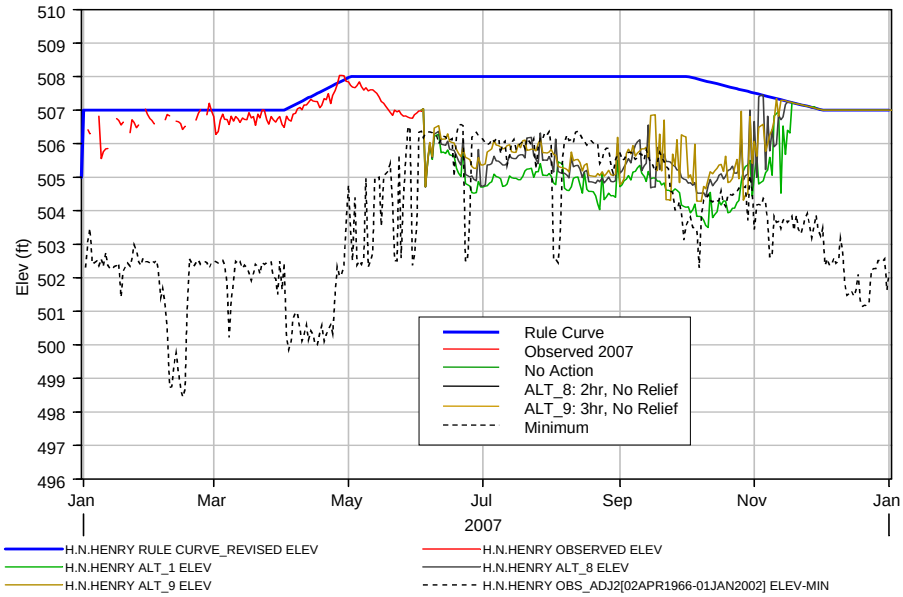
HN Henry



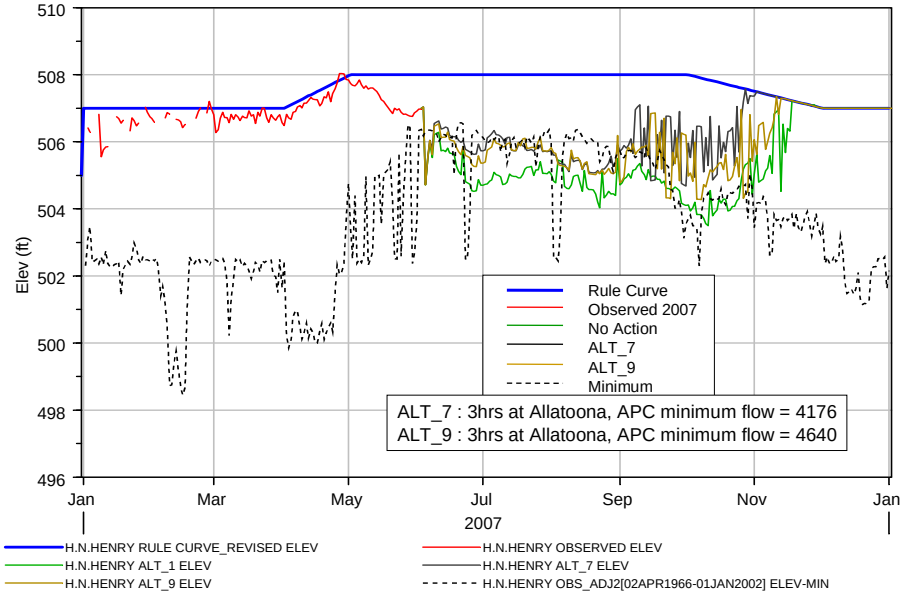
H.N. Henry



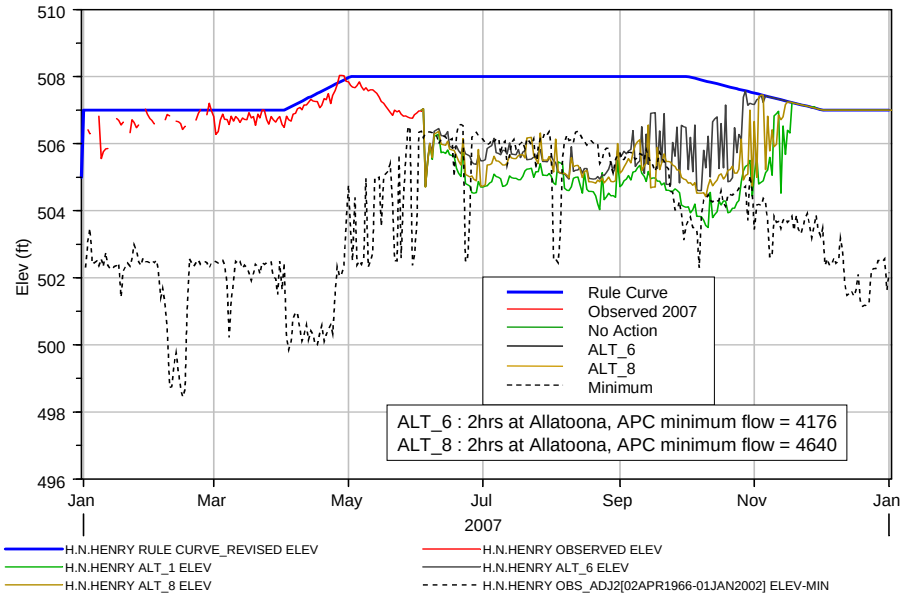
H.N. Henry



H.N. Henry
(3 hours of generation at Allatoona)



H.N. Henry
(2 hours of generation at Allatoona)



HN Henry Comparison

HN Henry

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**504.70**	507.07	**504.91**	**505.66**	**505.98**	**504.69**	**505.46**	506.10
01-Aug-07	**505.02**	506.84	**505.12**	**505.69**	506.59	**505.43**	**505.86**	505.90
01-Sep-07	**504.72**	507.48	**504.78**	505.95	506.55	**505.04**	**505.60**	505.70

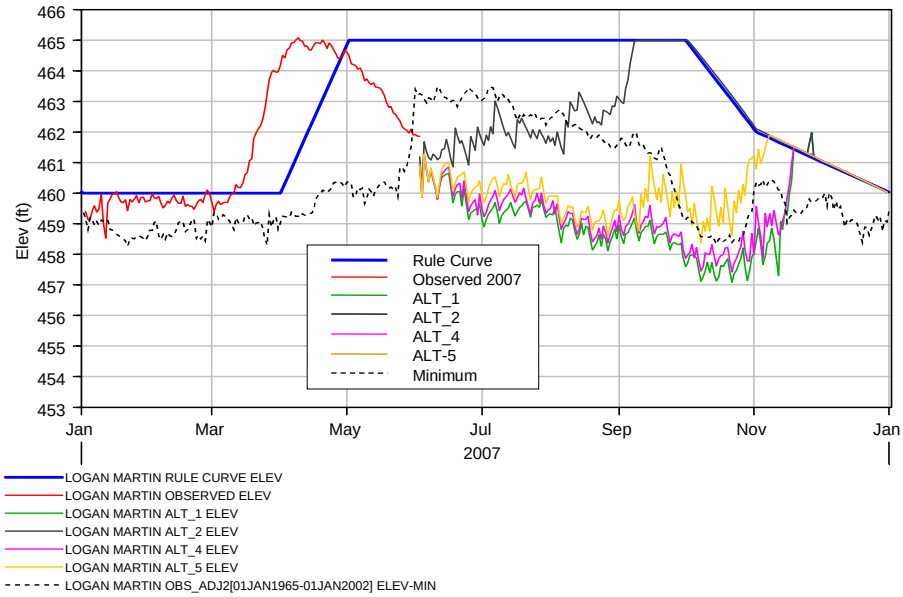
HN Henry change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	**2.37**	0.21	0.96	1.28	-0.01	0.76
01-Aug-07	**1.82**	0.10	0.67	1.57	0.41	0.84
01-Sep-07	**2.76**	0.06	1.23	1.83	0.32	0.88

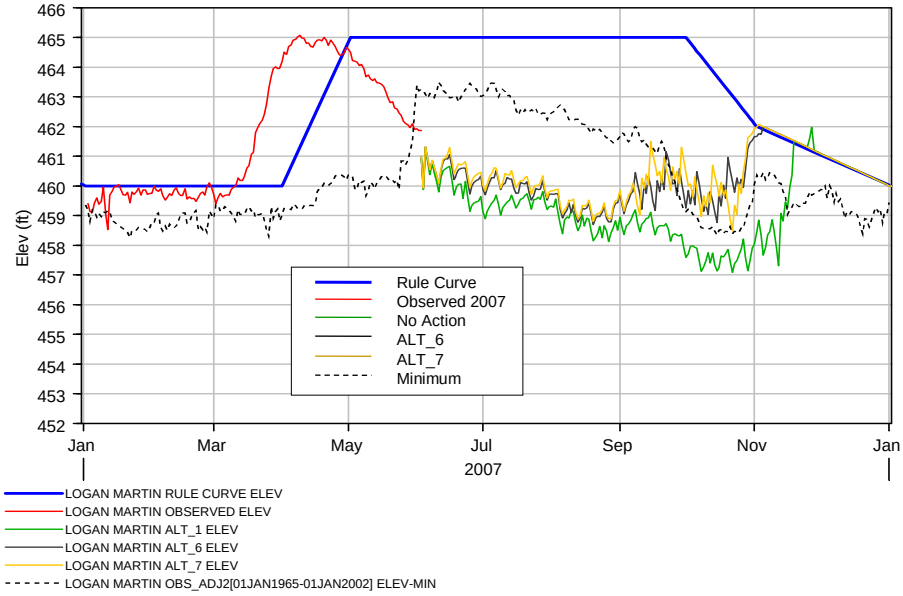
Greatest drawdown – Alt 1
Greatest relief – Alt 2

*Note: RED value < min

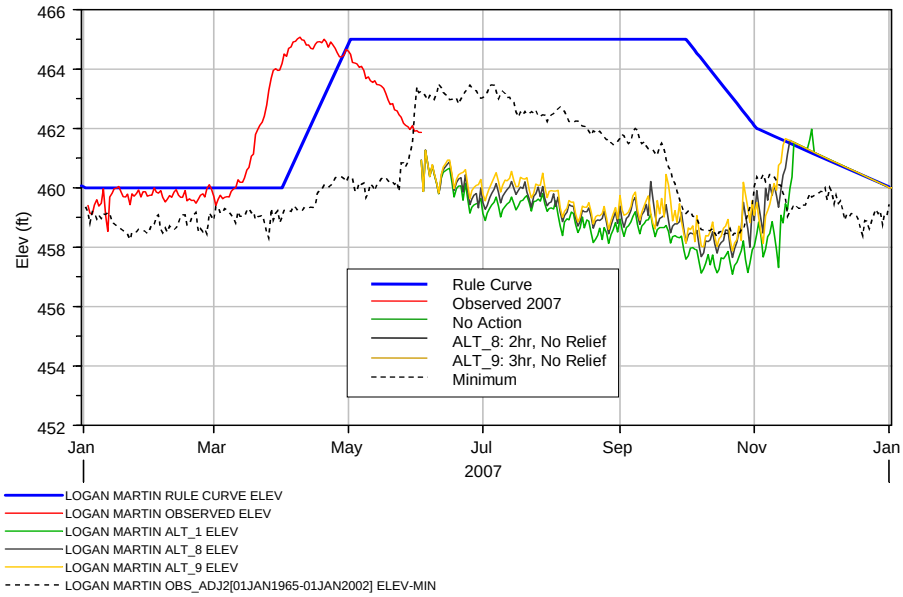
Logan Martin



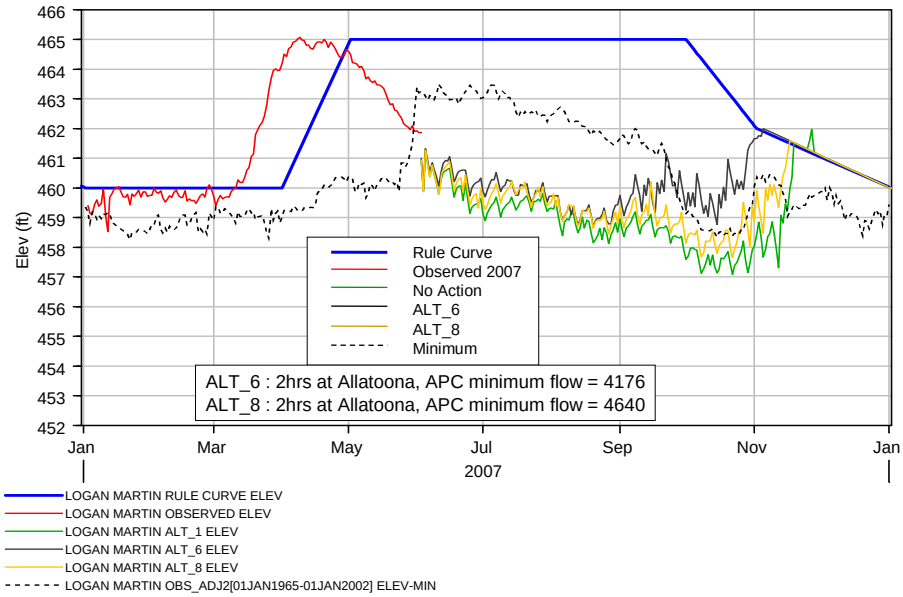
Logan Martin



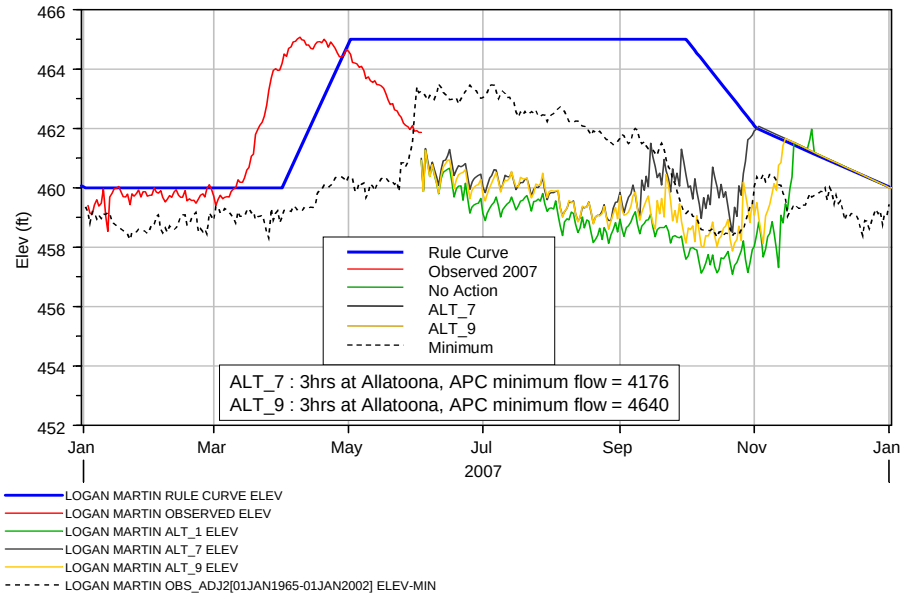
Logan Martin



Logan Martin
(2 hours of generation at Allatoona)



Logan Martin
(3 hours of generation at Allatoona)



Logan Martin Comparison

Logan Martin

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**459.13**	**461.70**	**459.67**	**460.09**	**460.56**	**459.47**	**459.90**	463.00
01-Aug-07	**459.32**	**461.67**	**459.27**	**459.87**	**460.19**	**459.49**	**459.92**	462.4
01-Sep-07	**458.94**	463.07	**459.28**	**459.89**	**460.37**	**459.26**	**459.77**	461.7

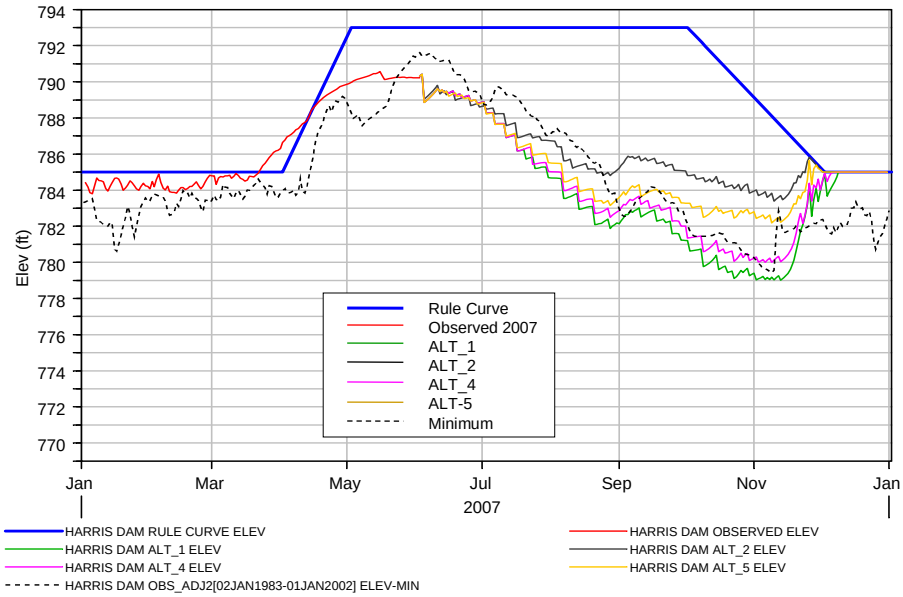
Logan Martin change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	**2.57**	0.54	0.96	1.43	0.34	0.77
01-Aug-07	**2.35**	-0.05	0.55	0.87	0.17	0.60
01-Sep-07	**4.13**	0.34	0.95	1.43	0.32	0.83

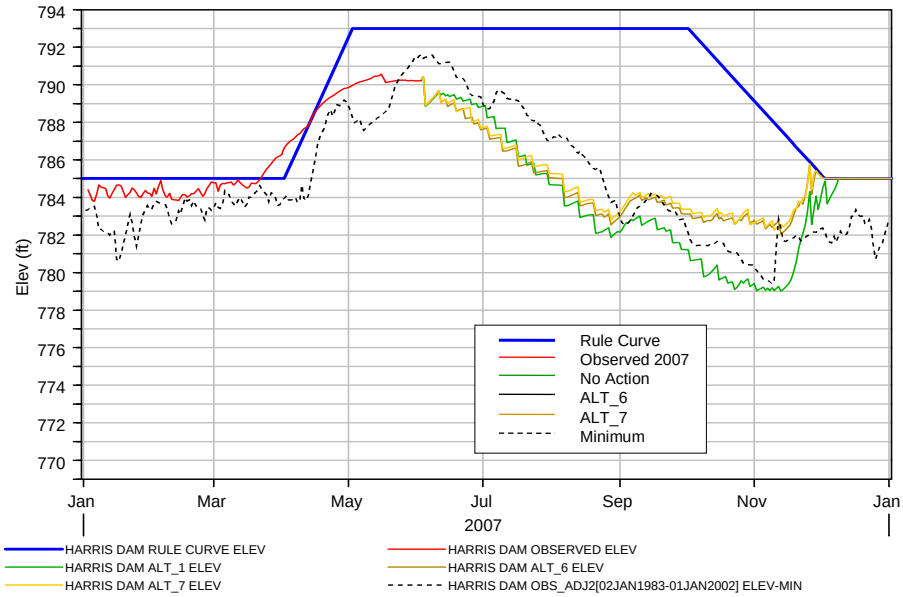
Greatest drawdown – Alt 1
Greatest relief – Alt 2

*Note: RED value < min

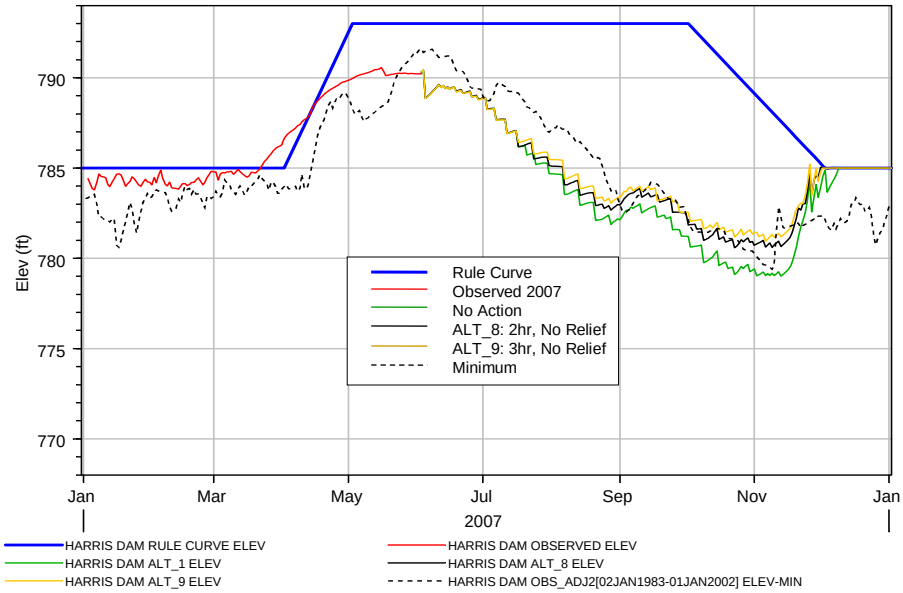
Harris



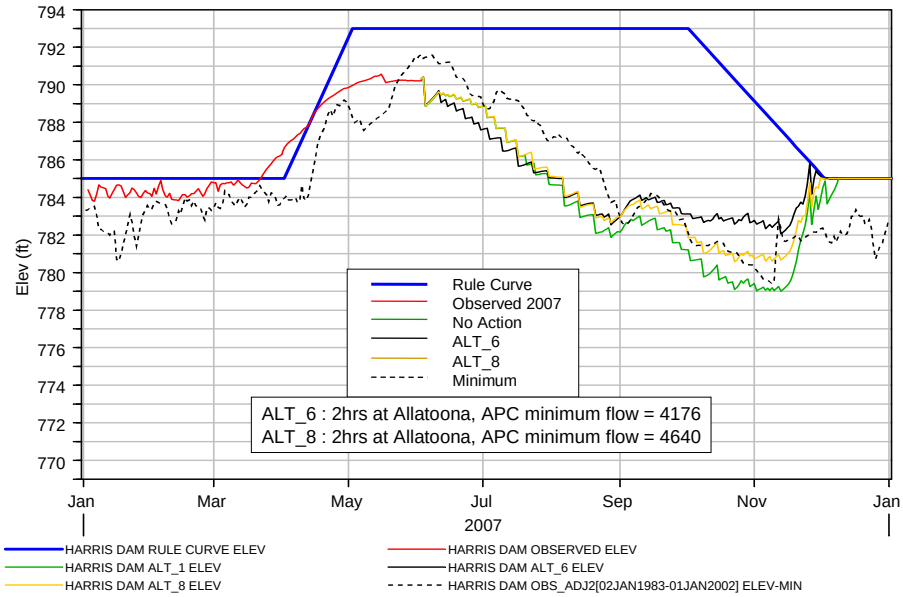
Harris



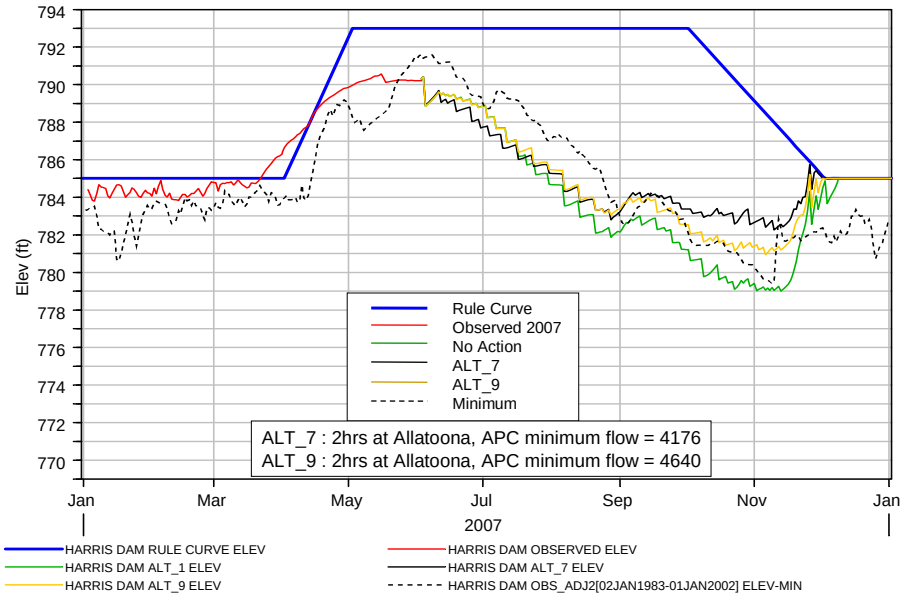
Harris



Harris
(2 hours of generation at Allatoona)



Harris
(3 hours of generation at Allatoona)



Harris Comparison

Harris

Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**788.87**	**788.65**	**787.53**	**787.86**	**788.35**	**788.87**	**788.83**	789.00
01-Aug-07	**784.68**	**786.74**	**784.42**	**785.46**	**786.21**	**785.03**	**785.51**	787.10
01-Sep-07	**782.14**	785.22	**782.22**	783.74	784.37	**782.87**	783.59	783.00

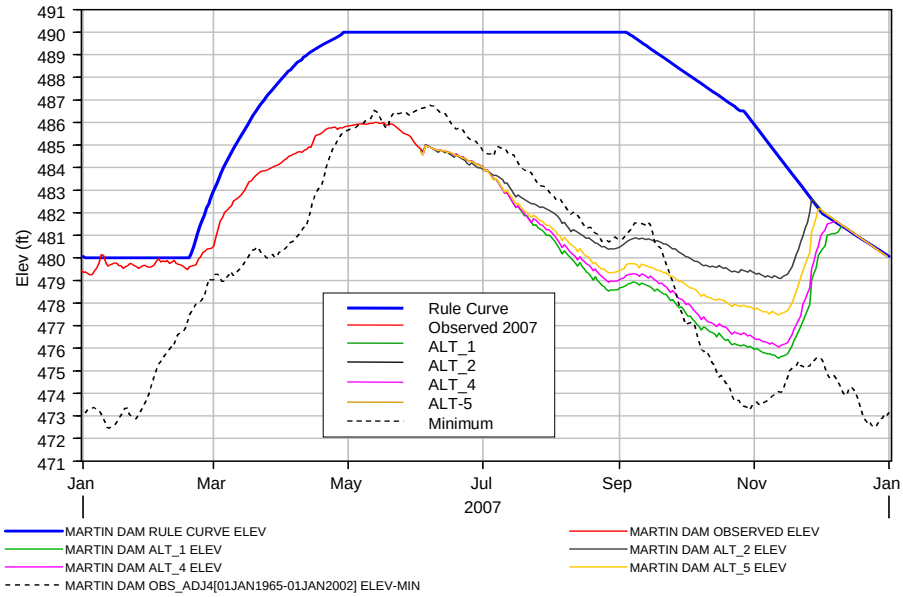
Harris change from No Action

Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	-0.22	-1.34	-1.01	-0.52	0.00	-0.04
01-Aug-07	**2.06**	-0.26	0.78	1.53	0.35	0.83
01-Sep-07	**3.08**	0.08	1.60	2.23	0.73	1.45

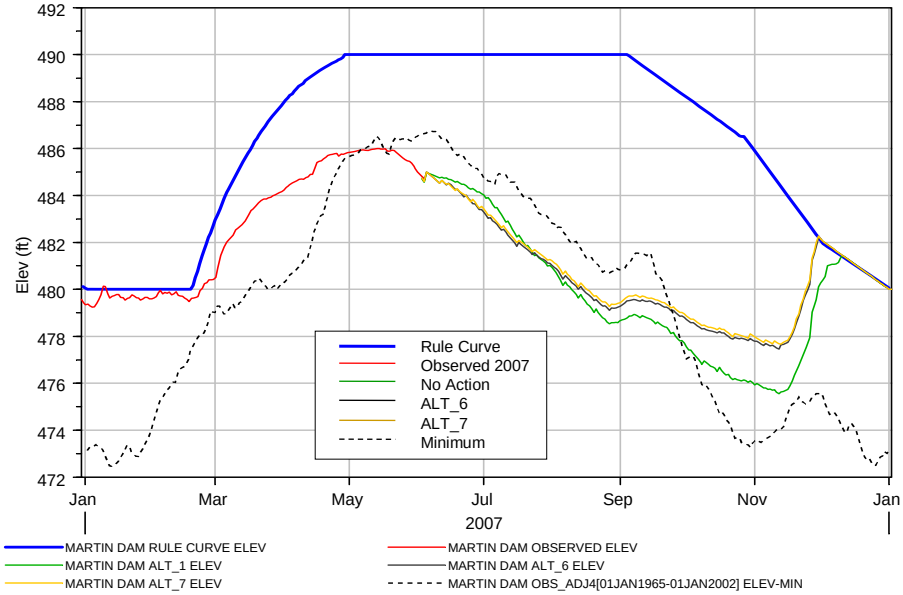
Greatest drawdown – Alt 3A
Greatest relief – Alt 2

*Note: RED value < min

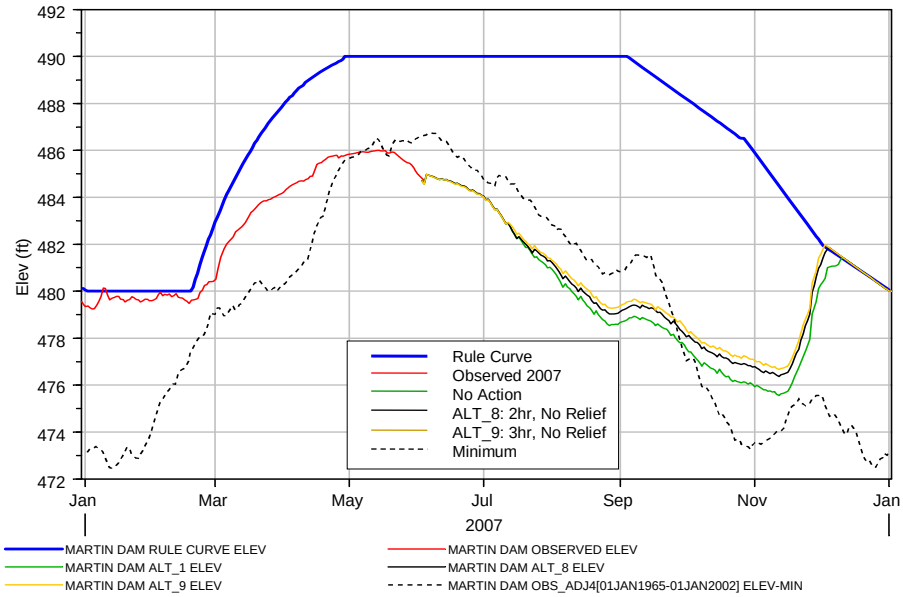
Martin



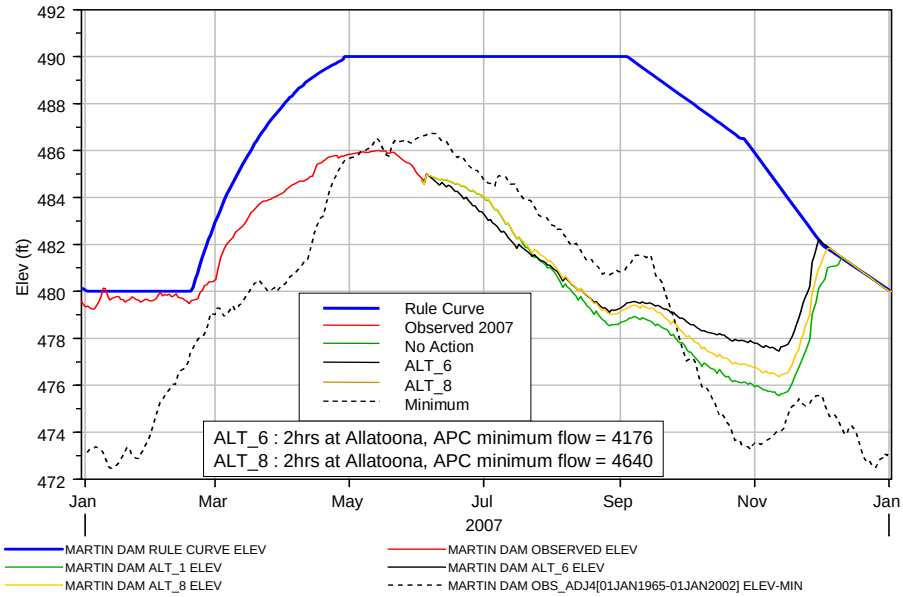
Martin



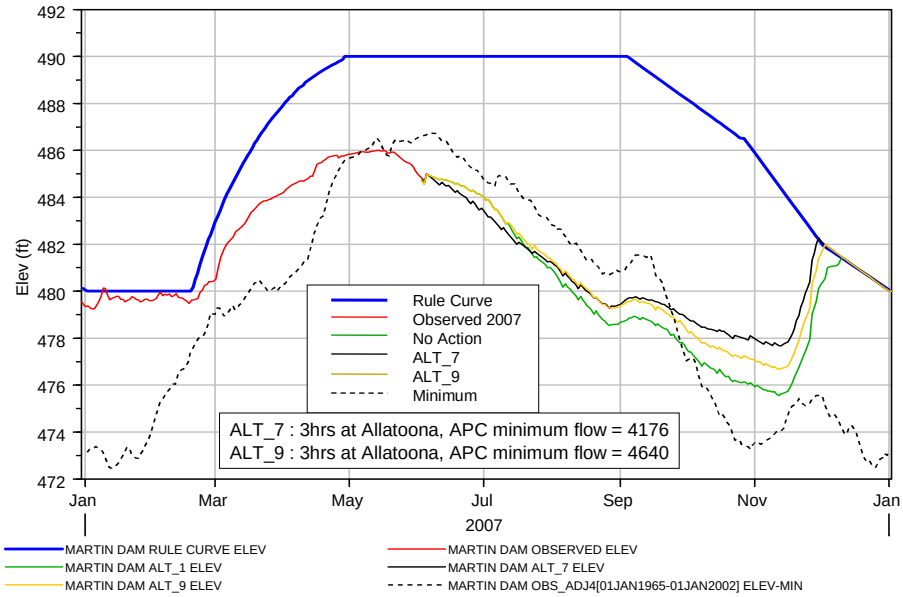
Martin



Martin
(2 hours of generation at Allatoona)



Martin
(3 hours of generation at Allatoona)



Martin Comparison

Martin

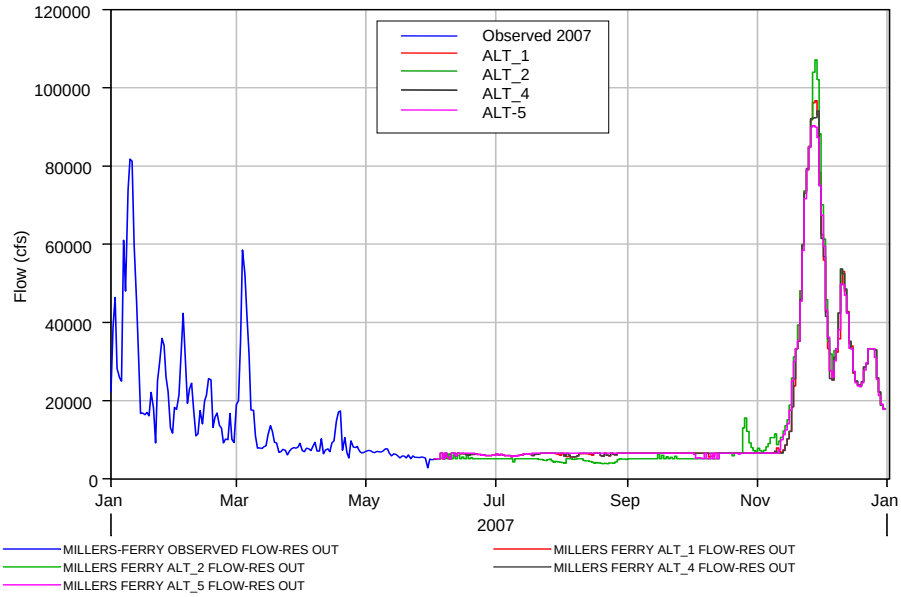
Date	ALT_1	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5	Minimum
01-Jul-07	**484.03**	**483.93**	**483.21**	**483.45**	**483.69**	**484.03**	**484.01**	484.80
01-Aug-07	**480.92**	**482.06**	**480.72**	**481.26**	**481.77**	**481.15**	**481.35**	482.80
01-Sep-07	**478.66**	**480.47**	**478.79**	**479.68**	**480.04**	**479.03**	**479.43**	480.80

Martin change from No Action

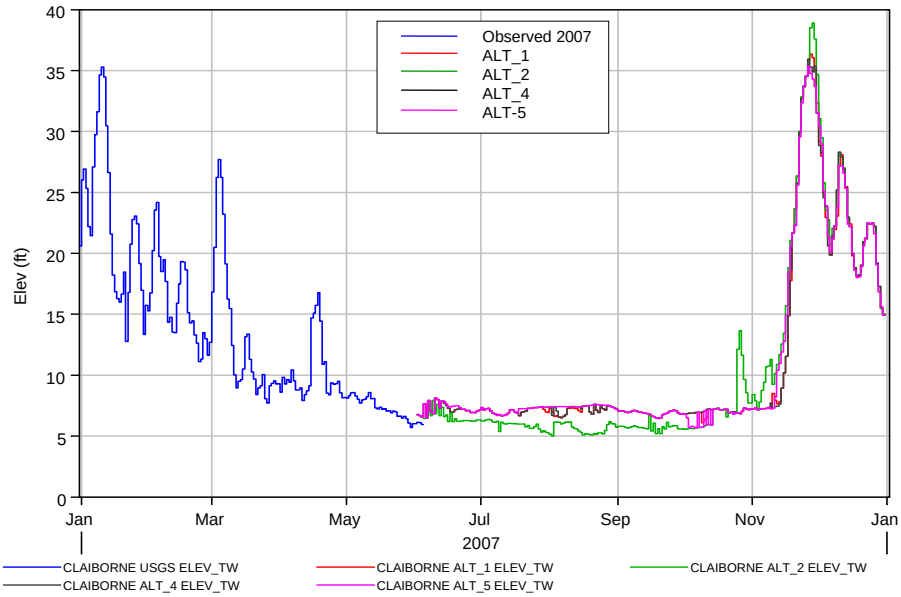
Date	ALT_2	ALT_3A	ALT_3B	ALT_3C	ALT_4	ALT_5
01-Jul-07	-0.1	-0.8	-0.6	-0.3	0.0	0.0
01-Aug-07	**1.1**	-0.2	0.3	0.8	0.2	0.4
01-Sep-07	**1.8**	0.1	1.0	1.4	0.4	0.8

Greatest drawdown – Alt 3A
Greatest relief – Alt 2

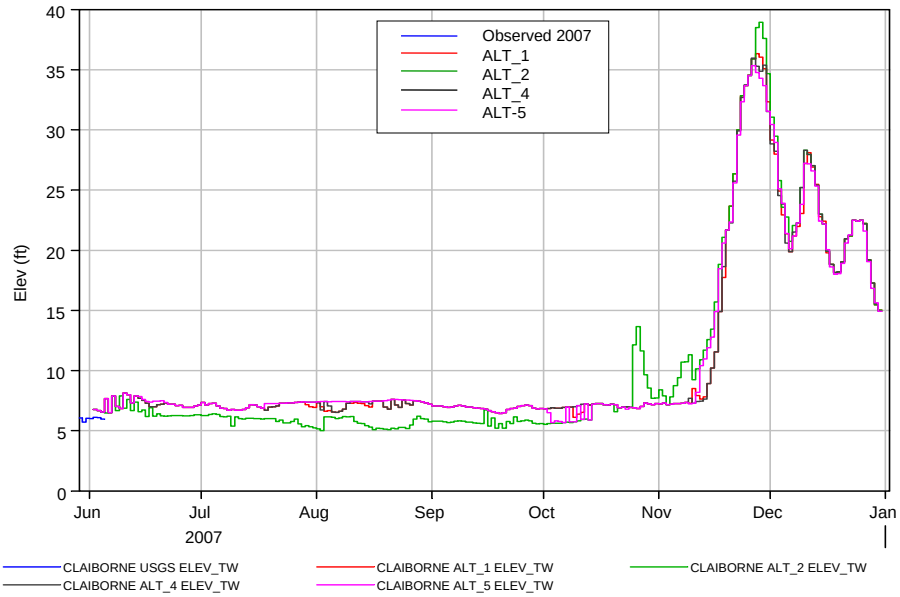
Millers Ferry Discharge



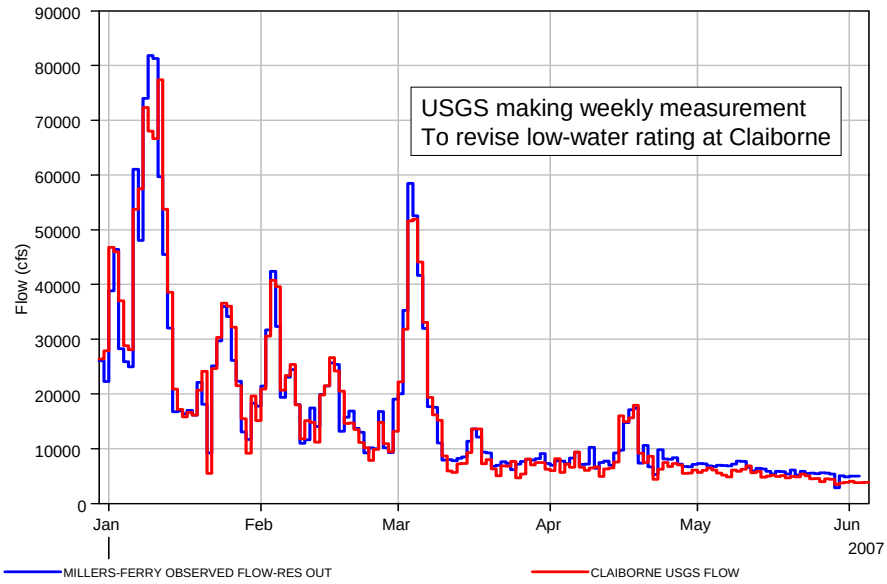
Claiborne Tailwater



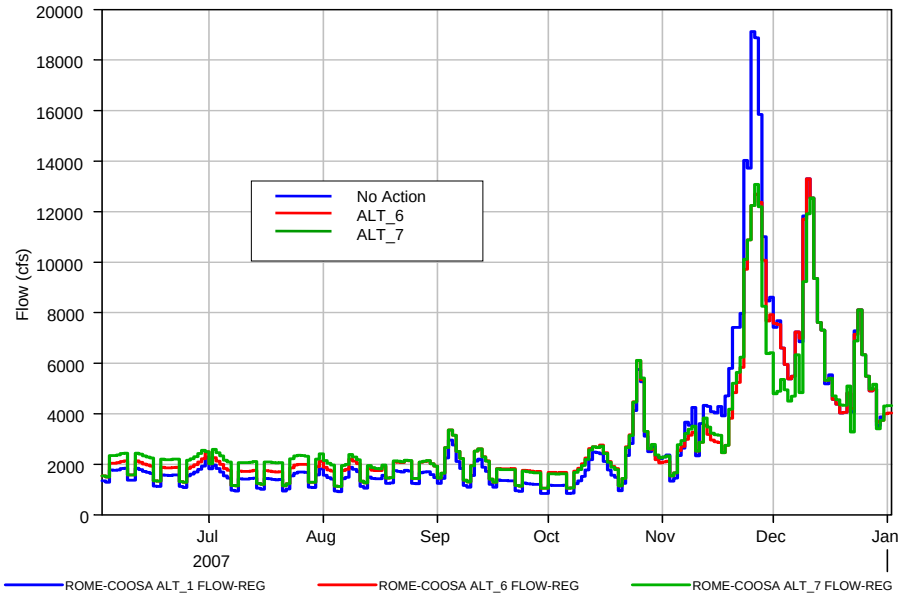
Claiborne Tailwater



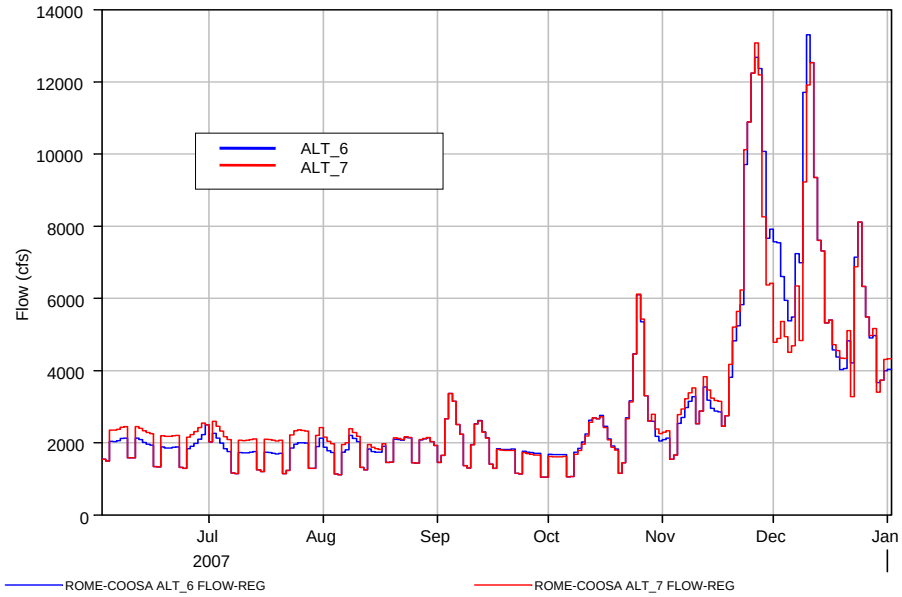
Millers Ferry – Claiborne Discharge



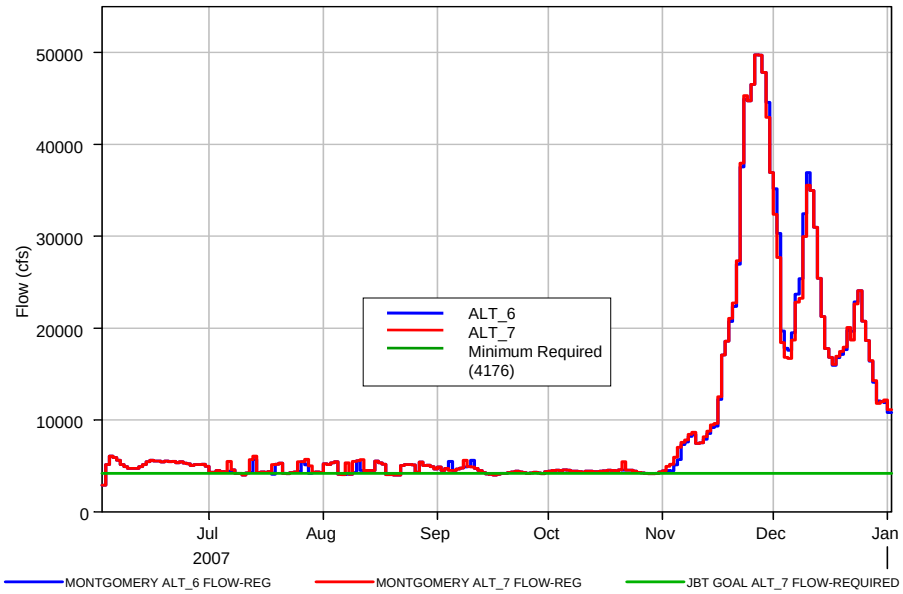
Rome Coosa



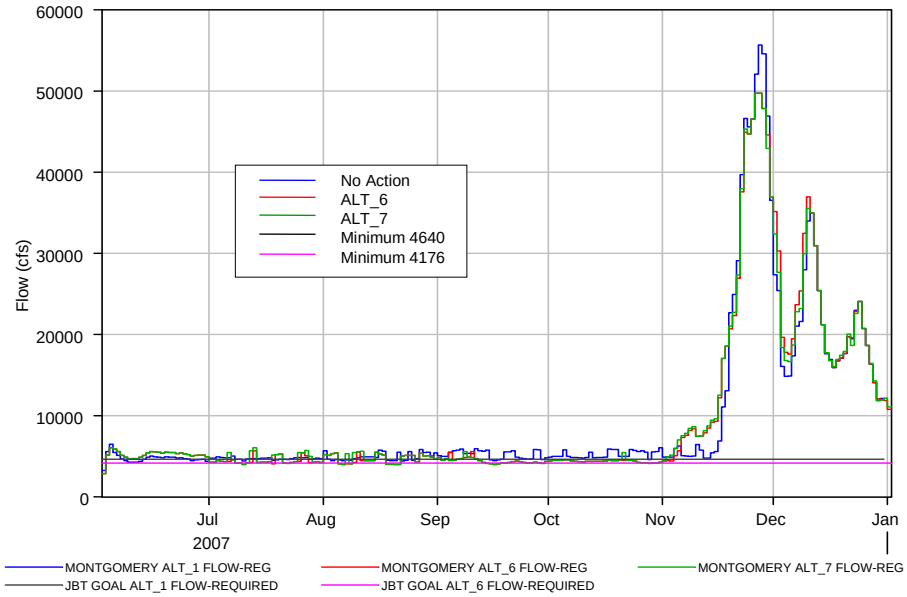
Rome Coosa



Montgomery Flow



Montgomery



APPENDIX B

ANALYSIS OF FLOWS ON SELECTED ACT RIVERS

Note: Analysis of flow conditions on rivers in the ACT basin which were conducted by Mobile District is maintained as worksheets in an electronic spreadsheet format in the Mobile District Office and is available upon request.

APPENDIX C

U.S. CENSUS BUREAU DEMOGRAPHIC DATA FOR SELECTED ALABAMA COUNTIES

U.S. Census Bureau
American FactFinder

Alabama -- County
GCT-PL. Race and Hispanic or Latino: 2000
Data Set: **Census 2000 Redistricting Data (Public Law 94-171) Summary File**

NOTE: For information on confidentiality protection, nonsampling error, definitions, and count corrections see http://factfinder.census.gov/home/en/dat

Geographic area	Total population	Race					
		One race					
		Total	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander
Alabama	4,447,100	4,402,921	3,162,808	1,155,930	22,430	31,346	1,409
COUNTY							
Autauga County	43,671	43,266	35,221	7,473	194	200	13
Baldwin County	140,415	138,949	122,366	14,444	809	537	38
Barbour County	29,038	28,826	14,887	13,451	131	84	8
Bibb County	20,826	20,719	15,966	4,624	49	17	2
Blount County	51,024	50,505	48,512	606	250	71	12
Bullock County	11,714	11,632	2,958	8,564	44	21	2
Butler County	21,399	21,315	12,492	8,732	45	35	0
Calhoun County	112,249	111,168	88,537	20,810	445	633	76
Chambers County	36,583	36,374	22,271	13,943	49	68	0
Cherokee County	23,988	23,790	22,268	1,330	75	34	0
Chilton County	39,593	39,318	34,330	4,200	111	72	6
Choctaw County	15,922	15,855	8,779	7,027	25	7	0
Clarke County	27,867	27,731	15,589	11,989	62	45	1
Clay County	14,254	14,142	11,776	2,238	45	14	3
Cleburne County	14,123	14,014	13,380	523	42	20	1
Coffee County	43,615	42,885	33,631	8,013	396	414	41
Colbert County	54,984	54,497	44,825	9,137	205	131	12
Conecuh County	14,089	14,005	7,806	6,136	28	16	7
Coosa County	12,202	12,095	7,802	4,172	39	5	1
Covington County	37,631	37,398	32,436	4,648	181	65	5
Crenshaw County	13,665	13,570	10,088	3,388	51	15	1
Cullman County	77,483	76,688	75,011	743	290	140	27
Dale County	49,129	48,075	36,541	10,002	297	529	72
Dallas County	46,365	46,110	16,496	29,332	50	160	5
DeKalb County	64,452	63,411	59,652	1,083	518	124	36
Elmore County	65,874	65,189	50,737	13,597	286	238	18
Escambia County	38,440	38,006	24,754	11,837	1,157	94	10
Etowah County	103,459	102,496	85,737	15,191	345	432	36
Fayette County	18,495	18,400	16,075	2,207	38	28	2
Franklin County	31,223	30,924	28,001	1,314	103	34	31
Geneva County	25,764	25,579	22,442	2,743	197	32	6
Greene County	9,974	9,947	1,904	8,013	12	8	0
Hale County	17,185	17,086	6,844	10,131	30	27	4
Henry County	16,310	16,189	10,710	5,268	34	10	4
Houston County	88,787	87,967	64,886	21,840	329	551	14
Jackson County	53,926	52,849	49,552	2,019	946	124	13
Jefferson County	662,047	656,721	384,639	260,608	1,408	5,971	188
Lamar County	15,904	15,823	13,816	1,906	18	10	0
Lauderdale County	87,966	87,270	77,743	8,663	223	308	17
Lawrence County	34,803	33,732	27,067	4,648	1,865	35	3
Lee County	115,092	114,023	85,247	26,071	273	1,875	25

Geographic area	Total population	Race					
		One race					
		Total	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander
Limestone County	65,676	65,077	55,029	8,752	304	231	14
Lowndes County	13,473	13,419	3,484	9,885	15	16	3
Macon County	24,105	23,930	3,365	20,403	39	91	1
Madison County	276,700	271,482	199,401	63,025	2,129	5,140	158
Marengo County	22,539	22,432	10,657	11,655	19	41	3
Marion County	31,214	30,997	29,579	1,134	91	62	10
Marshall County	82,231	81,331	76,791	1,207	433	201	36
Mobile County	399,843	395,675	252,199	133,465	2,682	5,628	101
Monroe County	24,324	24,133	14,047	9,747	236	70	2
Montgomery County	223,510	221,407	109,180	108,583	568	2,217	72
Morgan County	111,064	109,678	94,485	12,485	747	495	75
Perry County	11,861	11,797	3,660	8,111	9	4	3
Pickens County	20,949	20,818	11,720	8,999	25	23	5
Pike County	29,605	29,205	17,990	10,835	194	105	5
Randolph County	22,380	22,242	17,094	4,977	45	50	1
Russell County	49,756	49,223	28,209	20,319	182	181	37
St. Clair County	64,742	64,189	58,288	5,263	242	112	17
Shelby County	143,293	142,266	128,671	10,606	473	1,477	26
Sumter County	14,798	14,721	3,836	10,827	14	15	2
Talladega County	80,321	79,751	53,830	25,339	184	162	20
Tallapoosa County	41,475	41,249	30,474	10,518	109	75	3
Tuscaloosa County	164,875	163,518	112,320	48,327	372	1,516	52
Walker County	70,713	70,103	65,163	4,364	201	141	14
Washington County	18,097	17,939	11,759	4,867	1,289	10	5
Wilcox County	13,183	13,158	3,626	9,479	19	17	2
Winston County	24,843	24,642	24,177	94	114	32	2

Source: U.S. Census Bureau, Census 2000 Redistricting Data (Public Law 94-171) Summary File, Matrices PL1 and PL2.

APPENDIX D

PUBLIC NOTICE

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, MOBILE
CORPS OF ENGINEERS
P.O. BOX 2288
MOBILE, ALABAMA 36628-0001

31 May 2007

CESAM-PD-EI
PUBLIC NOTICE NO. FP07-AC01-16

PUBLIC NOTICE
U. S. ARMY CORPS OF ENGINEERS
ALABAMA POWER COMPANY REQUEST FOR APPROVAL TO REDUCE MINIMUM FLOW ON ALABAMA RIVER

TO WHOM IT MAY CONCERN:

The U.S. Army Corps of Engineers (Corps), Mobile District, has received a request by the Alabama Power Company (APC) for a temporary modification of the minimum flow agreement between APC and the Corps for operation of their power project impoundments on the Tallapoosa and Coosa Rivers in conjunction with the Corps operations of the Federal projects in the Alabama and Coosa River Basins. The minimum flow agreement is required by the Federal Energy Regulatory Commission (FERC) licenses for the APC impoundments and also incorporated into the water control plans/manuals for the Corps projects. The APC request is in response to extreme low inflows and extended drought conditions experienced this year. This notice is requesting comments from Federal, State and local agencies, municipalities, affected industries, organizations and the public regarding potential affects of the proposed reduction in flows. Information provided in response to this notice will be considered by the Mobile District in determining whether or not to implement drought contingency operations under the Corps' current water control plans as requested by APC. Please communicate this information to interested parties.

WATERWAY: APC-owned lakes on tributaries to the Alabama River include Lakes Harris, Martin, Yates and Thurlow on the Tallapoosa River. On the Coosa River they include Lakes Weiss, H. Neely Henry, Logan Martin, Lay, Mitchell, Jordan/Bouldin. The Federal project reservoirs include Allatoona Dam and Lake on the Etowah River and Carters Dam and Lake on the Coosawattee (Coosa River basin) and Robert F. Henry Dam/R.E. "Bob" Woodruff Lake, Miller's Ferry Dam/William "Bill" Dannelly Lake, and Claiborne Dam and Lake on the Alabama River.

DROUGHT CONDITIONS: Monitoring of drought conditions this year has confirmed that Calendar Year 2007 is the driest year-to-date through May recorded in contemporary Alabama climate records. Some areas in the northern portions of the States of Alabama and Georgia have received no rainfall in the month of May. Severe to Extraordinary Drought conditions have

developed across these areas. The January to May time period for 2007 is the driest in over 100 years for Alabama, Georgia, north Florida and portions of the Carolinas. Long-range computer models indicate no significant rainfall across the central Gulf States through early June.

APC PROPOSAL: Attached is a letter from the APC dated 15 May 2007 regarding a drought contingency proposal requesting approval by the Corps to reduce the overall total average release of water from APC reservoirs. This request would require a temporary modification to the minimum flow agreement between APC and the Corps. Under terms of the current minimum flow agreement, APC projects will provide sufficient releases from their Coosa and Tallapoosa River projects to meet a continuous minimum 7-day average flow of 4,640 cubic feet per second (cfs) (32,480 day second feet (dsf)). Additional intervening flow or releases from the Federal projects would provide usable depths for navigation or meet the 7Q10 flow of 6,600 cfs at Claiborne Dam downstream. APC is currently making the minimum releases from their projects to meet the 4,640 cfs requirement, but has expressed concern that the continued minimum release, if drought conditions and the extremely low inflows into the basin continue, could result in continued drawdown of their reservoirs to levels at or below their drought contingency curves. APC therefore requests consideration of proposal to reduce releases from their projects by phased increments as shown in their attached letter. The proposed reductions would be accomplished in four steps, reducing the flow by approximately 10% per week (or other appropriate time period), until the proposed minimum is achieved. The proposed minimum of 19,488 dsf would constitute a total 40% reduction in minimum flows previously agreed to by APC in the current minimum flow agreement.

The Alabama Office of Water Resources has requested information on how the Corps intends to operate Allatoona Lake and Carters Lake to help mitigate the current drought conditions. APC has also requested that the Corps provide additional releases from storage from the Allatoona and Carters projects to supplement the record low flows downstream of those projects. The specified minimum release for both Allatoona and Carters projects is 240 cfs; currently we are releasing up to 600 cfs from Allatoona and approximately 400 cfs from Carters.

EVALUATION OF REQUEST: The Corps is given discretion to manage its reservoirs by the Flood Control Act of 1944. The procedures for water management actions at Corps projects are set out in Engineer Regulation 1110-2-240 (33 C.F.R. Part 222.5), which states as follows in regard to droughts:

> "Continuous examination should be made of regulations schedules, possible need for storage reallocation (within existing authority and constraints) and to identify needed changes in normal regulation. Emphasis should be placed on evaluating conditions that could require deviation from normal release schedules as part of drought contingency plans (ER 1110-2-1941)."

Engineering Regulation 1110-2-1941 requires water managers to reexamine procedures and reservoirs to determine whether improvement can be made during low water periods within current authorities. Under this regulation, the Mobile District developed a drought contingency

plan for the Robert F. Henry project located on the Alabama River first in line below the APC projects on the Coosa and Tallapoosa Rivers. This drought contingency plan for the Robert F. Henry project is found at Paragraph 7-10 of the Water Control Manual for the project. It states that the project is dependent on releases from the upstream APC projects to meet the authorized project purposes, which must be provided pursuant to their FERC licenses. Accordingly, the Mobile District and APC instituted a minimum flow agreement to provide for environmental protection and navigation flows on the lower river. The drought contingency plan allows a lesser amount to be released from the Federal projects as local flows diminish and storage is exhausted. However, the plan requires the users of the system, private industries, state agencies and federal agencies with interests in the system to be notified in advance of any reduction and given the opportunity to comment. The Mobile District can allow for reductions of the minimum flow agreement if such a change would aid in the total operation of the river system and provide the maximum benefits from any available water. As drought conditions develop, the Corps will provide routine press releases to the general public advising on operational and climatological conditions throughout the river basin. Also, public meetings may be conducted throughout the basin as necessary to keep agencies, major industries and the general public informed on impending conditions and to solicit comments regarding potential changes in project conditions.

POTENTIAL CONSEQUENCES OF PROPOSED ACTION: When drought conditions determine that a change in the operating guidelines is necessary, various users of the system will be notified so that environmental or operational preparations can be completed prior to any impending reductions. The Corps will also consider the impacts on the users of the system and consider environmental and operational concerns in reaching a determination on appropriate changes in operations. The proposed reductions in water releases from APC lakes as described above could include but not be limited to various impacts on the human and natural environment. The reduced flow from the Tallapoosa and Coosa Rivers would result in reduced flow on the lower Alabama and Mobile Rivers and lower lake levels in the downstream Federal reservoirs unless augmented by increased releases from the upstream Corps reservoirs within the river basin. Such reductions could have downstream impacts to users of the waterway, while increased releases from Corps lakes higher in the basin could have impacts to those users. In addition, reduced flows on the Alabama River system are only partially mitigated by flows from the Tombigbee system since approximately two-third of the flow into the Mobile River comes from the Alabama River system during low flow conditions compared to approximately one-third from the Tombigbee River system.

APC indicates that their storage projects on the Coosa and Tallapoosa are all below their drought contingency curve peak elevations. With inflows at record lows on the Coosa and Tallapoosa, the impact of maintaining a release of 4,640 cfs to the Alabama River has fallen completely on the remaining storage at Lake Martin. If the proposed reductions are not implemented, APC has indicated that the Coosa River projects would be drawn down to their winter levels and Lake Martin is projected to be 14 feet below the rule curve by early August. This drawdown at Lake Martin would have adverse impacts on the water intakes on the lake. APC's analysis indicates that if this drought continues unabated they are in danger of losing all generating capability at Weiss, Neely Henry and Logan Martin Dams as water levels become too low to operate the turbines. APC is concerned that without sufficient releases from the upstream

Corps storage projects they could see these levels before the end of the summer. APC states that the loss of this generation would severely impact the reliability of the electric system.

If APC's proposal is fully implemented, river levels could fall below elevation 4 feet on the Claiborne Dam tailwater. This represents a reduction of the 4,640 cfs flow to 2,784 cfs flow. The reduction in flow could represent less hours of generation from R.F. Henry and Millers Ferry projects, reduce navigation channel depths on the Alabama River, adversely impact waterborne recreation, and may affect the assimilative capacity for industrial and municipal users. The flow reduction could also potentially affect flows, water quality, salt water intrusion, and environmental resources in the Mobile Delta and Bay area.

PUBLIC COMMENTS: This public notice is being distributed to all known interested persons in order to assist in developing facts on which a decision by the Corps can be based. The decision on the appropriate drought contingency operations will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. Comments are requested on specific impacts to other users and operations that occur within the basin. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food production, and in general, the needs and welfare of the people.

The Corps is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; industries; and other interested parties in order to consider and evaluate the impacts of this proposed activity.

Correspondence concerning the proposed reduction in flows as proposed by APC and should be directed to the District Engineer, U.S. Army Engineer District, Mobile, Post Office Box 2288, Mobile, Alabama 36628-0001, Attention: Planning and Environmental Division, in time to be received not later than **10 calendar days after the date of this notice**. Comments may also be emailed or faxed to Mr. Chuck Sumner, Inland Environment Team, FAX: (251) 694-3815, Email: lewis.c.sumner@sam.usace.army.mil. Questions concerning this public notice may be directed to Mr. Sumner at (251) 694-3857.

MOBILE DISTRICT
U.S. Army Corps of Engineers

Willard L. Bowers
Vice President
Environmental Affairs

600 North 18th Street / 12N-0830
Post Office Box 2641
Birmingham, Alabama 35291

Tel 205.257.4090
Fax 205.257.4349

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May 15, 2007

Colonel Peter F. Taylor, Jr.
Commander, Mobile District
U.S. Army Corps of Engineers
Attention: CESAM-DE
P. O. Box 2288
Mobile, Alabama 36628-0001

Dear Colonel Taylor:

Since I wrote you on April 26, drought conditions have continued to get worse and the conditions of our reservoirs have deteriorated. If we continue to meet the navigation flow for the Alabama River, by July 4 we expect all reservoirs to be near their drought contingency curve.

Since any reduction of this flow would impact water users, I have requested time to make a short presentation to the Alabama Drought Planning (ADAPT) meeting on May 24, 2007. I will present a proposal to implement a reduction in the navigation flow of approximately 10% a week according to the following schedule:

Current 32,480 cfs-days
Stage 1 May 28 – 29,232 cfs-days
Stage 2 June 4 - 25,984 cfs-days
Stage 3 June 11 - 22,736 cfs-days
Stage 4 June 18 – 19,488 cfs-days

These reductions would be adjusted depending on flow conditions that might develop. This current schedule is based on our projection of operations, including the north Georgia projects. I wanted to make sure you had an opportunity to provide any thoughts on this since it will ultimately be the Corps who would approve such a change.

I would also like to point out that last month, after observing inconsistencies in gauged flows, we became suspicious that the Mayo's Bar gage was over reporting flow. On Friday May 4 we undertook our own flow measurement using an Acoustic Doppler Current Profiler and measured 1,414 cfs at a time the gage was reading 1990 cfs. On May 7th the USGS adjusted the rating for this site and the reported value is now in line with other gauging.

Thank you for your attention to this matter as we continue to work cooperatively in managing the water resource projects of the Alabama-Coosa-Tallapoosa Basin through these unprecedented conditions.

Sincerely,

Willard L. Bowers

cc: Trey Glenn – ADEM
Jerry Sailors – CARIA
Brian Atkins – OWR
Jeff Powell – USFWS
Stan Cook – ADCNR
Doug Otto – Corps
Memphis Vaughn – Corps
Robert Allen – COE
Sheldon Morgan – Warrior-Tombigbee Association

APPENDIX E

COORDINATION DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1208-B Main Street
Daphne, Alabama 36526

IN REPLY REFER TO:

2007-FA-0236

June 11, 2007

District Engineer, Mobile District
U.S. Army Engineer District
P.O. Box 2288
Mobile, Alabama 36628-0001
Attn: Planning and Environmental Division

Dear Sir:

The U.S. Fish and Wildlife Service (Service) has reviewed the information presented in Public Notice FP07-AC01-16 for the Alabama Power Company's (APC) request to temporarily reduce minimum flows in the Alabama River. The Service fully recognizes the severity of this year's drought and understands that streamflows in the Alabama River Basin are at unprecedented lows and declining daily. We also recognize that this is an extremely complex issue that not only has ramifications for fish and wildlife, but also for industrial/municipal/residential water supply, wastewater assimilation, and agricultural irrigation. Although a temporary minimum flow reduction may be prudent, the Service believes that before this measure is implemented, all alternatives should be explored, including issuance of voluntary water conservation measures and additional flows being provided below the Carters and Allatoona projects. Our comments are provided in accordance with the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.) and the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Threatened and Endangered Species Concerns

According to our records, the Alabama sturgeon, heavy pigtoe mussel, and tulotoma snail occur in the action area downstream of R.F. Henry Lock and Dam, and would likely be impacted by reduced flows in the Alabama River. Several other species could be impacted depending on how and where waters are provided and managed to meet a minimum flow reduction. If flows are reduced, there are several scenarios that could affect these species. First, most industrial facilities' NPDES discharge permits are based upon a certain streamflow (e.g., 7Q10) in the Alabama River. If flows are substantially decreased, pollutants from effluents will be less likely to dilute and therefore the species could be exposed to a higher, potentially more lethal, level of pollutants. It should be noted that the Alabama sturgeon and the heavy pigtoe, occur no where else in the world and therefore, their continued existence could be threatened by exposures to higher concentrations of pollutants.

The tulotoma snail, southern clubshell, Etowah darter, goldline darter, and triangular kidneyshell, occur in the mainstem of the Coosa River and in its receiving headwaters in Georgia. The tulotoma snail and southern clubshell both occur in the Coosa below APC's Jordan and Weiss projects, respectively. The Etowah darter, goldline darter, and triangular kidneyshell occur in the Coosa headwaters below the Corps of Engineers (Corps) Allatoona Dam and Carters Re-regulation Dam. All of these species could be further impacted by how water is managed and delivered down in the Coosa system.

Other Resource Concerns

In addition to the species mentioned above, there are other resource issues that could be affected including; (1) sport fisheries in the reservoirs and tailraces along the Coosa, Tallapoosa, and Alabama rivers; and (2) marine fauna and flora in Mobile-Tensaw Delta and Mobile Bay. Sport fisheries, such as the world-class spotted bass fishery below Jordan Dam, could be impacted by poor water quality and habitat loss as reservoirs are lowered. Natural resources, including the fauna and flora, in Mobile-Tensaw Delta and Mobile Bay could also be affected as salinity levels increase in the Mobile, Tombigbee, and Alabama rivers.

Recommendations and Suggestions for Evaluating a Temporary Reduction in Minimum Flow

1. A determination needs to be made by the Alabama Department of Environmental Management (ADEM) as to what the current wastewater assimilation capacity of the Alabama River is based upon the proposed flow reduction scenarios.

2. Evaluate alternative minimum flows relative to the pre-dam monthly 1-day minimum and annual low-flow duration (number of days per year less than 25% of average annual discharge) of the affected river reaches (1999 Instream Flow Guidelines for the ACT and ACF Water Allocation). These parameters represent an estimate of natural low-flow conditions to which the riverine biota are adapted; however, present-day water quality and channel morphology must also be considered.

3. The Service believes that the Corps should seriously assess their ability to release additional waters from Corps managed Carters and Allatoona projects. Guidelines and procedures for this release were noted in the Service's 1999 Instream Flow Guidelines for the ACT and ACF Water Allocation.

4. Following an evaluation of the above scenarios, it still may be prudent to reduce the minimum flows in the Alabama River. In this case, we would recommend a modest reduction in minimum flow for an extended period of time, rather than an abrupt change over a short period of time. This is based on an assumption that a sudden severe drop of any duration is more likely to have lethal effects (and more lengthy recovery period) than a more modest drop of extended duration.

Summary

We appreciate the opportunity to comment on this proposal and offer our immediate assistance if you would like to meet and discuss this situation in more detail. These comments are collectively submitted on behalf of the Service's Georgia and Alabama Ecological Services Field Offices. Specific questions or additional information requests should be directed to Jeff Powell at the above address or by telephone at (251) 441-5858.

Sincerely,

William J. Pearson
Field Supervisor

cc: Sandy Tucker, Athens ES Field Office
Gail Carmody, Panama City ES Field Office
Paul Hartfield, Jackson ES Field Office
Stan Cook, ADCNR-Fisheries Division

Sumner, Lewis C SAM

From: Eubanks, Michael J SAM
Sent: Tuesday, June 12, 2007 8:21 AM
To: Sumner, Lewis C SAM; Brandt, Joanne U SAM; Shoemake, Deborah J SAM; Brasfield, David C SAM; Feldmeier, Paula M SAM; Burke, Roger A SAM; Mauldin, Gary V SAD; Taylor, Peter F COL SAM
Subject: FW: Jordan

Attachments: 1st mininum flow variance.doc; 2nd flow order

1st mininum flow variance.doc ... 20070523-3000(17372253)[1].doc...

We will be checking on the FERC license requirements for minimum flows below Jordan Dam. According to Jeff Powell, USFWS, the continuous flow of 2,000 cfs was for ESA (Tulatoma snail).

Mike

-----Original Message-----
From: Janet Hutzel [mailto:Janet.Hutzel@ferc.gov]
Sent: Tuesday, June 12, 2007 8:07 AM
To: Eubanks, Michael J SAM
Subject: Jordan

<<2nd flow order>> <<1st mininum flow variance.doc>>

Hi Mike

Here is the two orders reducing the minimum flow below Jordan. Our compliance division issued these orders in March and May of 2007, so I am not familiar with all the details; however, I was told the reduction in minimum flows was requested because of the severe drought in AL. It didn't have anything to do with ESA. The flows below Jordan are for recreation, not for any ESA species.

Also, we won't be commenting on the Corps proposal to alter the flows in the Coosa. If anyone would comment, it would be our compliance division, and they said they would rather stay out of this.

If you need anything else, just let me know.

Janet

Janet Hutzel
Division of Hydropower Licensing
Office of Energy Projects
Federal Energy Regulatory Commission
888 First St. N.E.
Washington D.C. 20426
Phone - 202-502-8675

UNITED STATES OF AMERICA 118 FERC ¶ 62, 253
FEDERAL ENERGY REGULATORY COMMISSION

Alabama Power Company Project No. 618-137

ORDER GRANTING TEMPORARY AMENDMENT FOR MINIMUM FLOW RELEASE REQUIREMENTS

(Issued March 30, 2007)

On March 30, 2007, Alabama Power Company (licensee) filed a request for an amendment for the flow release requirements for the Jordan Dam Project, because of significant drought conditions upstream of the project. The Jordan Dam Project is located on the Coosa River in Elmore, Chilton, and Coosa Counties, Alabama.

LICENSE REQUIREMENTS AND BACKGROUND

The Commission's Order Modifying and Approving Plans for Continuous Minimum Flow Releases and a Schedule for Recreational Flow Releases, issued June 16, 1997,[1] established a flow release regime for the project. The required flow regime was amended through the Commission's July 18, 2001 Order Amending Minimum Flow Release Schedule for Recreational Flows,[2] which changed the daily timing of springtime base flows by three hours to enhance angling and recreational boating opportunities. The current required flow regime for Jordan Dam is as follows.

∃ From July 1 through March 31 the licensee shall release from the Jordan Dam Project, a continuous minimum base flow of 2,000 cubic feet per second (cfs) regardless of inflow.

∃ From April 1 through May 31, the licensee shall release continuous base flows of 4,000 cfs for 18 hours per day from 3:00 PM through 9:00 AM. For the remaining 6 hours, the licensee shall release an 8,000 cfs pulse flow from 9:00 AM through 3:00 PM.[3]

---

[1] 79 FERC & 62,182 (1997).

[2] 96 FERC & 62,050 (2001).

[3] The July 18, 2001 order approved a change in the timing of the daily release of pulse flows, from 9:00 a.m. to 3:00 p.m., rather than 6:00 a.m. to 12:00 p.m.

∃ Beginning June 1 through June 15, the licensee shall reduce the continuous 4,000 cfs base flow at a rate of 66.7 cfs per day, and the daily 8,000 cfs pulse flow at a rate of 133.3 cfs per day. From June 16 through June 30, the licensee shall cease release of the daily pulse flow but continue to release the continuous base flow reducing it 66.7 cfs per day.

The purpose of the project's flow requirements is to support recreational fishing in the Coosa River downstream of the dam for spotted bass, white bass, hybrid striped bass, channel catfish, blue catfish, flathead catfish, and freshwater drum. The seasonal increase in flow releases provide for improved boating recreation, and the daily pulse flows allow for whitewater boating.

LICENSEE'S REQUEST

The licensee is requesting a temporary amendment variance from the Jordan Dam Project's flow requirements because, it indicates, the Coosa River basin above Jordan Reservoir is experiencing significant drought conditions. The licensee indicates that these drought conditions have resulted in the basin receiving less than half the normal rainfall totals for the period, with flows on the river near Rome, Georgia at record lows for this time of year.

In order to mitigate the effects of these drought conditions, the licensee proposes to reduce the flow releases from Jordan Dam by: (1) beginning on April 1, increase the continuous minimum flow from 2,000 cfs to 3,000 cfs rather than 4,000 cfs; (2) from June 1 through June 15, continue to release 3,000 cfs, and beginning on June 16, returning to the continuous base flow. The licensee would also suspend the release of seasonal daily pulse flows for the period April 1 through June 15 of this year.

The licensee claims that the release of 3,000 cfs rather than 4,000 cfs would have several substantial benefits for water management. First, the 3,000 cfs flow can more likely be sustained throughout the April-June period. Second, approximately 1,000 cfs may be available for valuable peaking power operations from the licensee's Bouldin plant. Without the possibility of the 1,000 cfs, there would be almost no hydro to use in the very highest cost hours. Third, a failure to reduce releases would cause upstream reservoirs not only to stop filling, but to begin dropping, which would likely result in the need to implement greater flow reductions later in the year.

CONSULTATION

The licensee included with its proposal copies of comments from the Alabama Department of Conservation and Natural Resources (ADCNR), the Alabama Department of Environmental Management (ADEM), and the U.S. Fish and Wildlife Service (FWS). All comments were dated March 29, 2007.

The ADCNR indicated that it agreed with the licensee's proposal. The agency noted that the 8,000 cfs release from 9:00 a.m. to 3:00 p.m. is not necessary to protect the ecological function of the river, but that its suspension would affect recreational fishing and boating below the dam. The ADCNR indicated that the drought conditions do warrant suspending the pulse flow, however.

The ADEM wrote that it does not object to the proposal, provided that the licensee continues to monitor dissolved oxygen (DO) at the monitoring station downstream of the dam on a continuous basis. The ADEM wrote that any violations of the state's 4.0 milligram per liter (mg/l) criterion at that location should be reported to the ADEM, as required. The agency also requested weekly updates on flows and DO concentrations during the period that the variance is in effect, and provided an address for email contact.

The FWS, in its communication dated March 29, 2007, indicated that it did not believe that the licensee's request would adversely affect any listed aquatic species downstream of the project.

CONCLUSIONS

Based on my review, I conclude that the proposed temporary amendment to the flow release requirements of the Jordan Dam Project be approved. Approval of the temporary flow amendment request would not have any significant environmental impacts beyond a short-term reduction in higher-flow boating recreation opportunities. The variance would, however, allow conservation of water, thereby preventing the need for greater variances in required flow releases if drought conditions continue.

I am requiring that, during the temporary period of flow changes, the licensee comply with the monitoring and reporting conditions recommended by the ADEM. The licensee should continuously monitor DO at the monitoring station downstream of the dam through the request period. The licensee should report any measurements below 4.0 mg/l to the ADEM. The licensee should also provide the ADEM and the Commission with weekly updates that include flow statistics and DO concentrations, through the period that the temporary flow changes are in effect.

The Director orders:

(A) Alabama Power Company's (licensee) request for a temporary amendment to the Jordan Dam Project's flow release requirements, as described in the licensee's filing of March 30, 2007, is approved.

(B) The licensee shall continuously monitor dissolved oxygen (DO) at the monitoring station downstream of the dam through the period of the temporary flow changes. The licensee shall then report any measurements below 4.0 mg/l to the Alabama Department of Environmental Management (ADEM) within 24 hours. The licensee shall also provide the ADEM and the Commission with weekly updates that include flow statistics and DO concentrations, through the period that the temporary flow changes are in effect.

(C) This order constitutes final agency action. Request for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR ∋ 385.713.

J. Mark Robinson
Director
Office of Energy Projects

UNITED STATES OF AMERICA 119 FERC ¶ 62,151
FEDERAL ENERGY REGULATORY COMMISSION

Alabama Power Company Project No. 618-139

ORDER GRANTING TEMPORARY AMENDMENT FOR MINIMUM FLOW RELEASE REQUIREMENTS

(Issued May 23, 2007)

On May 21, 2007, Alabama Power Company (licensee) filed a request for an amendment for the flow release requirements for the Jordan Dam Project, because of continuing significant drought conditions upstream of the project. The Jordan Dam Project is located on the Coosa River in Elmore, Chilton, and Coosa Counties, Alabama.

LICENSE REQUIREMENTS AND BACKGROUND

The Commission's Order Modifying and Approving Plans for Continuous Minimum Flow Releases and a Schedule for Recreational Flow Releases, issued June 16, 1997,[1] established a flow release regime for the project. The required flow regime was amended through the Commission's July 18, 2001 Order Amending Minimum Flow Release Schedule for Recreational Flows,[2] which changed the daily timing of springtime base flows by three hours to enhance recreational opportunities. The current requirements for Jordan Dam are as follows.

∃ From July 1 through March 31, the licensee shall release from the Jordan Dam Project, a continuous minimum base flow of 2,000 cubic feet per second (cfs) regardless of inflow.

∃ From April 1 through May 31, the licensee shall release continuous base flows of 4,000 cfs for 18 hours per day from 3:00 PM through 9:00 AM. For the remaining 6 hours, the licensee shall release an 8,000 cfs pulse flow from 9:00 AM through 3:00 PM.[3]

---

[1] 79 FERC & 62,182 (1997).

[2] 96 FERC & 62,050 (2001).

[3] The July 18, 2001 order approved a change in the timing of the daily release of pulse flows, from 9:00 a.m. to 3:00 p.m., rather than 6:00 a.m. to 12:00 p.m.

∃ Beginning June 1 through June 15, the licensee shall reduce the continuous 4,000 cfs base flow at a rate of 66.7 cfs per day, and the daily 8,000 cfs pulse flow at a rate of 133.3 cfs per day. From June 16 through June 30, the licensee shall cease release of the daily pulse flow but continue to release the continuous base flow reducing it 66.7 cfs per day.

The purpose of the project's flow requirements is to support recreational fishing in the Coosa River downstream of the dam for spotted bass, white bass, hybrid striped bass, channel catfish, blue catfish, flathead catfish, and freshwater drum. The seasonal increase in flow releases provide for improved boating recreation, and the daily pulse flows allow for whitewater boating.

March 30, 2007 Temporary Amendment Approval

On March 30 of this year, the Commission approved a temporary amendment of minimum flow release requirements at the project,[4] when the Coosa River basin above Jordan Reservoir was starting to be affected by record drought conditions. The licensee requested to reduce project flow releases by: (1) increasing the continuous minimum flow from 2,000 cfs to 3,000 cfs, rather than 4,000 cfs, beginning on April 1; (2) from June 1 through June 15, continuing to release 3,000 cfs, and on June 16, returning to the required continuous base flow; and (3) suspending the release of seasonal daily pulse flows from April 1 through June 15. After reviewing the licensee's consultation with the U.S. Fish and Wildlife Service (FWS) and the state resource agencies, and also providing public notice, the Commission approved the request, with requirements that the licensee (1) continuously monitor dissolved oxygen (DO) downstream of the dam through the period of the temporary flow changes, (2) report any measurements below 4.0 milligrams per liter (mg/l) to the Alabama Department of Environmental Management (ADEM) within 24 hours, and (3) provide the ADEM and the Commission with weekly updates on flow statistics and DO concentrations, through the amendment period. The licensee has filed the weekly reports, and no DO measurements below 4.0 mg/l have been recorded.

LICENSEE'S REQUEST

The licensee is now requesting a second amendment to the project flow release requirements to follow the first, because flow conditions in the Coosa River basin have steadily deteriorated, with extreme drought conditions, and no changes forecasted. The licensee reports that inflows continue to drop below record lows while decreasing

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[4] 118 FERC & 62,253 (2007).

approximately 5 percent a day, and that the local reservoirs will soon be below their drought contingency curves. The licensee indicates that these record conditions require operating changes almost daily.

The licensee states that, because flow conditions have continued to deteriorate since the issuance of the March 30, 2007 order, it must now request further temporary relief from the Jordan Dam Project's minimum flow requirements. The licensee proposes to initiate the ramping down of the project's minimum flows from 3,000 cfs to 2,000 cfs beginning on or about May 22, rather than waiting until June 16, as required by the project license. Under the proposal, the licensee would immediately begin ramping down from 3,000 cfs to 2,000 cfs by reducing flows approximately 67 cfs per day over 14 days. Once flows are downramped to 2,000 cfs, that flow would be maintained, as required by the project license, until the following April 1st. The licensee explains that by initiating this procedure immediately, rather than waiting until June 16, it would be able to better manage the limited flows available in the Coosa River system and best mitigate for the historically low flow conditions.

The licensee included with its request copies of public notices it has issued in April and May of this year regarding the continuing drought and resulting reservoir level and flow release reductions.

CONSULTATION

The licensee included with its proposal copies of comments from the Alabama Department of Conservation and Natural Resources (ADCNR), the ADEM, and the FWS. All comments were dated May 21, 2007. The ADCNR agreed with the licensee's proposal to begin ramping down to 2,000 cfs. The ADEM also concurred with the proposal, and asked that the filing of weekly reports continue. The FWS wrote that it understood the proposal, and concurred that the action would not adversely affect any federally-listed species.

CONCLUSIONS

Based on my review, I conclude that the proposed temporary amendment to the flow release requirements of the Jordan Dam Project should be approved. Approval of the temporary flow amendment would not have any significant environmental impacts, and would allow for needed conservation of water during a significant drought period, thereby preventing the need for greater variances in required flow releases if drought conditions continue.

I am requiring that, during the temporary period of flow changes, the licensee continue to comply with the monitoring and reporting conditions previously recommended by the ADEM, which that agency asks be continued. Therefore, the licensee should continue its continuous monitoring of DO at the station downstream of the dam through this temporary amendment period. The licensee should also report any measurements below 4.0 mg/l to the ADEM. Additionally, the licensee should continue to provide the ADEM and the Commission with weekly updates that include flow statistics and DO concentrations, through the period that the temporary flow changes are in effect.

To help ensure that the public remains informed of changes in water management and any affected recreation opportunities, the licensee should continue to issue public notices and information, as appropriate.

The Director orders:

(A) Alabama Power Company's (licensee) request for a temporary amendment to the Jordan Dam Project's flow release requirements, as described in the licensee's filing of May 21, 2007, is approved.

(B) The licensee shall continuously monitor dissolved oxygen (DO) at the monitoring station downstream of the dam through the period of the temporary flow changes. The licensee shall report any measurements below 4.0 mg/l to the Alabama Department of Environmental Management (ADEM) within 24 hours. The licensee shall also provide the ADEM and the Commission with weekly updates that include flow statistics and DO concentrations, through the period that the temporary flow changes are in effect.

(C) This order constitutes final agency action. Request for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 CFR ∋ 385.713.

J. Mark Robinson
Director
Office of Energy Projects

Alabama Department of Environmental Management

1400 Coliseum Boulevard
Montgomery, Alabama 36130-1463
Phone: 334-271-7710
Fax: 334-279-3043
E-mail: director@adem.state.al.us

Fax Transmittal Form

To: Mr Chuck Sumner Inland Environmental Team US Army Corps of Engineers Mobile District Fax #: 1-251-694-3815	From: Trey Glenn Date sent: 06/11/07 Time sent: 4:17 p.m. Number of pages including cover: 2

___ Urgent ___ For Review ___ Please Comment ___ Please reply

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Message:

ONIS "TREY" GLENN, III
DIRECTOR

BOB RILEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2059 • Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700
FAX (334) 271-7950

June 11, 2007

District Engineer
U.S. Army Engineer District, Mobile
Post Office Box 2288
Mobile, Alabama 36628-0001

Re: Public Notice No. FP07-AC01-16

To Whom It May Concern:

The Alabama Department of Environmental Management (ADEM) appreciates the opportunity to provide comments on the Alabama Power Company's (APC) request for approval to reduce the minimum flow requirement on the Alabama River at Montgomery, Alabama. These comments are being submitted in response to the U.S. Army Corps of Engineers (Corps) Public Notice Number FP07-AC01-16 issued on May 31, 2007.

ADEM recognizes the severity of the drought occurring across Alabama and is actively involved in the State's drought assessment and planning efforts through meetings with numerous affected stakeholders. ADEM has encouraged the regulated community to review their water conservation plans and to be especially mindful of the importance of ensuring that wastewater treatment facilities are operating at peak efficiency and are properly maintained. As the drought worsens and stream flows continue to decline, there is the potential for significant water quality degradation in a number of the State's waterways. Proper management of Alabama's water resources during this critical period is essential to prevent or minimize impacts to water quality and aquatic resources.

At this time, ADEM does not have sufficient data to support the proposed 40% reduction in minimum flow at Montgomery. However, given the growing severity of the drought, some reduction may be warranted. We encourage the Corps to evaluate smaller, incremental reductions in flow considering impacts to both water supply intakes and water quality. We will be available to work with all parties to evaluate impacts on water quality resulting from any reductions in minimum flow.

Sincerely,

Marilyn Elliott

for Onis "Trey" Glenn, III
Director

OTG/LS/ghe

OFFICE OF THE GOVERNOR

BOB RILEY
GOVERNOR

STATE CAPITOL
MONTGOMERY, ALABAMA 36130

(334) 242-7100
FAX: (334) 242-0937

STATE OF ALABAMA

June 11, 2007

VIA FACSIMILE AND U.S. MAIL

Colonel Peter Taylor, District Engineer
Attention: Planning and Environmental Division
U.S. Army Engineer District, Mobile
P.O. Box 2288
Mobile, Alabama 36628-0001

Dear Colonel Taylor:

RE: Public Notice No. FP07-AC01-16

The State of Alabama submits these comments in response to the aspects of the public notice referenced above concerning additional releases from Allatoona Reservoir and Carters Lake.

The Alabama-Coosa-Tallapoosa (ACT) River Basin is experiencing drought conditions of historic proportions. On June 7, 2007, the U.S. Drought Monitor released its weekly report indicating that much of the ACT Basin located in Alabama is in the midst of an exceptional drought.

The flow in the Coosa River at the Alabama-Georgia state line, as measured by the gage at Mayo's Bar, reached an all-time low of 848 cubic feet per second (cfs) on June 5, 2007. That is more than 150 cfs below the previous all-time low for the month of June, and over 60 cfs below the previous all-time low for any month of 907 cfs during October 1988.

Alabama Power Company operates several projects in the ACT Basin. The attached diagrams show that the current elevations of those projects are extremely low relative to their historic levels for this time of year. Alabama Power projects that the level of each of them will continue to drop precipitously in the weeks ahead.

In contrast to the levels of the Alabama Power projects in the ACT Basin, the elevation at Allatoona Reservoir currently is above 837 feet. According to section 4-08 of the draft 1993 Allatoona Reservoir Water Control Manual ("draft 1993 manual"), that elevation indicates project conditions are "normal to wetter than normal."

Alabama's Office of Water Resources has recently been in contact with representatives of the Mobile District. When asked why the Corps has not been releasing more flow from Allatoona Reservoir, the Mobile District representative stated that the Corps is operating Allatoona Reservoir according to the applicable manual and that Alabama should expect the minimum releases from that reservoir in the coming weeks. Mr. Otto of the Mobile District confirmed on May 29, 2007, that the Corps claims to be operating Allatoona Reservoir consistent with the draft 1993 manual.

The State of Alabama has challenged the use of the draft 1993 manual because that manual has never been promulgated in accordance with applicable law. Although Alabama does not agree that the draft 1993 manual is properly in effect, Alabama cannot understand why the Corps is not adhering to the operational rules contained in that draft manual. If the Corps says that it is bound by that draft manual, then one would think the Corps would not repeatedly ignore it.

During May 2007, the elevation of Lake Allatoona was above 836 feet at all times, which is in Allatoona's Zone 1 for the month of May. According to Chart 1-11 in the draft 1993 manual, the Corps under such conditions is to make "normal conservation releases of water" in an amount "equivalent to between two and six hours of full powerhouse generation." Moreover, when Allatoona Reservoir falls into Zone 2, the Corps is to make releases for two hours peak hydropower generation each weekday, plus maintain a continuous release of 240 cfs.

Based on Alabama's review of the hydropower generation records for Allatoona Reservoir for May 2007, the Corps failed to follow the guidelines contained in the draft 1993 manual. Even though Allatoona Reservoir's elevation was in Zone 1 at all times during May, there were 21 days on which fewer than 2 hours of hydropower were generated, and there were 13 days on which zero hydropower was generated above the 240 cfs continuous flow requirement. As a result of the Corps' failure to follow its manual, over 7 billion gallons of water that should have flowed into Alabama during the month of May alone have been improperly withheld in Allatoona Reservoir. If one analyzes all of 2007, the shortfall of water that should have flowed into Alabama but has been withheld in Allatoona Reservoir exceeds 15 billion gallons.

This failure of the Corps to adhere to the terms of the draft 1993 manual it claims to be following has caused the flow at the Alabama-Georgia state line (as measured at Mayo's Bar) to drop to the all-time low described above. That failure has also contributed to the difficulty on the part of Alabama Power Company in meeting the navigation flow requirements in the Alabama River at Montgomery, and it has worsened water quality problems in Lake Weiss and other reservoirs on the Coosa River.

The draft 1993 manual expressly recognizes that "Allatoona Dam operations must be coordinated with the multiple projects in the Alabama-Coosa River Basin to insure the optimum benefits consistent with the physical characteristics and purposes for which the system was authorized." § 1-02. The draft manual expressly recognizes that the guideline releases for Allatoona "can at least partially mitigate water quality deficiencies [during periods of low flow] in the Coosa River" and "can often provide a significant portion" of the minimum flows in the Alabama River. §§ 5-04, 7-04.

As the Corps recognizes in the public notice, Alabama has requested that the Corps immediately increase it releases from Allatoona Reservoir and Carters Lake. Specifically, Alabama requests that the daily releases from those two projects total 1350 cfs. Such releases will fulfill the role for those reservoirs in drought conditions that the Corps itself has recognized in the draft 1993 manual. Not only will those releases provide much-needed support for water quality, fish and wildlife, industry, and navigation, but they will also enable increased hydropower generation during the summer season. Alabama suggests that the Corps commit to releases at the 1350 cfs level, subject to reevaluation after sixty days in light of then-existing conditions.

Should you have any questions about Alabama's position, please direct them to Brian Atkins, director of Alabama's Office of Water Resources.

Very truly yours,

Bob Riley

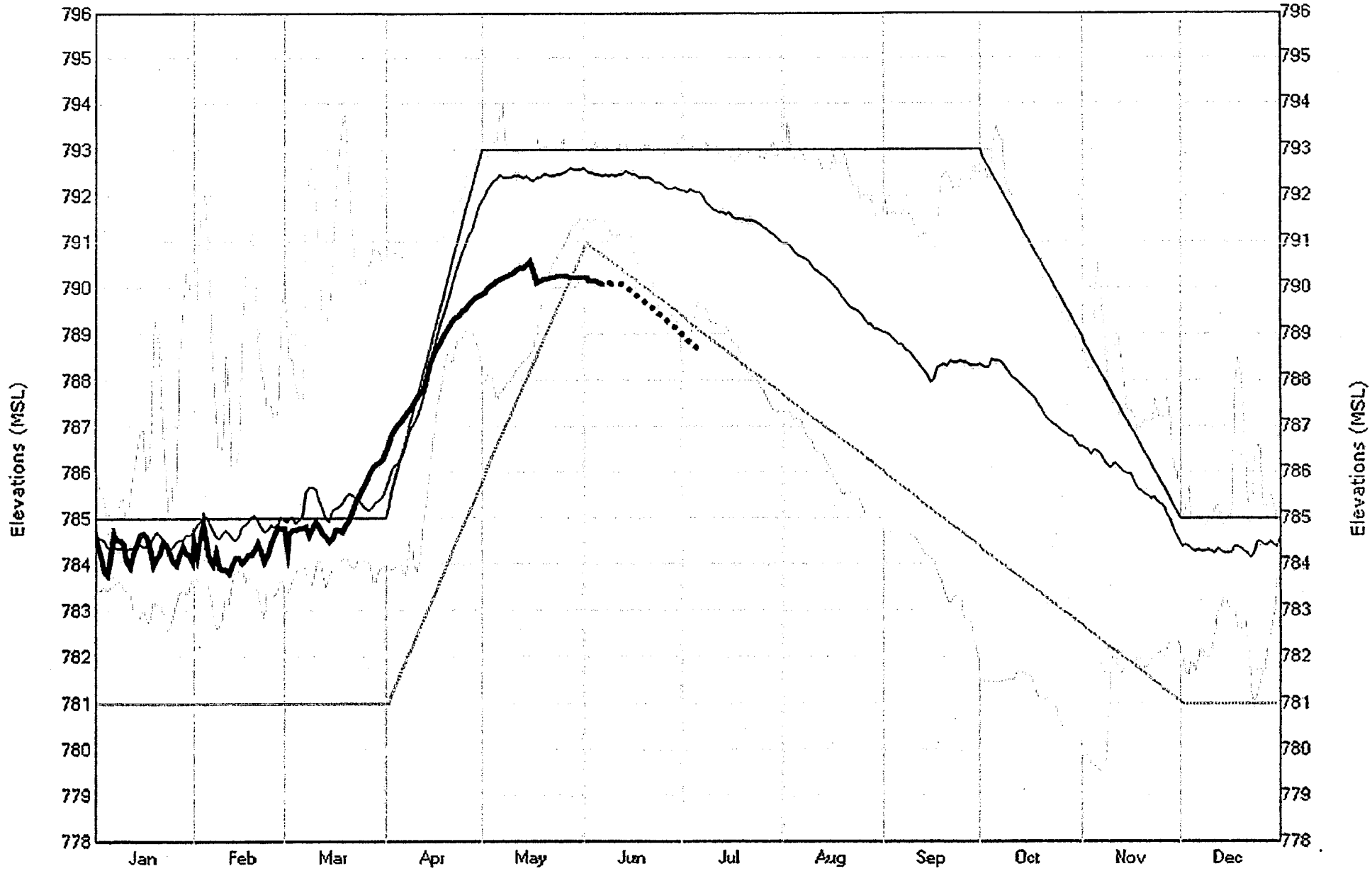
Bob Riley
Governor

BR/KW/rdg

Attachments

cc: Brig. Gen. Joseph Schroedel (via facsimile & U.S. Mail)

Alabama Power - HARRIS



2007 Elevations — Average Elevs. from 1984 — Guidelines — Elevation Range from 1984 to current

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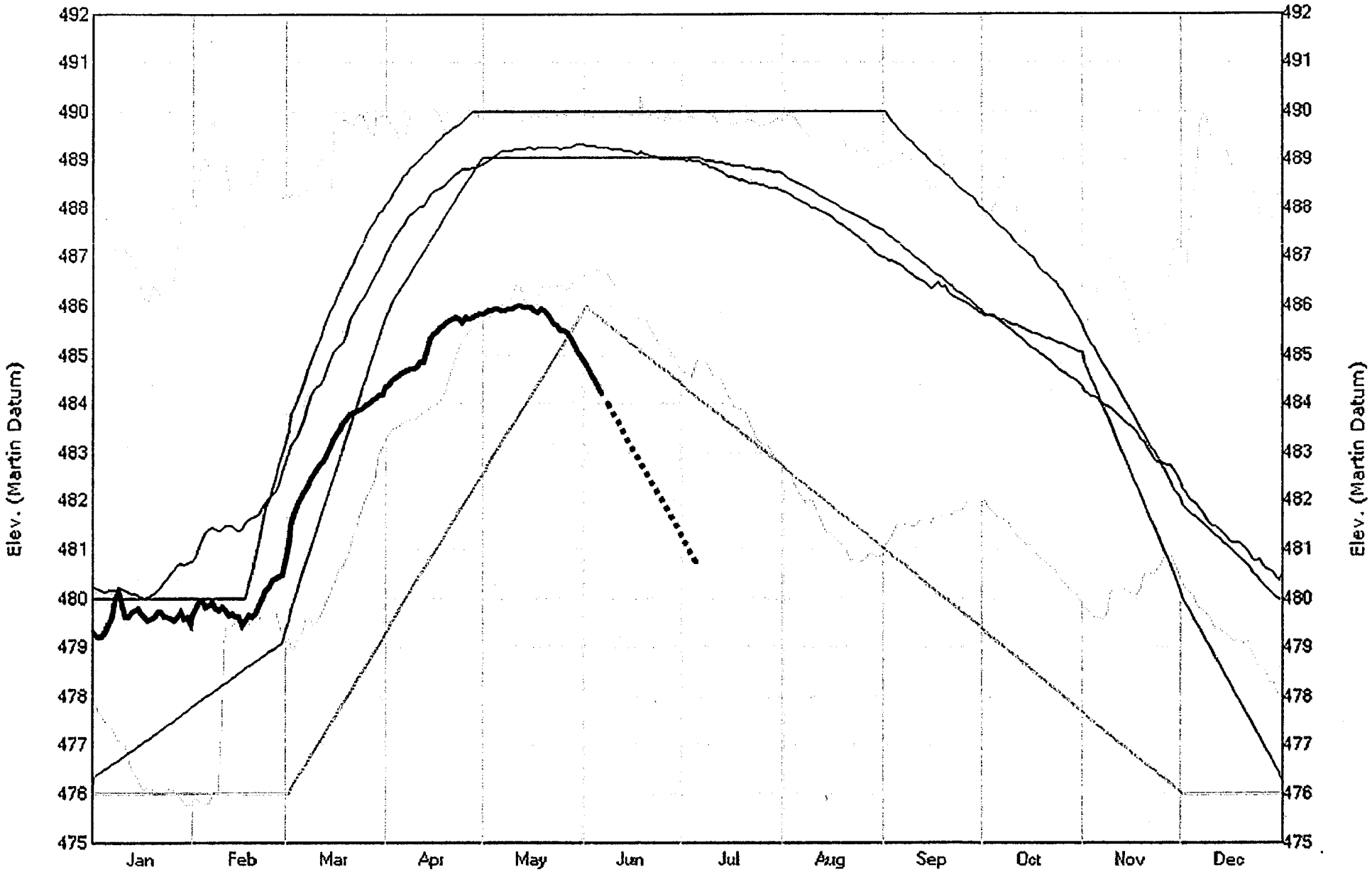

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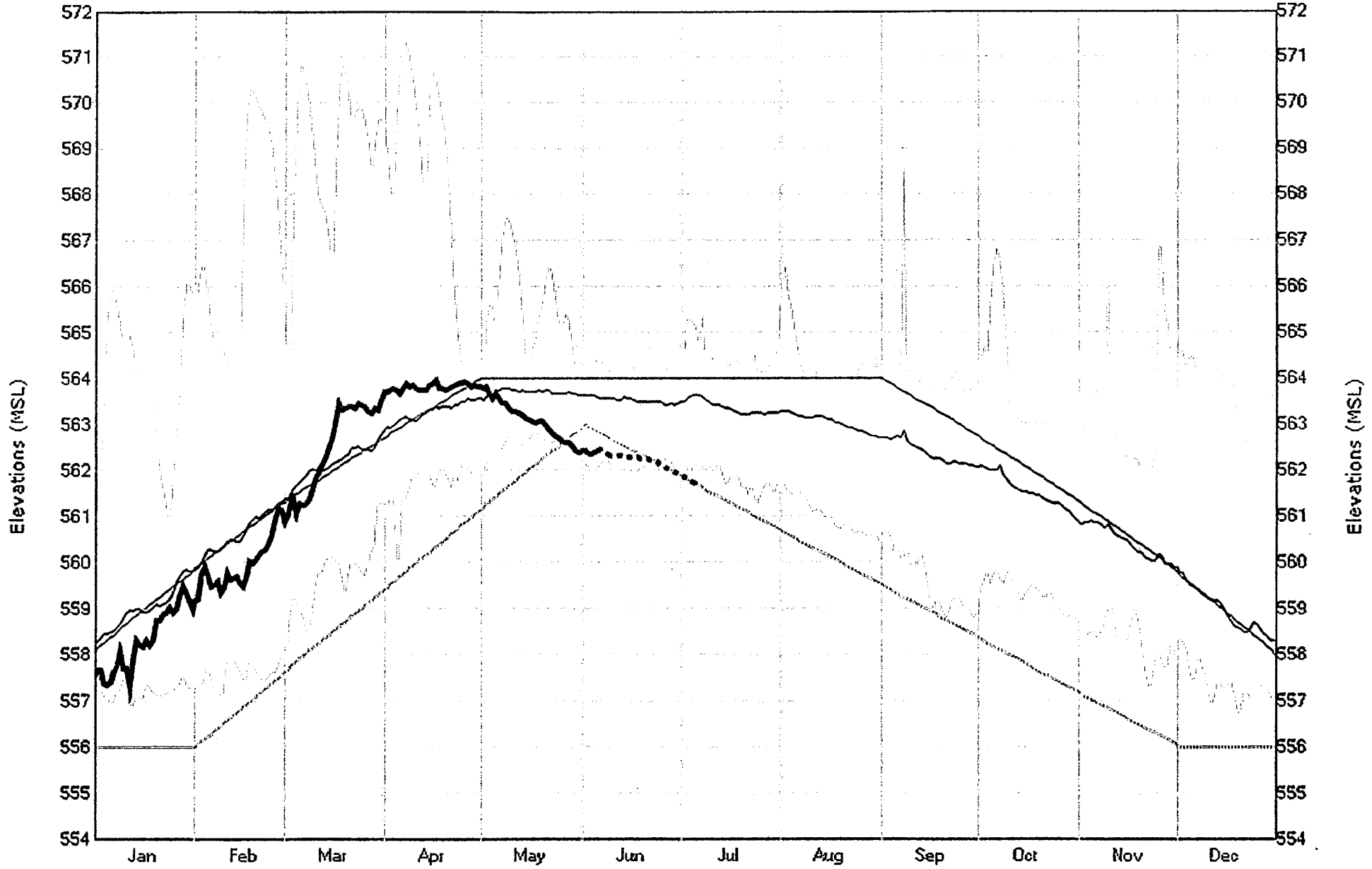

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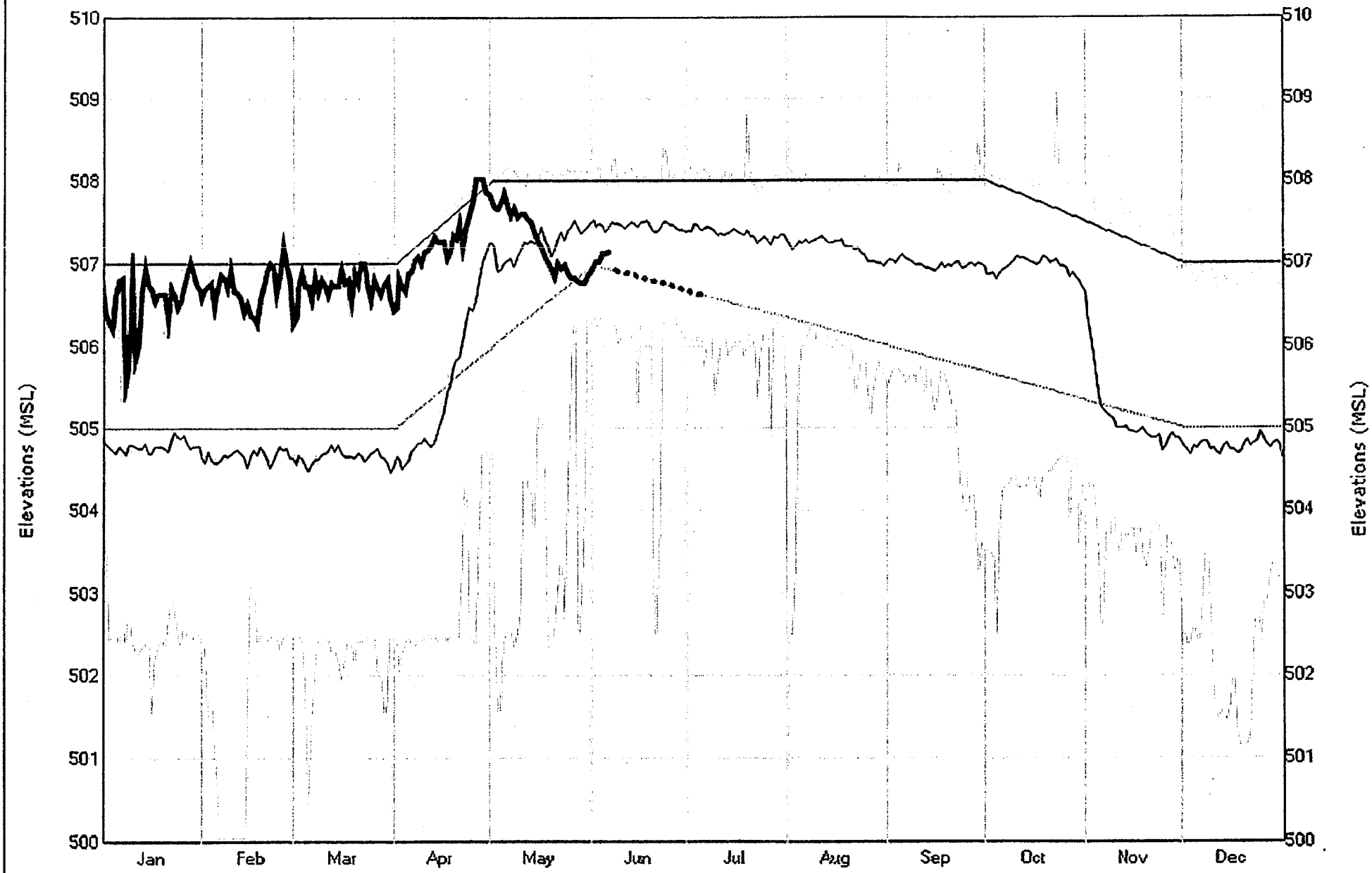

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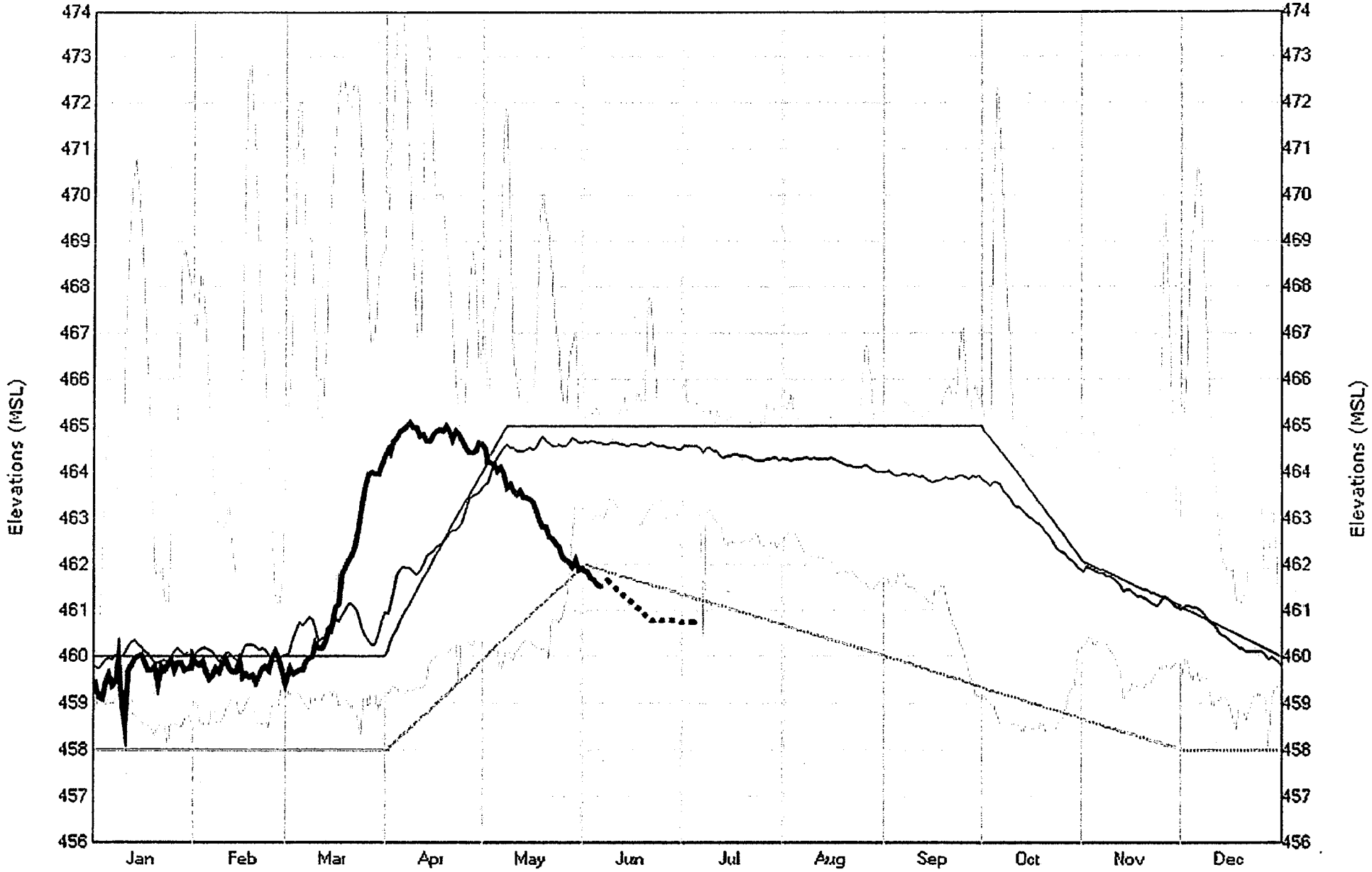

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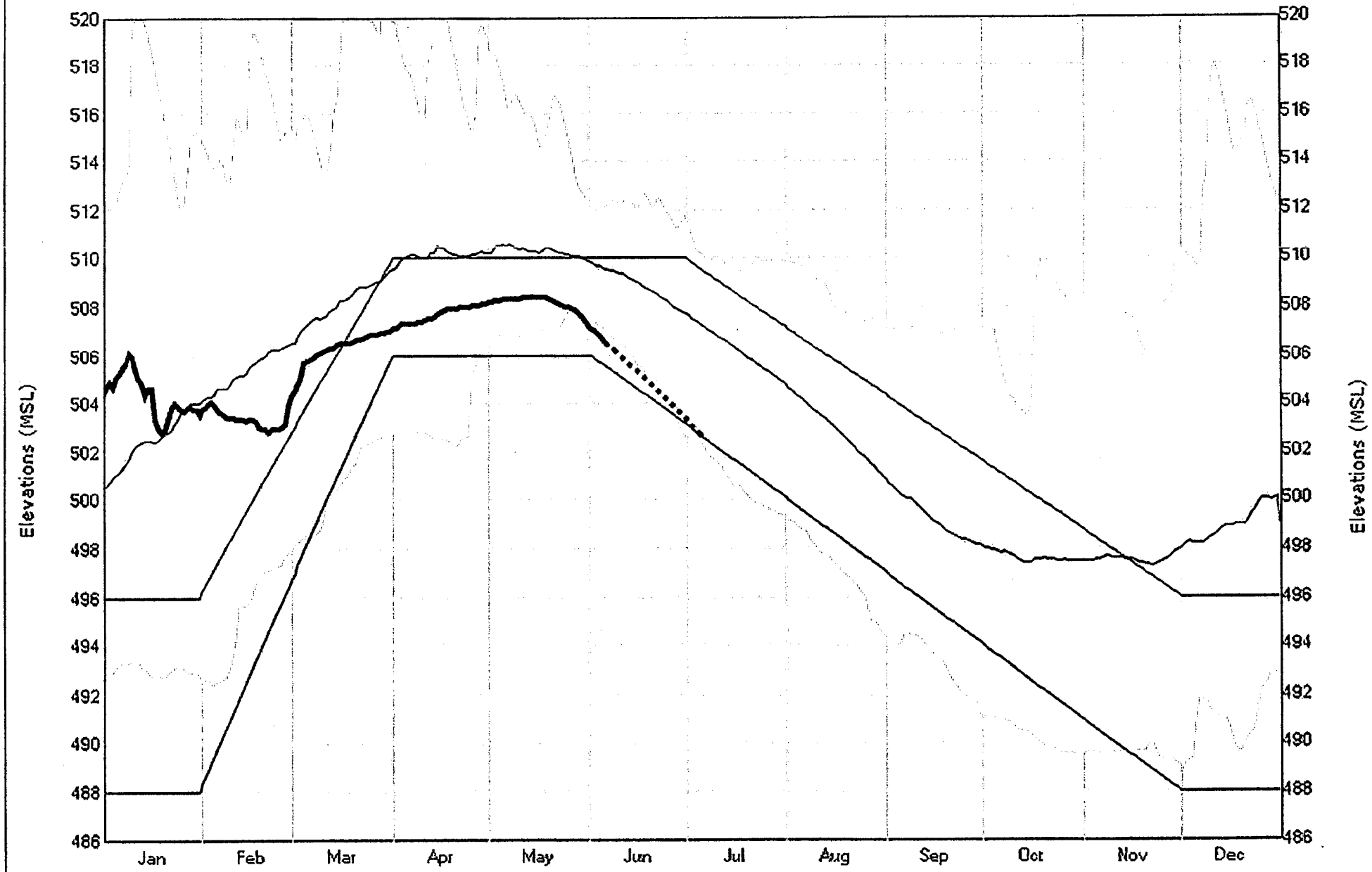
Alabama Power - SMITH



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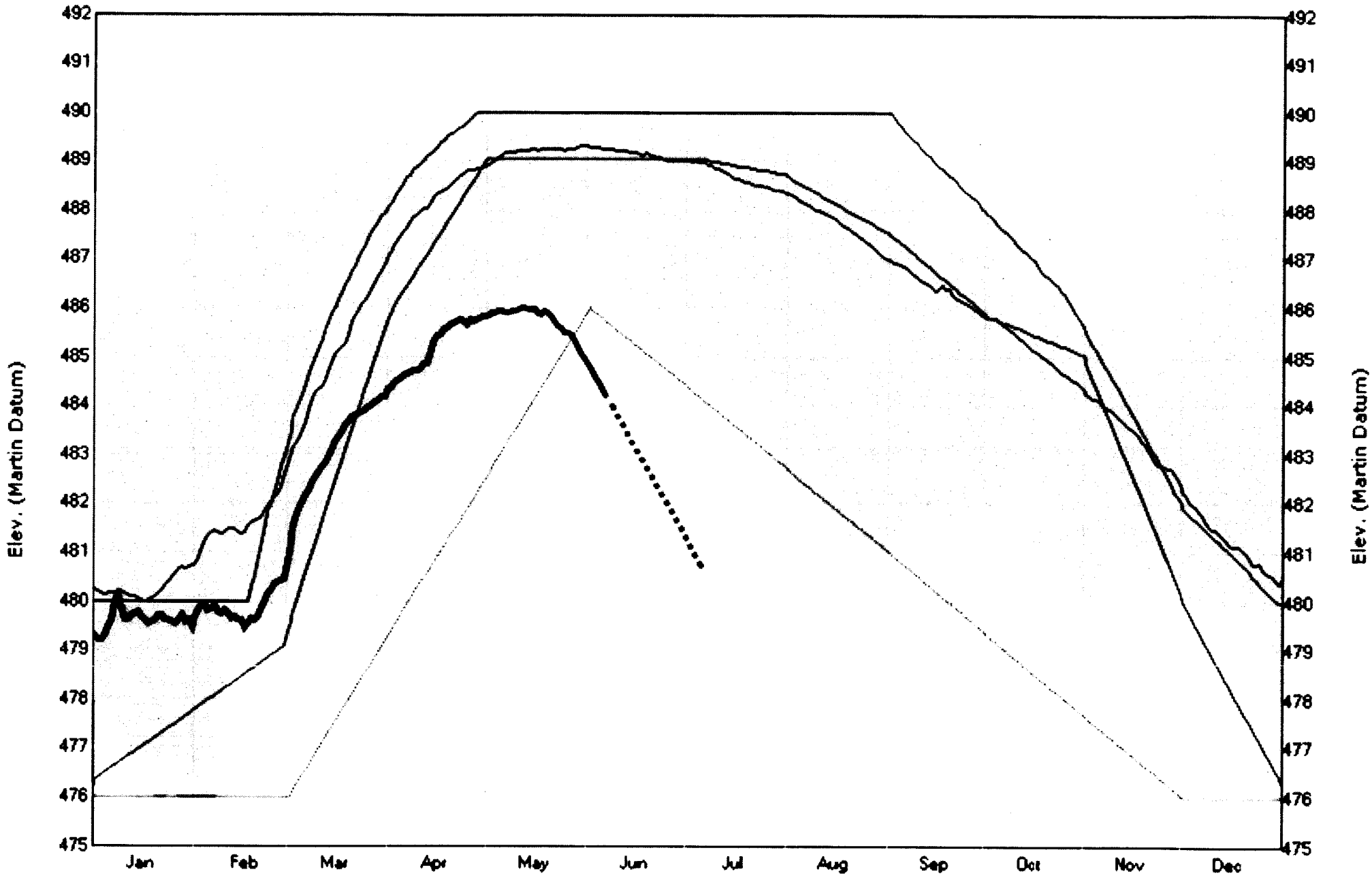

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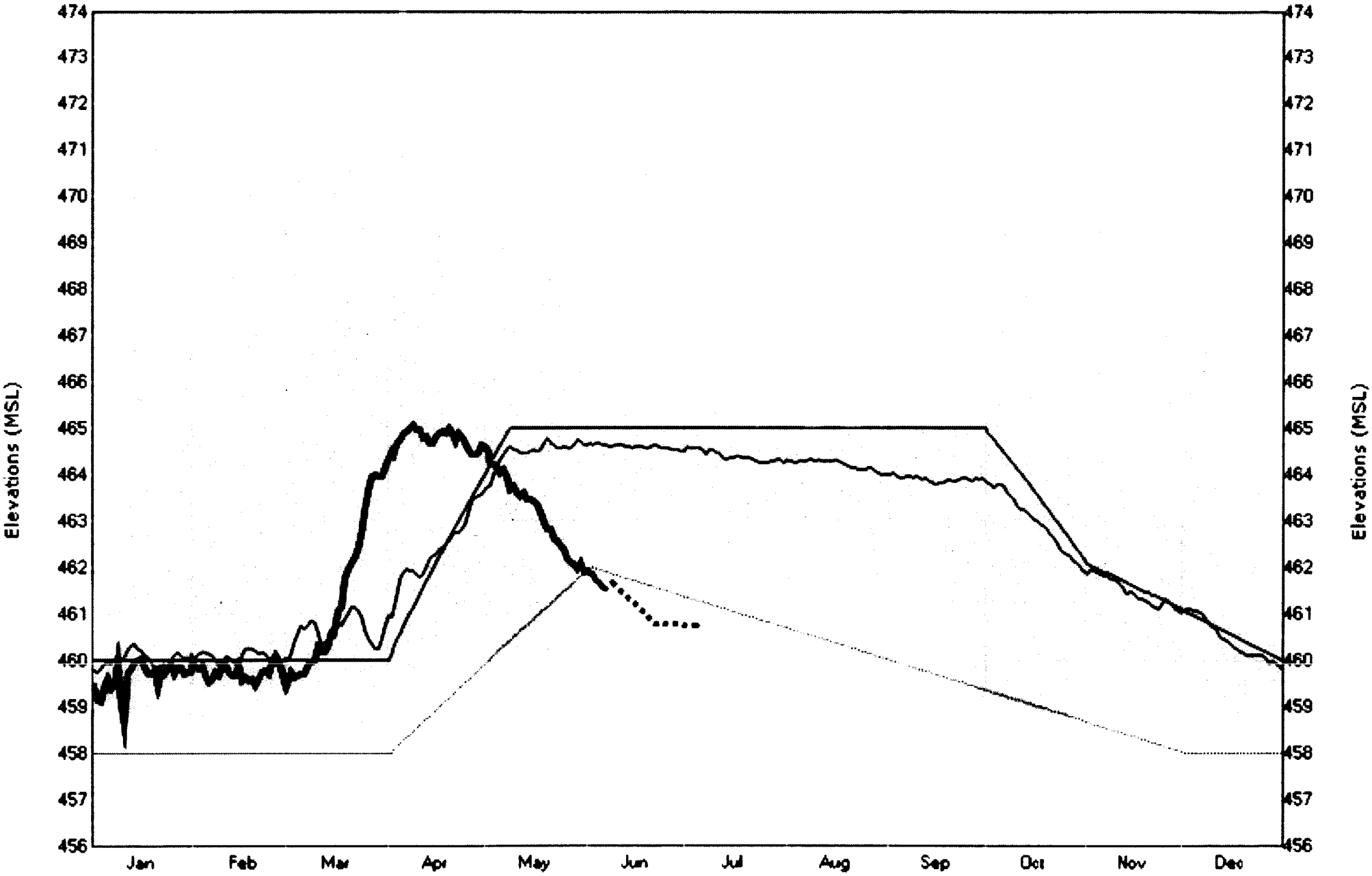

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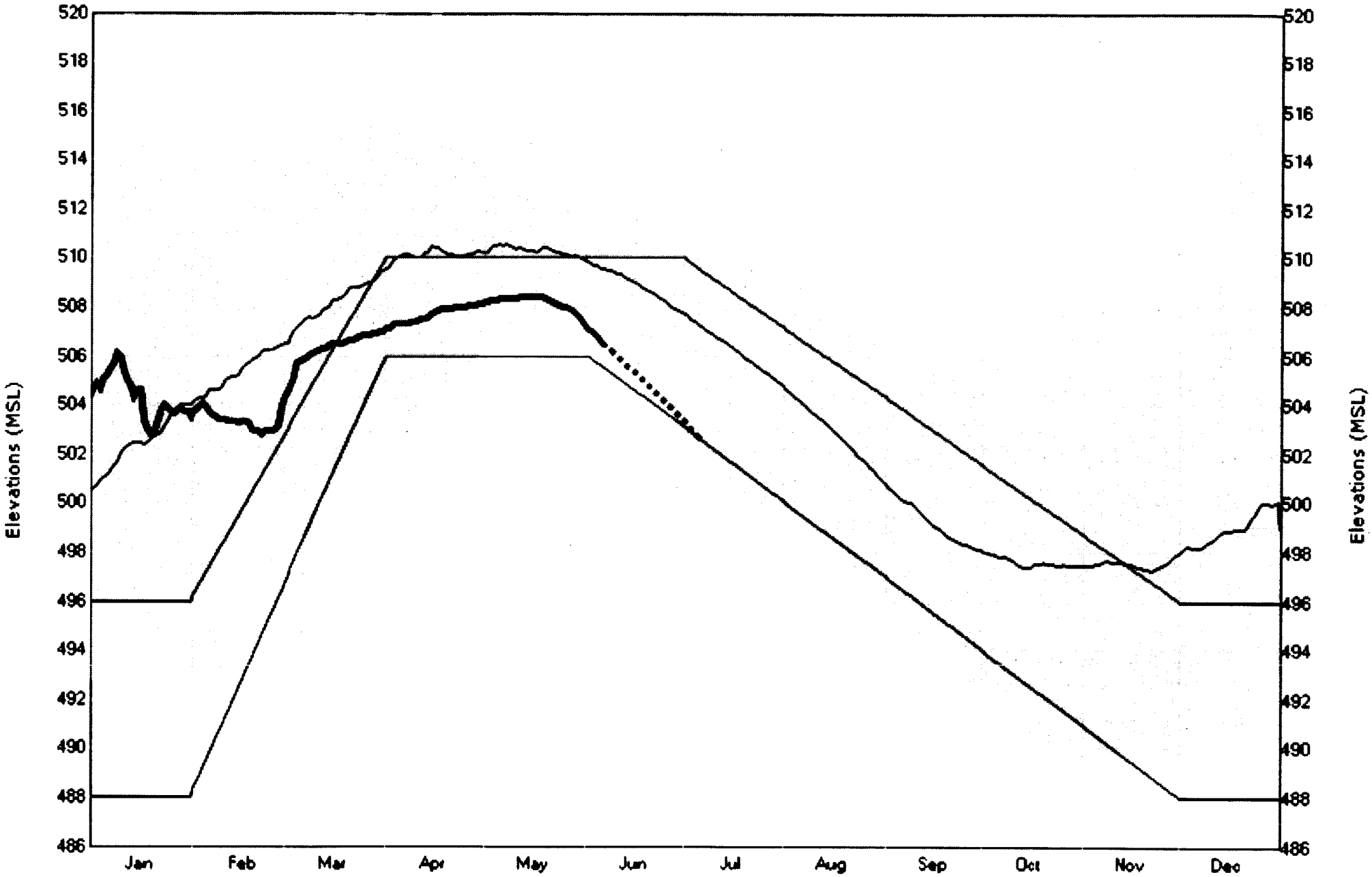

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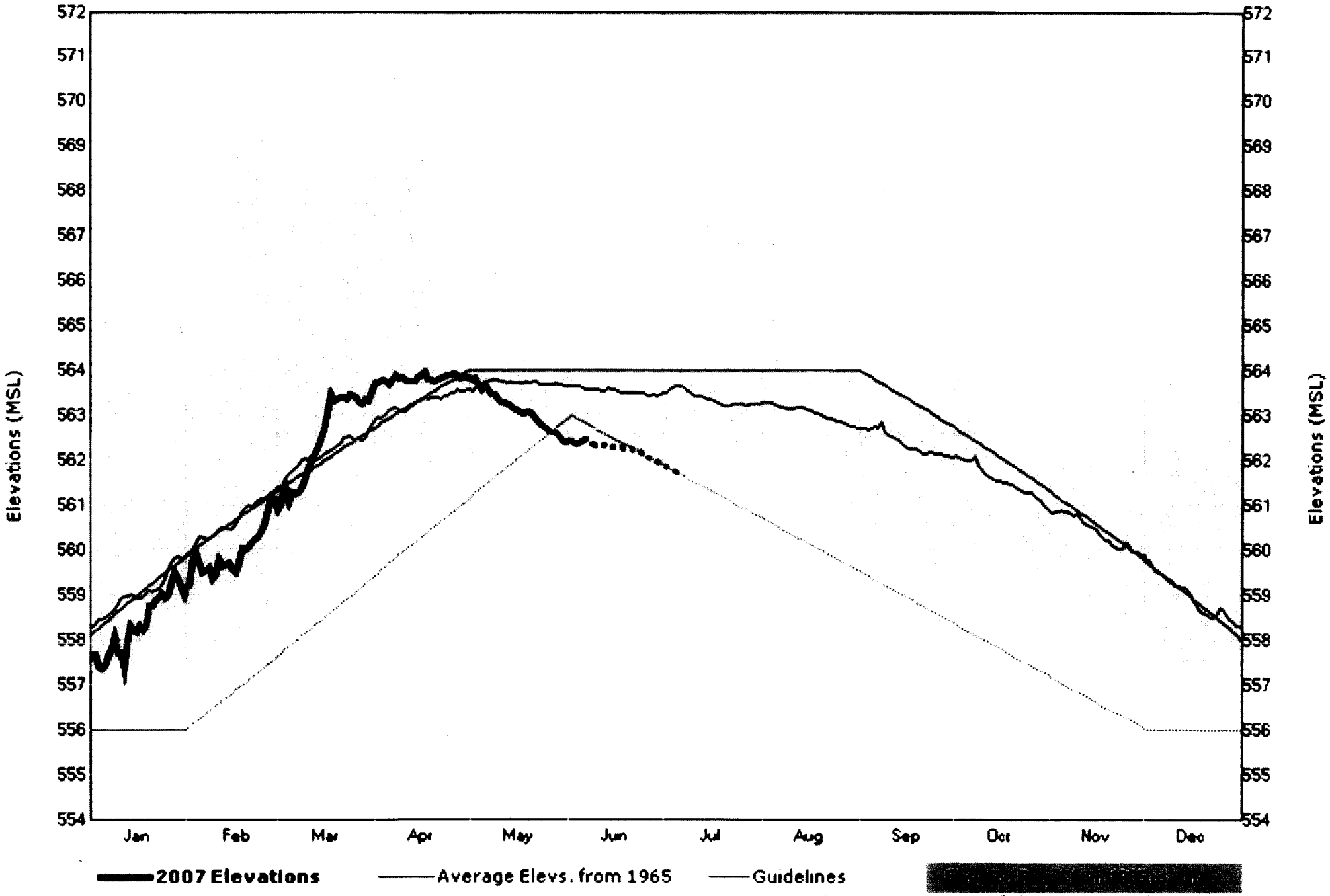

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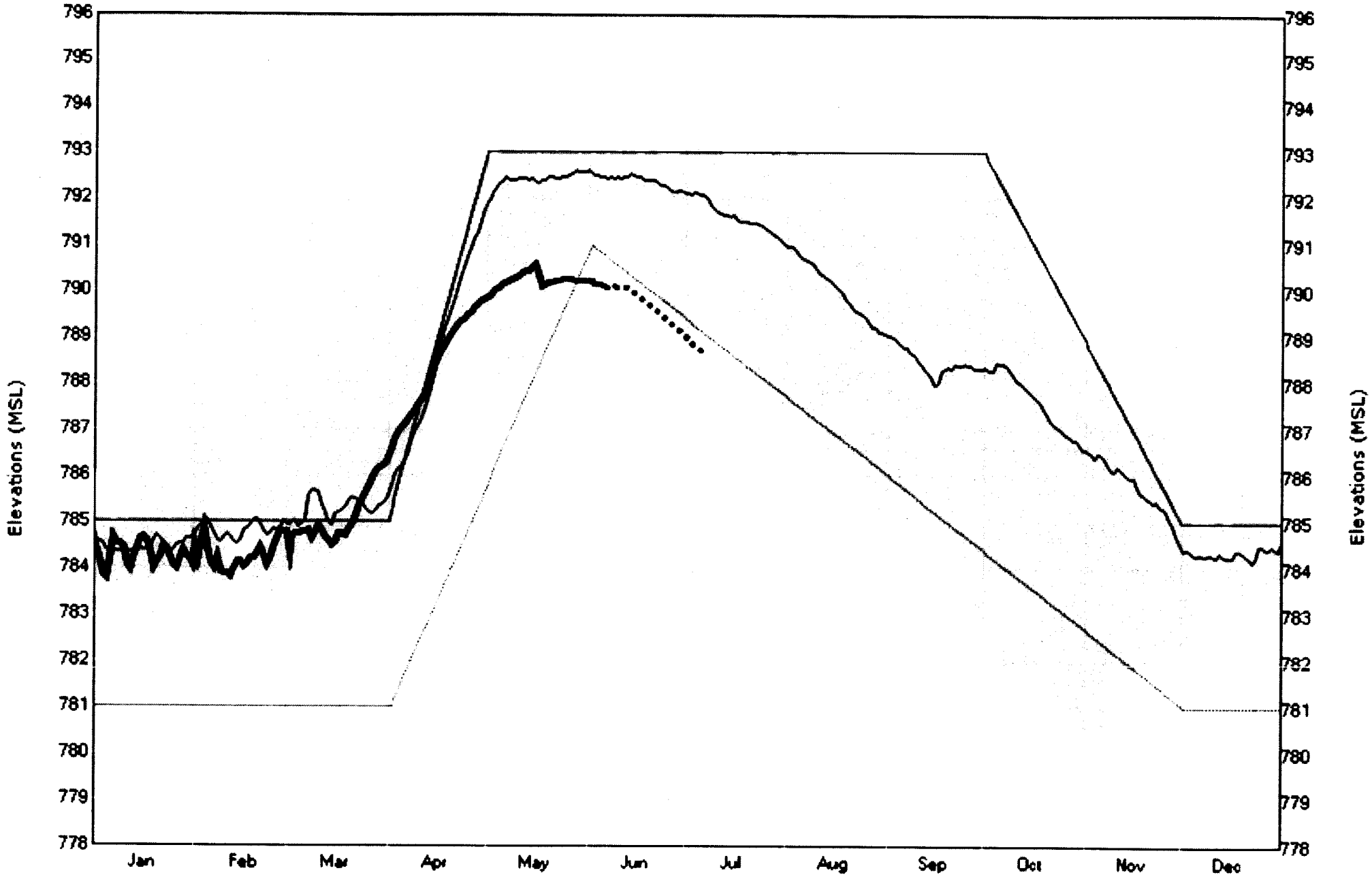

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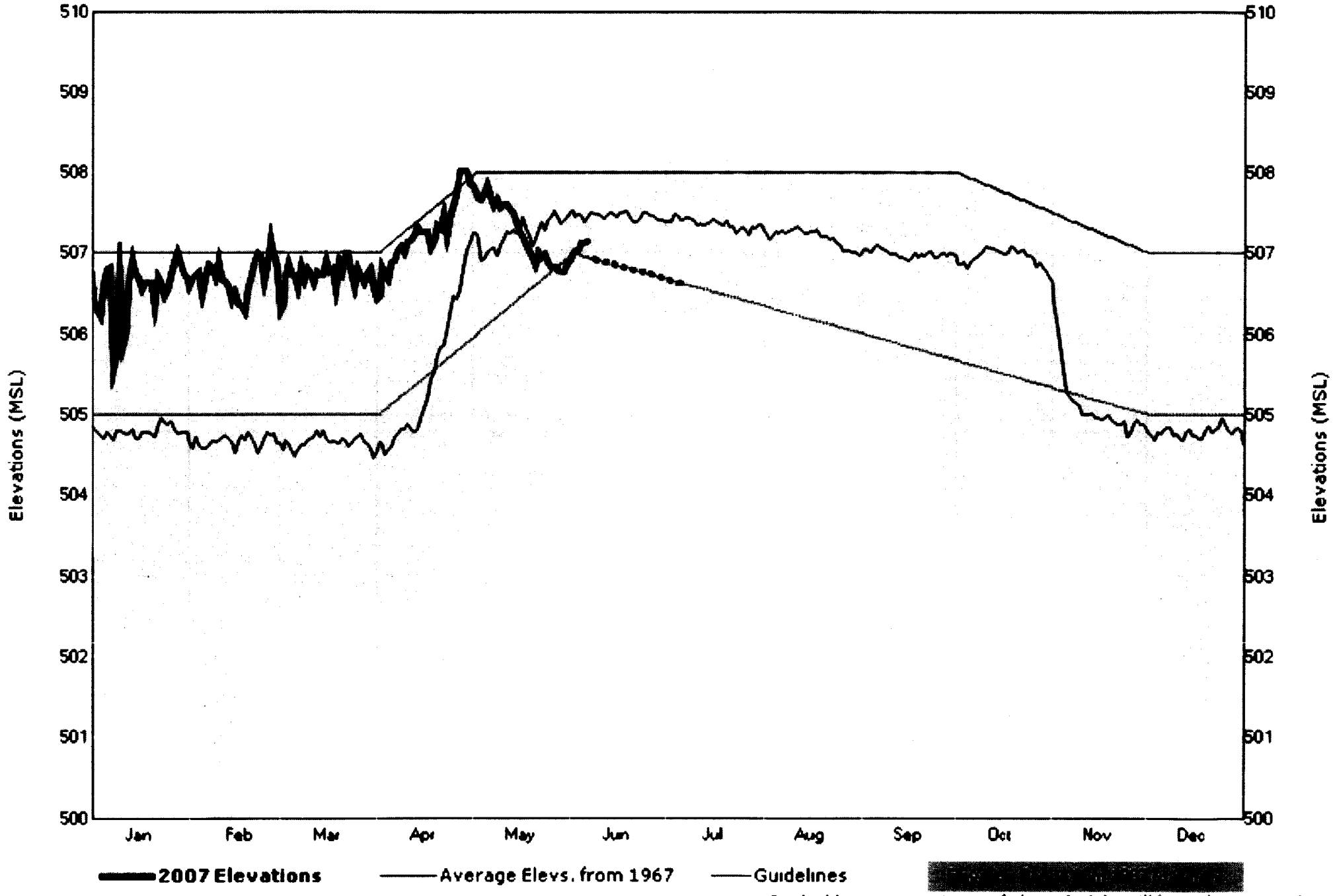

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Department of Energy
Southeastern Power Administration
Elberton, Georgia 30635-6711

June 7, 2007

Colonel Peter Taylor
District Engineer
Mobile District, Corps of Engineers
P. O. Box 2288
Mobile, AL 36628-0001

Dear Colonel Taylor:

Southeastern Power Administration (Southeastern) would like to take the opportunity to express its concerns regarding the Mobile District's Public Notice, dated May 31, 2007, relating to the request of Alabama Power Company to reduce minimum flow on the Alabama River. Southeastern is opposed to the concept of altering the flow regime as it is suggested in the notice, since it is very apparent that it will be to the detriment of all of the projects in the basin from which we market generation.

The implementation of the suggested flow modification would have a direct impact on generation availability for both Millers Ferry and Robert F. Henry Dams, and would ultimately result in the drafting of storage from both the Allatoona and Carters projects as releases from these reservoirs were utilized to augment flows in the river basin which were not being made by the Alabama Power Company Projects. This entire concept simply shifts the burden of Federal Energy Regulatory Commission (FERC) required release requirements from the FERC-licensed Alabama Power Company Projects onto the Federal resources to the detriment of Southeastern and its preference customers.

This change in operation could dramatically affect peaking power production at the federal projects by reducing inflows, depleting storage, and ultimately, eliminating the operating flexibility of the Government's generation resources in the basin. The value of these projects as generation resources to the preference customers and the interconnected utility system should not be overlooked. The generation capability of the Carters project alone far exceeds the combined output of the three Alabama Power Company generating facilities; and the fact that it operates as a pump storage facility provides significant additional benefits under adverse streamflow conditions.

The proposed modification to the river basin flow regime would result in significant additional expenses with respect to replacement energy costs for Southeastern and the preference customers that would be necessary to satisfy contractual obligations.

Southeastern does not believe it is fair or equitable for a river basin stakeholder to be relived of their obligations if it is to the determent of other stakeholders in the basin.

Southeastern urges the District to reject the requested modification to river basin operation and continue to operate according to the current criteria. We appreciate the opportunity to provide input on this important issue.

Sincerely,

Kenneth E. Legg
Assistant Administrator
For Power Resources

Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Suite 1152 East Tower, Atlanta, Georgia 30334
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
Environmental Protection Division
(404) 656-4713

June 4, 2007

By Email, Fax and Overnight Delivery
Willard L. Bowers
Vice President, Environmental Affairs
Alabama Power Company
600 North 18th Street / 12N-0830
P.O. Box 2641
Birmingham, Alabama 35291

Re: Alabama Power Coosa and Tallapoosa Projects

Dear Mr. Bowers:

The State of Georgia has received Alabama Power's proposal for a temporary reduction of the minimum flow agreement between Alabama Power Company and the Corps of Engineers for the Alabama River below Alabama Power's Coosa and Tallapoosa projects. We understand that in conjunction with this request, Alabama Power also is requesting that the Corps increase current releases from Lake Allatoona and Carters Lake in order to provide additional inflow to the Alabama Power projects.

Given the serious drought conditions within the ACT Basin in Georgia this year, Georgia is very concerned about the prospect of the Corps making greater releases from federal reservoirs in the headwaters of the ACT Basin in an effort to raise APC reservoir levels downstream, where inflows and storage capacity are much greater, and the probability of refiling comparatively greater as well. Georgia is carefully reviewing the request and will make comments to the Corps regarding the risks incurred as a result of its implementation.

To assist Georgia in understanding and evaluating Alabama Power's proposed action, we request additional information on historical and current conditions of the Alabama Power projects, specifically as follows:

1. Daily time series pool elevations for the Alabama Power projects on the Coosa and Tallapoosa Rivers since each was placed into operation, up to May 31, 2007.

2. Daily time series power generation for the Alabama Power Coosa and Tallapoosa projects for the same period of record.

3. Daily time series releases for the Alabama Power Coosa and Tallapoosa projects for the same period of record.

4. Historical and/or projected annual pool evaluation duration data from Alabama Power Coosa and Tallapoosa River projects developed in connection with FERC relicensing applications.

Because the Corps has imposed a June 10 deadline on submission of comments on the Alabama Power proposal, this information is needed urgently and quickly. The information should be readily available to you, and you should be able to transmit it to me promptly without undue burden. I would appreciate your providing me with this information by no later than close of business on Wednesday, June 6, 2007. If you cannot provide it to me by then, I would ask that you join me in requesting that the Corps extend the time for Georgia to provide comments on the flow reduction request and that the Corps take no action on the request in the meantime.

Thank you for your assistance.

Sincerely,

Carol Couch
Director

cc: Brig. Gen. Joseph Shroedel, South Atlantic Division Commander, U.S. Army Corps of Engineers
Colonel Peter Taylor, District Commander, U.S. Army Corps of Engineers, Mobile District
Mr. Chuck Sumner, Inland Environment Team, U.S. Army Corps of Engineers, Mobile District

Scott C. Craddock, Chair
Donald C. Mabry, Vice-Chair
R. L. Jacobs, Secretary
A. Max Bacon, Member

COBB COUNTY-MARIETTA WATER AUTHORITY
REGIONAL WATER RESOURCE MANAGEMENT

Sam Olens, Member
Jerry N. Shearin, Member
Earl E. Smith, Member
Glenn M. Page, General Manager

VIA FACSIMILE 251-694-3815
2 pages

June 7, 2007

District Engineer
U.S. Army Engineer District, Mobile
Post Office Box 2288
Mobile, AL 36628-0001

Attn: Planning and Environmental Division

RE: Public Notice No. FP07-AC01-16

Sir:

The Cobb County – Marietta Water Authority (CCMWA) is a wholesale water supplier to customers in northwest Georgia which withdraws water from Lake Allatoona for water supply purposes. CCMWA's Lake Allatoona plant provides water to a population of approximately 400,000 customers. The State of Georgia is currently under mandatory water conservation measures to reduce water consumption. CCMWA strongly supports these measures and has requested that our wholesale customers ensure compliance with them.

CCMWA's intake on Lake Allatoona has inlet gates at various elevations with the lowest gate at elevation 810 feet above mean sea level. The Authority would be unable to supply water if Lake Allatoona were lowered below that level. The water quality of Lake Allatoona is also of concern to CCMWA. Currently the Allatoona Creek arm of Lake Allatoona is experiencing an algal bloom. Reducing the volume of water in the lake could worsen the lake water quality.

The public notice suggests the possibility of providing additional releases from storage from Lake Allatoona to provide additional water to the Alabama Power Company facilities. Allatoona is currently releasing 600 cfs even though the required minimum release is 240cfs. The result of this action is that the level of the lake is already below the normal summer pool. Any significant additional release beyond current levels could jeopardize water supply if the drought continues through the summer and into the fall.

The public notice also states that the minimum flow agreement between the Mobile District and Alabama Power Company (APC) provides for navigation flows on the lower river. The release of additional water from the Federal projects to provide

1660 Barnes Mill Road, Marietta, GA 30062 770-426-8788, 770-426-9092 Fax

usable depths for navigation during a drought is not justified. CCMWA would strongly oppose the release of water to benefit navigation. There are alternatives to barge transportation. There are no reasonable alternatives for water supply for this area.

The impact of the drought on power generation at Alabama Power facilities is also discussed in the public notice. APC has stated that the loss of generation capability would severely impact the reliability of the electric system. Without additional information about alternative power options for Alabama, CCMWA would strongly oppose the release of water from Allatoona to benefit power generation. Again, there are alternatives to hydropower. There are no reasonable alternatives for water supply for this area.

Finally, during a drought a determination must be made as to the best and highest priority for water resource utilization. CCMWA believes that water supply should be considered as one of the essential uses of this resource.

Sincerely,

James M. Parsons

James M. Parsons
Director of Engineering

David S Atchison/Printing & Communications Papers/IPAPER
06/07/2007 08:22 AM

To lewis.c.sumner@sam.usacae.army.mil
cc
bcc
Subject

Mr. Sumner:

My name is David Atchison. I am President of USW Local 3-1444 at the Riverdale Mill of International Paper Co. I represent a number of employees, who expect me to help protect their jobs for them and their families. Over the past several weeks there has been much discussion about the river situation, and the lack of rain.

We understand from our managers, that strategies are currently being developed that will impact the way water is used in the Alabama River system. We understand that, depending upon how these decisions are made, our mill could be shut down partially or completely.

We as Union workers do not wish to put hardship on another Co. to let ours run full speed, but we believe if we all work together, we can all survive. We also know that only the Higher Power has control on the weather, and sometimes we must work together when we are put to a test.

Our employees are very concerned about the river situation, and are doing everything possible to conserve water at the mill.

Your consideration in this very critical and important matter will be greatly appreciated.

David S Atchison

WATER WORKS & SEWER BOARD OF THE TOWN OF CENTRE

130 SOUTH RIVER STREET
CENTRE, ALABAMA 35960
PH. 927-3281
FAX 927-3251

HAROLD DAY
CHAIRMAN

BILLY MACK GARRETT
SECRETARY-TREASURER

MARY ALFORD
SECRETARY-PAYROLL

CHARLES LANEY
BOARD MEMBER

ROY ALFORD
GENERAL MANAGER

DARLENE RIEGER
OFFICE MANAGER

TELECOPIER TRANSMISSION

DATE: 6-11-07

TO: COMPANY NAME: US Army Engineer District

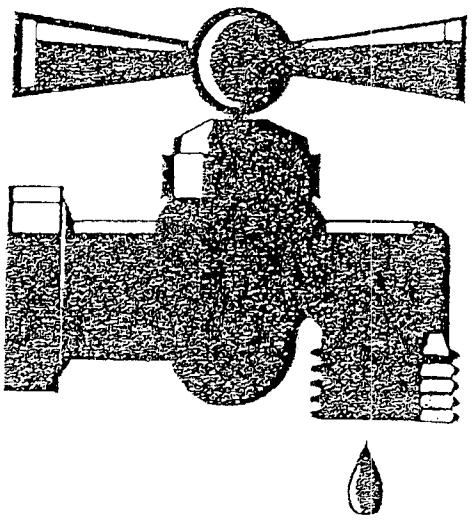
FAX NUMBER: 251-694-3815

ATTENTION: Mr Chuck Sumner

IF YOU DID NOT RECEIVE 2 PAGES INCLUDING THIS PAGE, PLEASE CALL OUR OFFICE, AT THE ABOVE NUMBER.

MESSAGE:

BY: Roy Alford



WATER
AT YOUR SERVICE

WATER WORKS & SEWER BOARD OF THE TOWN OF CENTRE

130 SOUTH RIVER STREET
CENTRE, ALABAMA 35960
PH. 927-3281
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HAROLD DAY
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CHARLES LANEY
BOARD MEMBER

ROY ALFORD
GENERAL MANAGER

DARLENE RIEGER
OFFICE MANAGER

RE; RESTRICTIONS TO PUBLIC NOTICE, AL POWER SEEKS RELIEF FROM NAVIGATION FLOW.

THE CENTRE WATER WORKS & SEWER BOARD IS VERY CONCERNED ABOUT THE LAKE LEVELS OF WEISS LAKE DURING THESE DROUGHT CONDITIONS.

WE ARE VERY CONCERNED ABOUT THE QUANTITY AND QUALITY OF THE WATER IN WEISS LAKE.

THE CENTRE WATER WORKS & SEWER BOARD SERVES AROUND 4000 PEOPLE AND ALSO SELLS WATER TO NORTHEAST WATER FOR ABOUT 5000 PEOPLE AND WEISS LAKE IS OUR ONLY WATER SUPPLY.

CEWG&SA
QUALITY - INTEGRITY - SERVICE
P.O. BOX 816
WETUMPKA, AL. 36092
PH.#334-567-6814
FAX. 334-567-5556

FACSIMILE TRANSMITTAL SHEET

TO: Mr. Chuck Sumner, Inland Environment Team	*FROM:* Robert Prince, Jr.
COMPANY: Mobile District U. S. Army Corps of Engineers	*DATE:* 06/11/07
FAX NUMBER: 251-694-3815	*TOTAL NO. OF PAGES INCLUDING COVER:* 2
PHONE NUMBER: 251-694-3857	*SENDER'S REFERENCE NUMBER:*
RE: Release of Storage Water	*YOUR REFERENCE NUMBER:*

☑ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

CEW&SA
QUALITY • INTEGRITY • SERVICE
CENTRAL ELMORE WATER & SEWER AUTHORITY
P.O. Box 816 • Wetumpka, Alabama 36092
716 US Highway 231
Wetumpka, Alabama 36093

June 11, 2007

District Engineer
U.S. Army Corp of Engineers
P.O. Box 2288
Mobile, Alabama 36628-0001

Attn: Planning and Environmental Division

Re: Release of Storage Water

Dear Sir:

Central Elmore Water and Sewer Authority (CEW&SA) services approximately 80,000 customers, both directly and indirectly. Our service territory encompasses most of Elmore County and we supply water to four other water systems, with one being in Coosa County. On June 7th, a board meeting for the Alabama Drought Assessment and Planning Team was held at the Office of Water Resources where the current status of the drought was discussed. We were in attendance at this meeting, along with other stakeholders along each of the river chains.

CEW&SA has an intake located on the western side of the Martin Reservoir where we, on average, draw approximately 7mgd from Martin. The current level at Martin is 484.2 feet. We currently have two 36" intake tee screens at this location. The high water screen centerline is located at 483.5 feet where as the other is located at 471.0 feet. The screens are arranged so they gravity feed the raw water wells. In order to avoid any potential problems, the water level at the low intake should not fall below 474.0 feet. If this happens, it would be a matter of public health in the fact that we would not be able to provide potable water to the customers that rely on CEW&SA. We are asking that the Corp of Engineers be mindful when it comes to making decisions about the release of storage waters from reservoirs.

If you need any further information please don't hesitate to call me at 334-398-1032 or 334-567-6814

Kindest Regards,

Robert L. Prince Jr. / CEW&SA General Manager

(334) 567-6814 • fax: (334) 567-5556 • e-mail: cewsa@cewsa.com

Alabama Department of Conservation and Natural Resources
64 North Union Street, Suite 468
Montgomery, AL 36130
Phone: 334-242-3486
Fax: 334-242-3489

DCNR

Fax

To:	Chuck Sumner	**From:**	Commish Office
Fax:	251-694-3815	**Pages:**	2
Phone:		**Date:**	6/11/2007
Re:		**CC:**	

☐ **Urgent** X **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments**

Attn:

Chuck Sumner

Inland Environment Team

STATE OF ALABAMA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
P.O. BOX 301450
64 NORTH UNION STREET, SUITE 468
MONTGOMERY, ALABAMA 36130-1450
(334) 242-3486
FAX (334) 242-3489
www.dcnr.state.al.us

BOB RILEY
GOVERNOR

M. BARNETT LAWLEY
COMMISSIONER

June 11, 2007

Colonel Peter Taylor
District Engineer
U.S. Army Engineer District, Mobile
P.O. Box 2288
Mobile, Alabama 36628-0001
Attention: Planning and Environmental Division

RE: Public Notice No. FP07-AC01-16

Dear Colonel Taylor:

Alabama Department of Conservation and Natural Resources (ADCNR) recognizes that most of the Mobile River Basin is experiencing an "Exceptional" drought status (D4 intensity) as identified by the U.S. Drought Monitor. The State of Alabama, in their letter of June 11, 2007, to you, recommended that additional flows above minimum releases be provided from Allatoona Reservoir and Carters Lake to assist with some level of flow relief into the Coosa River. ADCNR fully supports this request.

The drought of 2007 has reached historical lows in many of the streams and rivers of this State; and unfortunately, there is not an immediate sign of significant rainfall in the forecast. Alabama Power Company (APC) has recommended a four stage reduction in navigational flows for the Alabama River to address the lack of inflows. Although ADCNR understands APC's position, we believe a reduction by as much as 40% could be harmful to aquatic wildlife. Therefore, ADCNR cannot support a flow reduction of that magnitude without additional study and evaluation of potential impacts to freshwater and saltwater aquatic species. However, we do support a reduction of the 4640 cfs navigational flow to no less than 4176 cfs (10% reduction). This moderate reduction will provide a small level of flow relief, and allow our agency the opportunity to evaluate potential harm to aquatic wildlife.

Thank you for the opportunity to comment on water management on the Alabama, Coosa and Tallapoosa rivers.

Sincerely,

M. Barnett Lawley
Commissioner

MBL:ni

The Department of Conservation and Natural Resources does not discriminate on the basis of race, color, religion, age, gender, national origin, or disability in its hiring or employment practices nor in admission to, access to, or operations of its programs, services, or activities.

Sumner, Lewis C SAM

From: Carol Couch [ccouch@dnr.state.ga.us]
Sent: Friday, June 08, 2007 11:48 AM
To: Taylor, Peter F COL SAM
Cc: jturner@gov.state.ga.us; Todd Silliman; Sumner, Lewis C SAM; wlbowers@southernco.com; Schroedel, Joseph BG SAD
Subject: AL Power Request for Approval to Reduce Minimum Flow on ALRiver

Attachments: Col Peter Taylor - June 8 2007.pdf

Col Peter Taylor - June 8 2007...

See attached letter.

June 8, 2007

By Email, Fax and Overnight Delivery

Colonel Peter Taylor
District Engineer
U.S. Army Corps of Engineers, Mobile District P.O. Box 2288 Mobile, Alabama 36628-0001
Attention: Planning and Environmental Division

Re: Alabama Power Request for Approval to Reduce Minimum Flow on Alabama River and for Additional Releases from Allatoona and Carters

Dear Colonel Taylor:

The State of Georgia provides these comments to the Corps' Notice of May 31, 2007 of a request by Alabama Power for a temporary reduction of the 4,640 cfs 7-day average minimum flow that Alabama Power maintains in the Alabama River downstream of its Coosa and Tallapoosa projects for navigation purposes. According to your Notice, in addition to this request, Alabama Power also is requesting that the Corps "provide additional releases from storage from the Allatoona and Carters projects to supplement the record low flows downstream" of the Alabama Power projects. The Notice did not provide any information on the amount of additional releases that Alabama Power had requested.

As to the reduction of the 7-day average flow of 4,640 cubic feet per second (cfs) from the Alabama Power projects for navigation purposes, Georgia does not oppose it. In fact, in light of the extreme drought conditions that exist within the ACT Basin in Georgia and in Alabama, Georgia believes that it is prudent if not imperative that the flow requirement be reduced or temporarily suspended until drought conditions improve.

Georgia is strongly opposed, however, to the Corps' increasing releases above current levels or above levels that are called for under the Corps' drought contingency plans for Lake Allatoona and Carters Lake, for the purpose of providing additional augmentation for the Alabama Power reservoirs, for the following reasons:

1. Georgia relies upon Lake Allatoona and Carters Lake to provide water supply to approximately .5 million people. Protection of these water resources is vitally important to the State and the region.

2. The ACT Basin within Georgia is suffering from extreme drought conditions. May 2007 inflows to Lake Allatoona and Carters were at record lows. Inflows to Allatoona and Carters in May 2007 were 596 cfs

and 158 cfs respectively, substantially below the prior record lows of 789 cfs and 252 cfs, respectively, during May 1986. (Note that these are honest and fair comparisons. We have adjusted inflows to eliminate any impacts of consumption.) Unlike the Alabama Power reservoirs, Lakes Allatoona and Carters are located near the headwaters of the basin, have small drainage areas relative to conservation storage, and have a more limited opportunity for refill. Given these conditions, the Corps must be conservative in making releases from Allatoona and Carters.

3. Under the Corps' existing drought contingency procedures for Lake Allatoona, releases from the lake should be decreasing, not increasing, as drought conditions worsen. Allatoona would have to bear most of the burden if the Corps were to provide augmenting releases from the federal reservoirs, and there is nothing in the Corps' authorities or in its plans or guidance for Lake Allatoona to support what Alabama Power is proposing. That the Corps would alter its standard operations in response to such a request further underscores the need for the Corps to keep current and operate in adherence with water control plans.

4. An analysis of the effects of potential augmentation from Allatoona and Carters illustrates the catastrophic effect that it would have on the federal reservoirs. By email dated June 5, 2007, the Assistant Chief, Operations Division for the Corps' Mobile District informed us that the Corps was modeling two augmentation scenarios: one in which the minimum daily release from Allatoona is 565 cfs and the minimum daily release from Carters is 380 cfs (we will call this "Alternative 1"); and another in which the minimum daily release from Allatoona is 890 cfs and the minimum daily release from Carters is 518 cfs (we will call this "Alternative 2"). (We take it that the Corps has suggested that these be modeled to illustrate the effects on the reservoirs and for no other reason, as there is absolutely no resource-based justification for making releases in these amounts.) We modeled these alternatives, as well as a scenario in which the Corps releases the minimum at-site requirement for each reservoir of 240 cfs (which is less than the Corps currently is releasing). We modeled all three scenarios during the drought period of 1986-1988, the drought of record, which is reasonable given that this year's conditions are shaping up to be as bad or worse than that period, and assumed year 2005 water demands. The modeling, as shown in the attached graphs, reveals that providing such augmenting releases from Allatoona and Carters has devastating effects on the federal reservoirs but does not benefit the Alabama Power reservoirs:

(a) Today's reservoir levels resemble those shown for the same time of year (early June) in 1987 under the scenario in which 240 cfs is the minimum release (this scenario is shown in blue on the graph). If the Corps continues releasing 240 cfs, the level in Lake Allatoona still would fall precipitously throughout the summer.

(b) Operating pursuant to Alternative 1, shown in yellow on the attached graph, would deplete all conservation storage, effectively emptying Lake Allatoona by January of 1988 (or January of next year, if hydrologic conditions track or are worse than in 1987-88). Lake Allatoona would not refill in the spring/summer of 1988 and would be emptied again in the summer of 1988. Carters would fall to as low as 1065 feet in January 1988 and approximately 1061 feet in the fall of 1988.

(c) Operating pursuant to Alternative 2 would empty Lake Allatoona for the same periods, although more rapidly, and would draw Carters down to 1050 feet in October 1986 and December-January of 1988, and below 1030 feet in January 1989.

(d) The elevations of Alabama Power's Lake Weiss, H. Neely Henry, and Logan Martin are not significantly improved by the increased releases under Alternative 1 or Alternative 2. The elevations produced by those alternatives are virtually indistinguishable from the scenario in which the Corps releases 240 cfs from Allatoona and Carters. The instances in which elevations of the Alabama Power reservoirs are lower under the 240 cfs-release scenario are offset by other times in which Alternative 1 and Alternative 2 produce lower elevations for the Alabama Power reservoirs (due to the emptying of the federal reservoirs upstream).

5. Alabama Power has not demonstrated any valid resource-based need for greater augmentation from Allatoona and Carters:

(a) Contrary to the representations contained in Alabama Power's email to me dated June 6, 2007 (attached), the levels of the Alabama Power reservoirs are not at record lows. As of June 7, 2007, the elevation of Weiss Lake was 562.42, several feet above its record low and above its historical June low. As of June 7, 2007, the elevation of Neely Henry was 507.08 feet, also above its all-time low and above its historical low

for June of 506.2 feet. While Logan Martin is below its historical low for June, it is above its all-time historical low, and its elevation can be manipulated by releases from storage from the Alabama Power reservoirs upstream. (As discussed below, because Alabama Power refuses to provide us with hydropower and release information for Logan Martin and the other reservoirs, we cannot evaluate why Alabama Power has drawn down Logan Martin proportionately more than its other reservoirs.)

(b) By letter dated June 5, 2007, I requested information from Alabama Power concerning reservoir elevations, hydropower generation, and releases from the Alabama Power reservoirs. The purpose for this request was to allow Georgia and others to better evaluate how the Alabama Power reservoirs are and have been operated, why they are at their current levels, and what those current elevations mean. Alabama Power refused to provide this information and dismissed the request as not relevant. A copy of my letter to Alabama Power and the email that I received in response are attached. Mr. Bowers' response is totally unacceptable given the drastic relief that Alabama Power Company is requesting, the effect upon Georgia that this could have, and the lack of any apparent actual benefit to the Alabama Power reservoirs. While we were able to obtain some reservoir elevation information from Alabama Power's website, we were unable to gather all of the information that is needed to evaluate the status of the Alabama Power reservoirs. Alabama Power's claims about its reservoirs and its request for augmentation from the federal reservoirs lack credibility when Alabama Power is withholding information relevant to the basis for its request.

6. Most importantly, while we do not know precisely what quantity of augmentation that Alabama has in mind, we know that increasing releases from Lake Allatoona and Carters Lake is not likely to improve conditions in the Alabama Power reservoirs or downstream of them. This is illustrated by the above modeling and cannot be over-emphasized. The net increase of releases from the federal reservoirs will constitute a small percentage of the inflows of the Alabama Power projects and will not markedly improve reservoir elevations on a sustainable basis.
Releasing too much water now, on the other hand, could deplete the storage of the federal reservoirs, resulting in lower (even zero) releases in the future and lower elevations in the Alabama Power reservoirs. The large releases depicted in the models, while emptying Lake Allatoona, do not help the Alabama Power reservoirs. And, if the Corps releases less than that, in an effort to augment the Alabama Power projects without emptying Lake Allatoona, it still will deplete precious headwater storage without providing any discernable benefit to the Alabama Power projects or flows downstream of them.

In closing, it should be noted that Georgia is doing its part to "share the pain" of the current drought with its downstream neighbors and is responsibly managing its scarce water resources. We have declared a Level 2 drought in Georgia, resulting in tight outdoor water use restrictions. Within northwest Georgia, many local governments have voluntarily imposed even more stringent water use restrictions. We will keep these measures in place for as long as necessary, until drought conditions improve.

In light of the foregoing, we request that you grant a reduction in the applicable minimum flow below the Alabama Power projects, but that you refrain from increasing releases from Allatoona and Carters reservoirs above current levels or levels dictated under appropriate drought contingency procedures for the federal reservoirs.

Sincerely,

Carol A. Couch

Director

CAC:ypf
ATTACHMENTS
cc: Brig. Gen. Joseph Shroedel, South Atlantic Division Commander, U.S. Army Corps of Engineers
Willard Bowers, Vice President, Environmental Affairs, Alabama Power Company
Mr. Chuck Sumner, Inland Environment Team, U.S. Army Corps of Engineers, Mobile District

Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Suite 1152 East Tower, Atlanta, Georgia 30334
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
Environmental Protection Division
(404) 656-4713

Attachment

June 8, 2007

By Email, Fax and Overnight Delivery
Colonel Peter Taylor
District Engineer
U.S. Army Corps of Engineers, Mobile District
P.O. Box 2288
Mobile, Alabama 36628-0001
Attention: Planning and Environmental Division

Re: Alabama Power Request for Approval to Reduce Minimum Flow on Alabama River and for Additional Releases from Allatoona and Carters

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Sincerely,

Carol A. Couch
Director

CAC:ypf

cc: Brig. Gen. Joseph Shroedel, South Atlantic Division Commander, U.S. Army Corps of Engineers
Willard Bowers, Vice President, Environmental Affairs, Alabama Power Company
Mr. Chuck Sumner, Inland Environment Team, U.S. Army Corps of Engineers, Mobile District

Table 1. Simulation Alternative

Color of Curves	Alternative
Blue (Current operation)	The required minimum flow from Carters and Allatoona is 240 cfs
Orange (Alternative 1)	The required minimum flows from Carters and Allatoona are 380 and 565 cfs respectively
Red (Alternative 2)	The required minimum flows from Carters and Allatoona are 518 and 890 cfs respectively

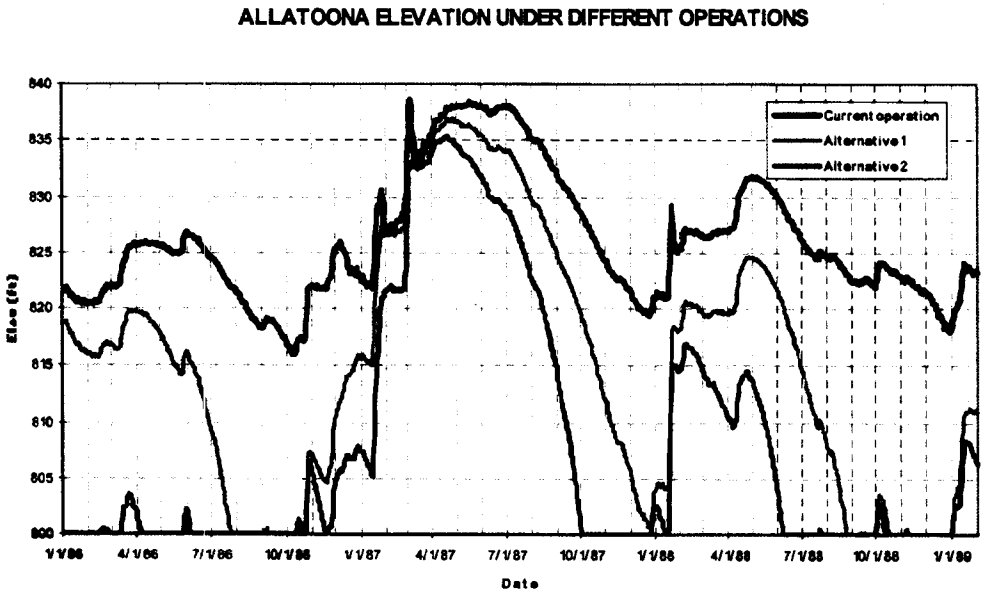

Fig.1 Simulated Lake Allatoona Elevation for the Drought Period 1986-1988

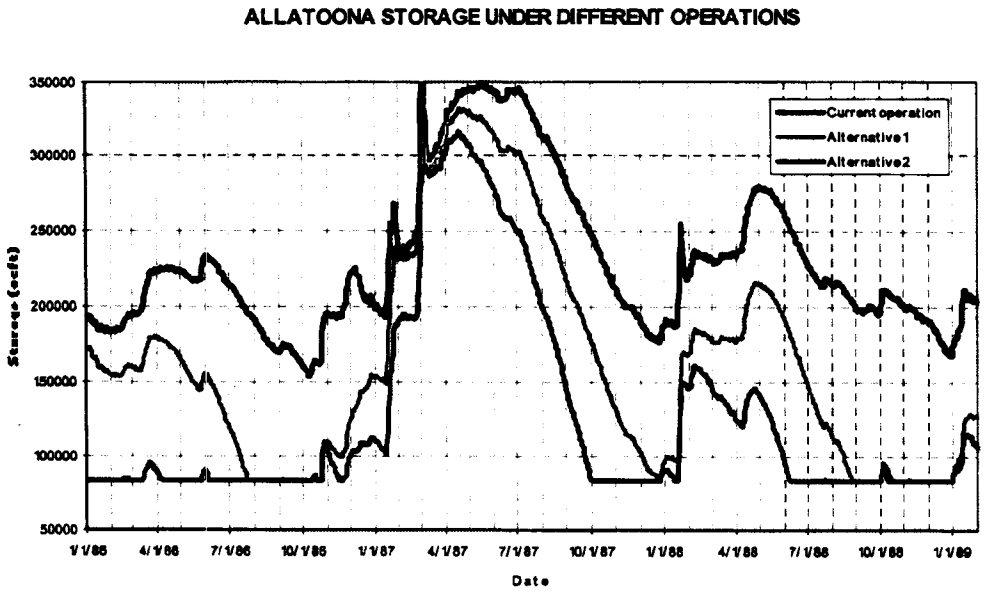

Fig.2 Simulated Lake Allatoona Storage for the Drought Period 1986-1988

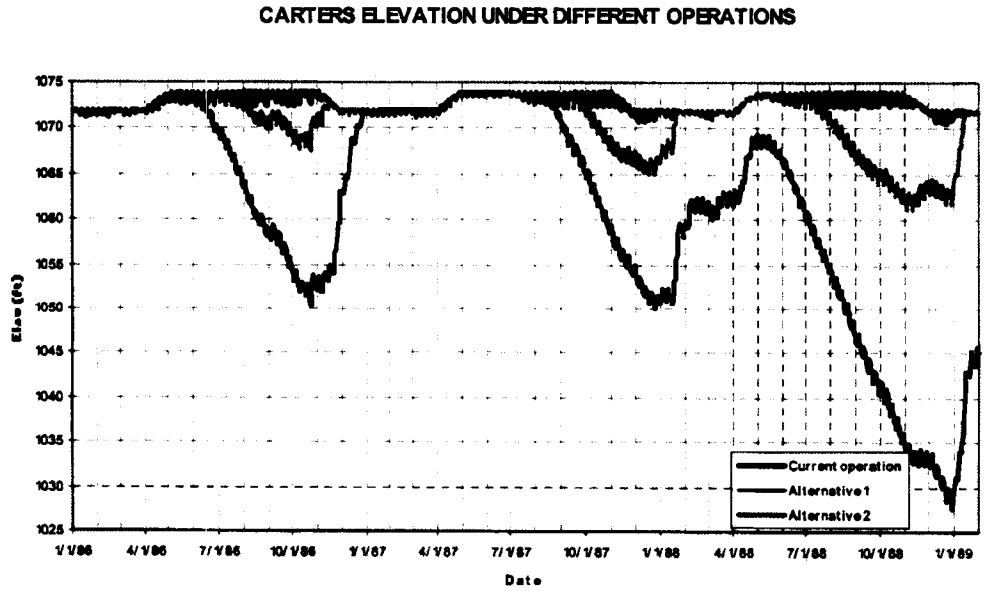

Fig.3 Simulated Carters Elevation for the Drought Period 1986-1988

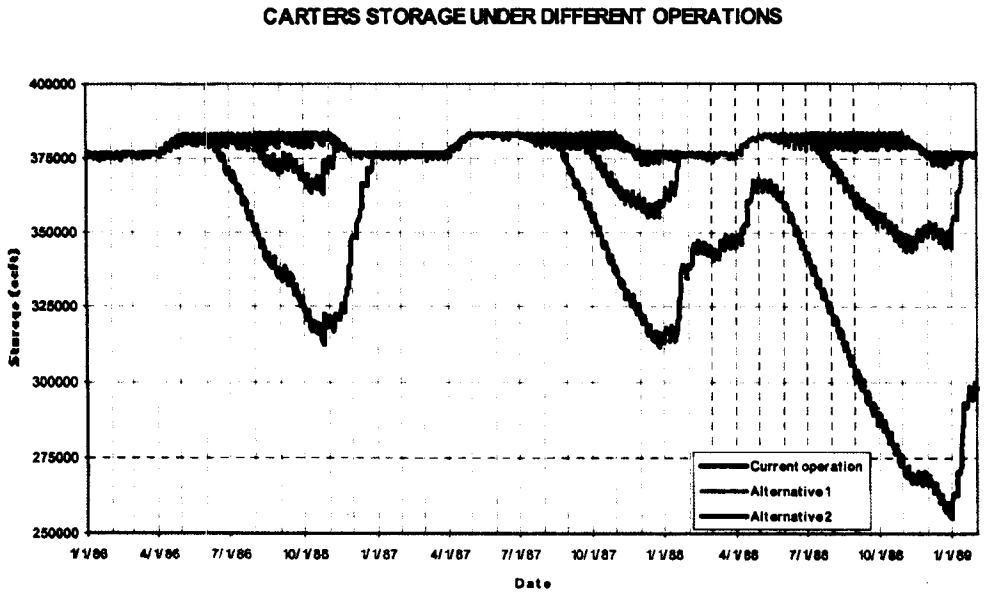

Fig.4 Simulated Carters Storage for the Drought Period 1986-1988

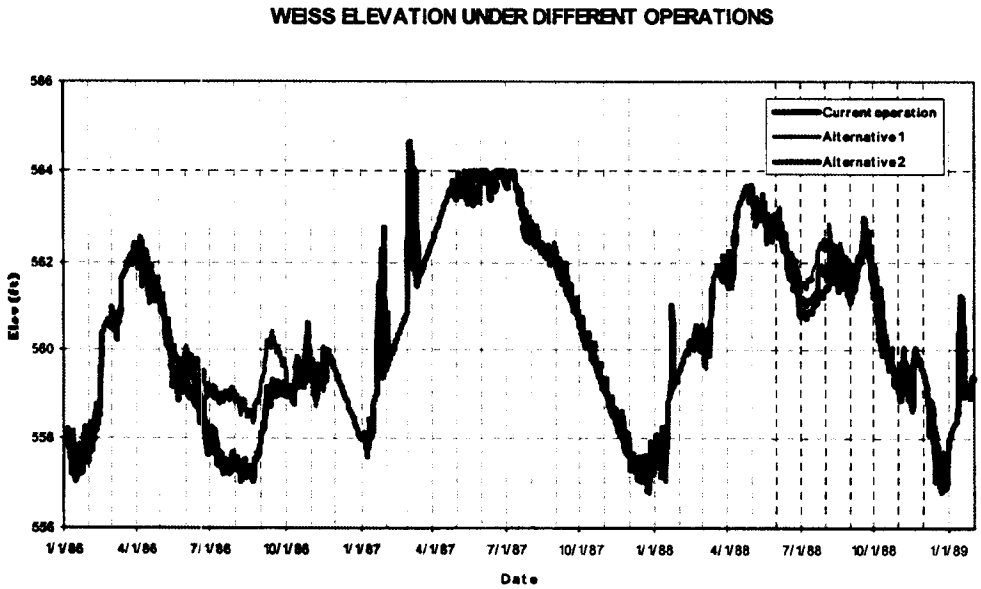

Fig.5 Simulated Weiss Elevation for the Drought Period 1986-1988

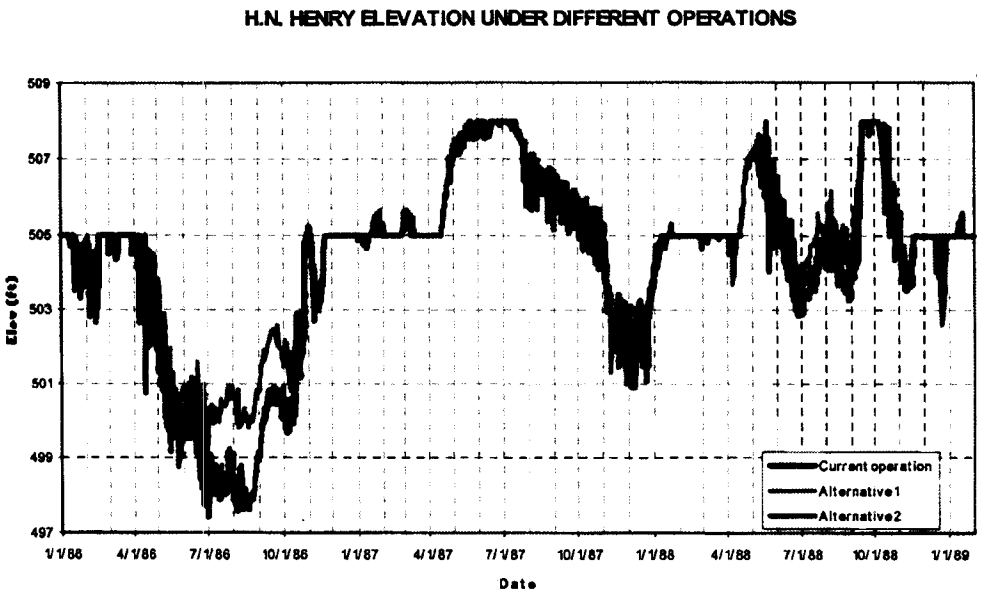

Fig.6 Simulated H.N.Henry Elevation for the Drought Period 1986-1988

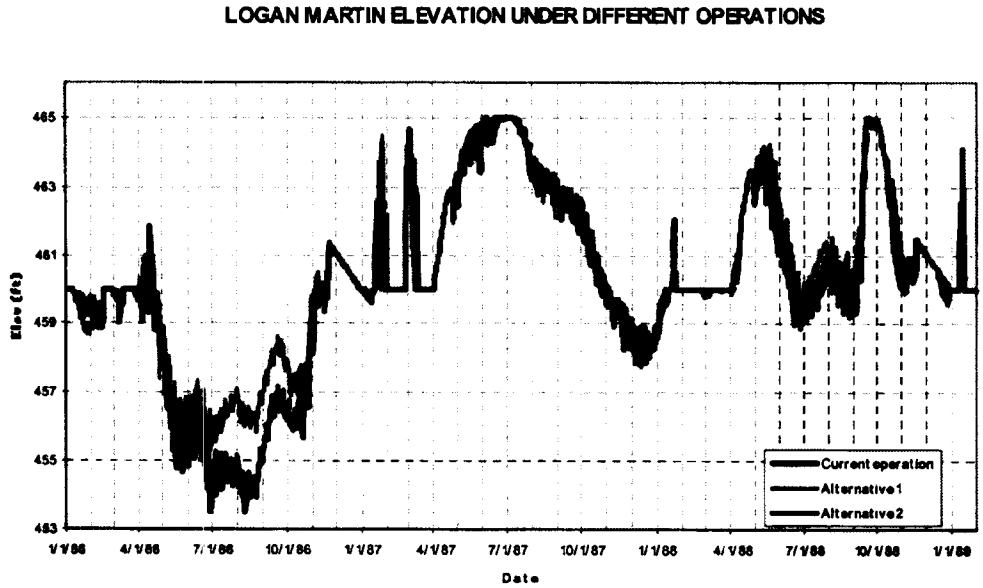

Fig.7 Simulated Logan Martin Elevation for the Dro

Georgia Department of Natural Resources
2 Martin Luther King Jr. Drive, Suite 1152 East Tower, Atlanta, Georgia 30334
Noel Holcomb, Commissioner
Carol A. Couch, Ph.D., Director
Environmental Protection Division
(404) 656-4713

June 4, 2007

By Email, Fax and Overnight Delivery
Willard L. Bowers
Vice President, Environmental Affairs
Alabama Power Company
600 North 18th Street / 12N-0830
P.O. Box 2641
Birmingham, Alabama 35291

Re: Alabama Power Coosa and Tallapoosa Projects

Dear Mr. Bowers:

The State of Georgia has received Alabama Power's proposal for a temporary reduction of the minimum flow agreement between Alabama Power Company and the Corps of Engineers for the Alabama River below Alabama Power's Coosa and Tallapoosa projects. We understand that in conjunction with this request, Alabama Power also is requesting that the Corps increase current releases from Lake Allatoona and Carters Lake in order to provide additional inflow to the Alabama Power projects.

Given the serious drought conditions within the ACT Basin in Georgia this year, Georgia is very concerned about the prospect of the Corps making greater releases from federal reservoirs in the headwaters of the ACT Basin in an effort to raise APC reservoir levels downstream, where inflows and storage capacity are much greater, and the probability of refiling comparatively greater as well. Georgia is carefully reviewing the request and will make comments to the Corps regarding the risks incurred as a result of its implementation.

To assist Georgia in understanding and evaluating Alabama Power's proposed action, we request additional information on historical and current conditions of the Alabama Power projects, specifically as follows:

1. Daily time series pool elevations for the Alabama Power projects on the Coosa and Tallapoosa Rivers since each was placed into operation, up to May 31, 2007.

2. Daily time series power generation for the Alabama Power Coosa and Tallapoosa projects for the same period of record.

3. Daily time series releases for the Alabama Power Coosa and Tallapoosa projects for the same period of record.

4. Historical and/or projected annual pool evaluation duration data from Alabama Power Coosa and Tallapoosa River projects developed in connection with FERC relicensing applications.

Because the Corps has imposed a June 10 deadline on submission of comments on the Alabama Power proposal, this information is needed urgently and quickly. The information should be readily available to you, and you should be able to transmit it to me promptly without undue burden. I would appreciate your providing me with this information by no later than close of business on Wednesday, June 6, 2007. If you cannot provide it to me by then, I would ask that you join me in requesting that the Corps extend the time for Georgia to provide comments on the flow reduction request and that the Corps take no action on the request in the meantime.

Thank you for your assistance.

Sincerely,

Carol Couch
Director

cc: Brig. Gen. Joseph Shroedel, South Atlantic Division Commander, U.S. Army Corps of Engineers
Colonel Peter Taylor, District Commander, U.S. Army Corps of Engineers, Mobile District
Mr. Chuck Sumner, Inland Environment Team, U.S. Army Corps of Engineers, Mobile District

From: "Bowers, Willard L." <WLBOWERS@southernco.com>
To: <ccouch@dnr.state.ga.us>
Date: 6/6/2007 4:12 pm
Subject: Re: Alabama Power Coosa and Tallapoosa Projects - Letter datedJune 4, 2007

CC: <jturner@gov.state.ga.us>, <tsilliman@mckennalo...

Dr Couch,

I have reviewd your letter with my staff and considered your request in light of the current situation. This drought is approaching and will likely establish new records in all aspects of streamflow across the Mobile River Basin. In response to these situations we began reducing releases to minimum levels in February from both our Coosa and Tallapoosa River projects. We were able to bring our Coosa projects to full pool levels by obtaining a variance from the Corp of Engineers. We were unable to fill our Tallapoosa projects even though releases were at a minimum level.

We are still operating at minimum release levels which require 2000 cfs from our Coosa projects to protect the endangered Tulatoma Magnifica and a combination of releases from our Coosa and Tallapoosa projects of 4640 cfs for navigation on the Alabama River. Simply stated this is requiring 2000 cfs from the Coosa and 2640 from the Tallapoosa.

Currently the basin wide inflows for the Coosa and Tallapoosa are 1530 cfs and 185 cfs respectively. Both these continue to fall. Thus, to maintain the minimum flows will require increasing utilization of the storage on both systems. We are projecting that we will be below winter pool levels on all our projects by mid July.

Contrary to your letter, the purpose of our request is not to refill the Alabama Power reservoirs but rather to decrease the rate of drop in reservoir levels. We have requested a reduction in the minimum flow on the
Alabama River and an increse in releases from Allatoona and Carters for that reason. Our reservoirs are at all time record lows and we have depleted over 25 percent of our storage on the Coosa. Meanwhile, Carters and Allatoona contain approximately 300,000 cfs-days of storage.

You requested historical information of daily reservoir elevations, releases, and generation for the period from when our projects were constructed to present. That information is not readily available and we do not understand why it is needed to evaluate a drought condition. I am not going to divert staff time to gather it. You can obtain current informatiion on our projects from the web site http://www.alabamapower.com/lakes/lakeinfo.asp.

Your letter requested that I join you in asking for an extension of the comment period and asking that the Corp take no action if we could not provide the data by close of business today. Given the lack of revelence of the information requested to the evaluation of current conditions, I will not request an extension of the comment period or request that the Corp delay taking action.

Respectfully,

Willard L Bowers

Willard Bowers

-----Original Message-----
From: Carol Couch <ccouch@dnr.state.ga.us>
To: Bowers, Willard L.
CC: jturner@gov.state.ga.us <jturner@gov.state.ga.us>; Todd Silliman <tsilliman@mckennalong.com>;

peter.f.taylor.col@sam.usace.army.mil <peter.f.taylor.col@sam.usace.army.mil>;
joseph.schroedel@usace.army.mil <joseph.schroedel@usace.army.mil>
Sent: Tue Jun 05 10:19:14 2007
Subject: Alabama Power Coosa and Tallapoosa Projects - Letter datedJune 4, 2007

INTERNATIONAL PAPER
Prattville Mill
100 Jensen Road
Prattville, AL 36067
FAX: 334-361-5845

FAX COVER SHEET

DATE: June 8, 2007 **TIME:** 10:27 a.m.

TO: Mr. Chuck Sumner,
Inland Environment Team
FAX NO.:
(251) 694-3815

FROM: Helen Hawkins **PHONE:** (334) 361-5004
Communications Manager

Number of pages including cover sheet: [4]

Mr. Sumner,

Attached are two responses to your public notice – no. FP07-AC01-16 – regarding Alabama Power Company's request for approval to reduce minimum flow on the Alabama River. The first is from our mill manager and the second is a joint letter from our union presidents.

I will mail hard copies to you, but wanted to fax to ensure these met your June 10 deadline.

If you have questions, please call me and the number above.

Thank you,

Helen Hawkins

INTERNATIONAL PAPER
Prattville, Ala., Mill

Department of the Army
S. Army Engineer District, Mobile
Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

International Paper
Prattville Mill
100 Jensen Rd.
Prattville, AL 36067

June 7, 2007

Dear U.S. Army Corps of Engineers,

This letter serves as the Prattville Mill's response to the May 31 public notice regarding Alabama Power Company's request for approval to reduce minimum flow on the Alabama River. While we now understand the needs of Alabama Power, we need your assistance to gain river flow from other sources.

First of all, thank you for your willingness to meet with our mill to discuss water flow requirements as a result of the unprecedented drought conditions in our area. As you are now well aware, this is a serious situation that has the potential to curtail or cease our production efforts if certain measures do not take place. Additionally, we have met with Alabama Power to share and understand each of our vantage points and appreciate their time and attention to this issue.

With Alabama Power's request, our flow will be reduced from 4,640 cubic feet per second (cfs) to 2,784 cfs, and discharge will be curtailed to approximately 10 million gallons per day. This means that on a daily basis, we will have to hold an additional 15 million gallons of water in our waste water treatment system. At this rate, our holding ponds will become full around the end of July, and our production would have to be curtailed or stopped at that point.

The impact of reduced or halted operations would have a devastating impact on our community due to the size of our local footprint. We are the largest employer in Prattville with nearly 600 team members and an annual payroll of approximately $42 million. Additionally, we employ an average of 100 contractors on a daily basis, we generate about $100 million per year for the Forest Products industry, spend more than $100 million in parts and supplies and an average of $30 million in capital projects.

As you are now aware our permit constraints as dictated by the Alabama Department of Environmental Management (ADEM) requires the following regarding our discharge: that

it be based on total river flow, that it be governed by a river flow formula and that it can only occur when effluent release will not cause river dissolved oxygen (d.o.) to fall below 5.0 milligrams per liter.

As we discussed in our meeting on June 5, our mill is doing everything it can to do our part to conserve water, reduce fiber and soda losses and improve effluent treatment. We've seen significant improvement with the measures we've taken. However, we need the following to operate through the summer:

- river flows of 3,712 cubic feet per second
- seven hours of operation at Robert F. Henry Lock & Dam
- river dissolved oxygen levels of greater than 5.0.

With that being said, it is our hope that you will carry out your plans to look at options to release water from reservoirs that will help us meet the outlined criteria. There are several other mills along the river – one in Selma that is also a part of International Paper and several others within our industry that share similar needs.

We realize that the drought has brought about issues that are large in scale – many of which have never been heard of before. It has required numerous entities to come together to express and gain an understanding of needs and concerns, as well as look at viable options that will help alleviate this dire situation until we get much need rainfall. It is our hope that a solution can be developed that will have a positive outcome.

On behalf of the entire Prattville Mill team, thank you for your time and consideration. We look forward to hearing from you.

Sincerely,

J Siembida

Jeannine Siembida
Prattville Mill Manager

INTERNATIONAL PAPER
Prattville, Ala., Mill

Department of the Army
S. Army Engineer District, Mobile
Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

International Paper
Prattville Mill
100 Jensen Rd.
Prattville, AL 36067

June 7, 2007

Dear U.S. Army Corps of Engineers,

This letter serves as the Prattville Mill's joint union response to the May 31 public notice regarding Alabama Power Company's request for approval to reduce minimum flow on the Alabama River. While we now understand the needs of Alabama Power, we need your assistance to gain river flow from other sources.

As you are well aware, the drought conditions in our area are very serious. Our union members are extremely concerned about the potential impact to operations and to our community. If our production is curtailed or stopped, the impact to our team members and our community would be devastating. Thank you for your willingness to meet with our mill leadership to discuss water flow requirements as a result of these unprecedented conditions.

It is our understanding that based on the conversations you have had with our mill leadership and other companies in the area, you have committed to study and share potential options to release water from reservoirs in hopes of helping us avoid a major catastrophe. We look forward to hearing more about what viable options you are exploring and hope that a positive outcome will prevail for all involved.

On behalf of the Prattville Mill unions, thank you for your time and attention to this very important issue.

Sincerely,

Daryl Hall
President
Local 1978

Eddie McDonald
President
Local 1458

George McKeithen
President
Local 462

2544 WILLOW POINT ROAD, ALEXANDER CITY, AL 35010
(256) 212-1464 FAX (256) 212-1444

RUSSELL LANDS, INC.

Fax

To:	Mr. Chuck Sumner	**From:**	Steve Forehand
Fax:	(251) 694-3815	**Pages:**	3, incl. cover
Phone:		**Date:**	June 8, 2007
Re:		**CC:**	

x **Urgent** x **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

● **Comments:**

LAKE MARTIN RESOURCE ASSOCIATION (LMRA)
2544 Willow Point Road
Alexander City, AL 35010
(256) 329-0835

June 8, 2007

VIA FACSIMILE – (251) 694-3815

District Engineer
Attn: Planning and Environmental Division
U.S. Army Engineer District, Mobile
P.O. Box 2288
Mobile, Alabama 36628-0001

Re: Public Comment on Public Notice No. FP07-AC01-16
Alabama Power Company Request for Approval to Reduce Minimum Flow on the Alabama River

Dear Sir or Madam:

On behalf of the Lake Martin Resource Association, Inc. ("LMRA"), I am submitting these comments on the above-referenced Public Notice. LMRA is an organization of persons interested in preserving and promoting the recreational and ecological uses of the Tallapoosa River reservoir known as Lake Martin.

LMRA was formed in the 1970's primarily to intervene in the re-licensing proceedings involving Alabama Power Company ("APCO") and the Federal Power Commission (now known as the Federal Energy Regulatory Commission) on behalf of recreational users and property owners on Lake Martin. Members of LMRA include property owners or renters near or adjacent to Lake Martin, boaters, fishermen, and other interested parties. During the course of the re-licensing proceedings, LMRA played a central role in brokering compromise agreements among APCO, itself and other intervenors.

LMRA's activities continue to focus on the betterment of Lake Martin for all its users. In recent years, many of its projects centered on improving boating safety and cleanliness of Lake Martin. LMRA currently represents 1,160 active members.

The request of APCO to reduce the flow of water leaving Lake Martin comes at a critical time due to the prolonged drought that has struck Alabama. Recreational use of Lake Martin is at its highest level during summer months. The unseasonably low water level has created a continuing concern over safety of boaters. Many boaters who use the lake during the typically high water level summer months are unaware of certain hazards to safe navigation when the water level is at the current low level. As the water level continues to drop, even experienced boaters could be at risk of hazards that have not been exposed since the early 1970's due to the current limit on the winter drawdown level. Continued reductions in the water level will have a chilling effect on the recreational use by these boaters.

As the water level continues to decline during the summer months, the lower level will result in a reduction of available fish habitat during the time when young fish need the cover provided by the lakeshore at the traditional summer water level. This habitat reduction, combined with increased water temperature and corresponding reduced dissolved oxygen levels, could have a devastating effect on the fish population of Lake Martin. Increased retention of water in Lake Martin is necessary to minimize this damage.

Continued deterioration in the water level of Lake Martin could adversely affect water intake points for withdrawal of potable water. Those intake points could experience cavitation and pump performance problems if the water level continues to drop. Continued deterioration of the water level could also result in lower flow rates at municipal sewer discharge points and potentially degrade the quality of the water in Lake Martin. Lake Martin has enjoyed a reputation as one of the cleanest lakes in the South. Adequate flow is critical to maintain that cleanliness.

For the above stated reasons, LMRA supports APCO's request to reduce minimum flow on the Alabama River. While we recognize that downstream users have their own priorities, it is patently unfair to require one group of users to suffer a greater detriment than another when mitigation of the damage to Lake Martin users seems within easy reach. Spreading the availability of the resource among all interested users is the more equitable approach.

Lake Martin Resource Association encourages the Planning and Environmental Division to recommend approval of APCO's request.

Very truly yours,

Steve R. Forehand

Steve R. Forehand
On behalf of LMRA

Pam Alford

From: Pam Alford
Sent: Friday, June 08, 2007 2:16 PM
To: 'lewis.c.sumner@sam.usacae.army.mil'
Subject: reduction of flow

Mr.Sumner, I have a boat sales and service business on Lake Allatoona. My business totally survives on the summer boaters. If you drop the lake it will have a detrimental effect on my business.I would like to go on record as one who does NOT want to see a flow reduction at Allatoona.

Pam Alford
Store Manager
Marinemax Allatoona (Master Dealer)
(770)966-8266
(770)540-3002

CHRIS McWHIRTER

3941 Harts Mill Lane
Atlanta, Georgia 30319
770/454-7829 Phone
770/454-7829 Fax

Send to: District Engineer, U.S. Army Engineer District	**From:** Chris McWhirter
Attention: **Chuck Sumner**	Date: June 9, 2007
Office location: Mobile, Alabama	Office location: Atlanta, Georgia
Fax number: 251/694-3815	Phone number: 770/454-7829

☒ Urgent ☐ Reply ASAP ☐ Please comment ☐ Please review ☐ For your information

Total pages, including cover: 2

Comments: Alabama River Flow Reduction near Montgomery

Mr. Sumner,

Please find attached email that was sent on June 9, 2007. Apparently, there is a problem with your email address and would not receive this transmission.

Chris

Subj: **Alabama River Flow Reduction near Montgomery**
Date: 6/9/07 2:53:59 PM Eastern Daylight Time
From: TYSON1956
To: lewis.c.sumner@sam.usacae.army.mil

Mr. Chuck Sumner - Inland Environment Team,

Received a copy of the public notice #FP07-AC01-16 today, June 9, 2007. Noticed was not mailed from your office until June 7th.

Our family farm is located in Montgomery County and we have approximately three (3) miles of river frontage on the Alabama River. We never had any problems in the previous three generations with erosion on the river until it was dammed up in the early 1970s. Apparently, when a study was done many years ago, the original level of the river was in a clay bank and now the dammed up level or current pool level is in a sand & gravel bank. Unfortunately, we have lost many acres and hundreds of old growth hardwood trees to this erosion. Recently we have noticed that the river smells like rotten fish and have seen dead fish wash up on our shore. There seems to be much more algae growth in the river than in the past, as well as, we have noticed several dead mussels on our shore. Before the river was dammed up, the water was much cooler and we had enormous amounts of clams & mussels on our shoreline. We actually caught trout out of the river, as well as, rafted down in the pre-dammed era (before 1970s). It would be a great and wonderful thing to have a natural & free flowing river once more.

There is very little waterborne recreation and navigation on our part of the river. It might be a beneficial idea to turn the river back into a free flowing natural river and this would help the lake levels to stay at full pool, and allow more people to enjoy the recreational aspects of the affected lakes. It would also help Alabama Power generate more power.

Thank you for all your consideration in this matter.

Chris McWhirter
tyson1956@aol.com

****
See what's free at http://www.aol.com.

Sumner, Lewis C SAM

From: April Hall [ahall@alabamarivers.org]
Sent: Monday, June 11, 2007 3:57 PM
To: Sumner, Lewis C SAM
Subject: Public Notice FP07-AC01-16

Attachments: ara comments on apc drought flow request 6-07.pdf

ara comments on apc drought fl...

Please find attached the comments of the Alabama Rivers Alliance for the above referenced public notice.

April

April Hall, P.E.

Watershed Protection Specialist

Alabama Rivers Alliance

2027 Second Avenue North, Suite A

Birmingham, Alabama 35203

(205) 322-6395

fax 322-6397

www.alabamarivers.org

www.AlabamaWaterAgenda.com

Alabama Rivers Alliance
Water Is Life

June 11, 2007

District Engineer
U.S. Army Corps of Engineers, Mobile District
Attn: Planning and Environmental Division
P.O. Box 2288
Mobile, Alabama 36628-0001

RE: Public Notice Number FP07-AC01-16
Proposed Reduction in Flows on Alabama River

Dear Sir or Madam:

On behalf of the Alabama Rivers Alliance (Alliance), I submit these comments in response to the above-referenced public notice for the proposed reduction in flows from Alabama Power dams. If permitted, this project will reduce the currently required flow releases from Alabama Power dams on the Coosa and Tallapoosa Rivers by 40 percent.

The Alliance is a 501(c)3 organization dedicated to the protection and restoration of the rivers of Alabama. We represent more than 750 individuals and 70 grassroots groups from across the state.

The Alliance recognizes that the current drought situation is severe in most parts of the state. We also recognize that there are multiple uses of our state's waters: drinking water, navigation, recreation, irrigation, waste assimilation, and uses by fish and wildlife. While the prioritization of human uses of the river is complex and based on many factors, the Corps must also consider the needs of the aquatic species living in these river systems, especially state and federally protected species.

Water Quality

We are aware that there are several permitted facilities in the Alabama basin that discharge waste water. We are concerned about the relationship between the NPDES permits and the record low flows and how this will impact water quality. It is likely that current flows are or will become lower than 7Q10 flows sometimes used to calculate NPDES permit limits. Water quality standards must be maintained in the river, either through increased flows in the system, reduced flows from the discharge facility, or stricter permit limits. We understand that the Alabama Department of Environmental Management is responsible for NPDES permits, but the Corps must ensure that these water quality issues have been addressed prior to authorizing the proposed reduced flows.

Alternatives

The Alliance requests that the Corps give serious consideration to alternatives to the large reductions in flow as proposed by Alabama Power. Water and power conservation is a

2027 Second Avenue North, Suite A
Birmingham, Alabama 35203 * (205) 322-6395
www.AlabamaRivers.org

reasonable alternative, especially during this severe drought. Threats to municipal and industrial water supply as well as power demand can be reduced through comprehensive conservation programs.

Since drought is impacting a majority of the Alabama-Coosa-Tallapoosa system, releasing inflows (or a portion of inflows) from each storage dam on the system (including Carters and Allatoona) would provide flows in equal proportion to all users and would mimic the natural, albeit low, flows occurring in the system. Inflows released from the upstream dams in Georgia could also help alleviate some of the problems occurring in Alabama reservoirs. This water balance approach (outflow equals inflow) would also ensure that stormwater is passed through the system.

End of Relief
Although this proposal is for temporary relief, a specific end date for this proposal is not included in the public notice. Any authorization issued by the Corps should contain a mechanism for concluding this temporary relief and resuming required flows.

* * * * *

We appreciate the opportunity to submit comments on the proposed flow reductions. If you have any questions regarding this submittal, please contact me at (205) 322-6395 or ahall@alabamarivers.org. Thank you for your consideration of these comments.

Sincerely,

April Hall, P.E.
Watershed Protection Specialist

Sumner, Lewis C SAM

From: Kathy Young [ky30189@comcast.net]
Sent: Monday, June 11, 2007 1:44 PM
To: Sumner, Lewis C SAM
Cc: rpapaleoni@premier-management.biz
Subject: Water given to Alabama

Mr. Sumner,

Please reconsider allowing Alabama Power to take 5 feet from an already low Lake Allatoona. The lake is dropping daily due to our drought here in Georgia and is currently at a very dangerous level. Also, my taxes have increased an average of $30,000.00 per year for the past 4 years due to the fact that I am considered to be lakefront. My dock is almost on the ground and will certainly be if Alabama Power is allowed to take any water at all. If Alabama Power is willing to pay my taxes, then and only then, would I be willing to give up the water.

Regards

Kathy Young
126 Cedar Drive
Woodstock, GA 30189
Phone: 678-494-4393
Fax: 800-557-4958
Toll: 800-982-2297, ext. 1516
ky30189@comcast.net

Sumner, Lewis C SAM

From: Taylor, George [george.taylor@opc.com]
Sent: Monday, June 11, 2007 11:48 AM
To: Sumner, Lewis C SAM
Subject: Alabama Power Co. request to reduce minimum flow on Alabama River

Attachments: Alabama Power Co. request to reduce minimum flow on Alabama River

Alabama Power Co. request to r...

FYI.

Southeastern Federal Power Customers, Inc.

SeFPC,Inc.

Alabama Electric Cooperative, Inc.
Andalusia, AL 36420-0550

Alabama Municipal Electric Authority
Montgomery, AL 36103-5220

Big Rivers Electric Corporation
Henderson, KY 42419-0024

Blue Ridge Power Agency
Danville, VA 24541-3300

Central Electric
Power Cooperative, Inc.
Columbia, SC 29202-1455

Central Virginia
Electric Cooperative
Lovingston, VA 22949

East Kentucky Power Cooperative
Winchester, KY 40392-0707

East Mississippi Electric
Power Association
Meridian, MS 39302-5517

Electricities of North Carolina, Inc.
Raleigh, NC 27626-0513

Jim Woodruff Customers
Madison, FL 32340-0208

Municipal Electric Authority
of Georgia
Atlanta, GA 30328-4640

Municipal Energy Agency
of Mississippi
Jackson, MS 39201-2898

North Carolina Electric
Membership Corporation
Raleigh, NC 27611-7306

Oglethorpe Power Corporation
Tucker, GA 30085-1349

Orangeburg Department of
Public Utilities
Orangeburg, SC 29116-1057

Piedmont Municipal Power Agency
Greer, SC 29651-1236

Saluda River Electric
Cooperative, Inc.
Laurens, SC 29360-0929

Santee Cooper
Moncks Corner, SC 29461-2901

South Mississippi Electric
Power Association
Hattiesburg, MS 39404-5849

Virginia Cooperative Preference
Power Customers
Harrisonburg, VA 22801-1043

Virginia Municipal Electric
Association #1
Harrisonburg, VA 22801-3699

June 8, 2007

Colonel Peter F. Taylor, Jr.
Commander, Mobile District
U.S. Army Corps of Engineers
Attention: CESAM-DE
P.O. Box 2288
Mobile, Alabama 36628-0001

Dear Colonel Taylor:

Subject: Alabama Power Co. (APC) Request for Approval to Reduce Minimum Flow on Alabama River

I am writing in response to the May 31, 2007 Public Notice by the U.S. Army Corps of Engineers (Corps) regarding the subject request. The members of the Southeastern Federal Power Customers, Inc. (SeFPC), are beneficiaries of the Congressionally authorized federal hydropower operations by the Corps in the Alabama-Coosa-Tallapoosa (ACT) River Basin, and thus would be directly affected by the proposed actions.

Members of the SeFPC purchase power from the Southeastern Power Administration (SEPA), which markets the power generated at the Corps facilities throughout the Southeast including the four projects in the ACT River Basin. SEPA markets the power generated at federal reservoirs to municipal systems, rural electric cooperatives, and other wholesale customers throughout the Southeast. The SeFPC represents some 238 rural cooperatives and municipally owned electric systems in the states of Alabama, Georgia, Mississippi, Kentucky, North Carolina, South Carolina, Florida, and Virginia, which purchase power from SEPA. Many members of the SeFPC rely upon the capacity and energy provided by these resources, which are integrated with other Corps hydroelectric projects in Georgia, Alabama and South Carolina and marketed by SEPA to power customers in Mississippi, Alabama, Georgia, Florida, and South Carolina.

We do not oppose the APC request to reduce the minimum releases from their storage reservoirs. However, APC has not only requested a reduction in flow from its projects, it has also requested an increase in releases from the Corps' Carters and Allatoona projects over and above those releases otherwise required by the Corps drought operations. We do oppose this request. Carters is a 575 MW pumped storage hydroelectric project, while Allatoona includes 82 MW of hydroelectric capacity. These projects provide a significant portion of the capacity and energy contracted by SEPA. Further, the capacity at Carters is supported primarily by the pump units. Without water retained in the lower reservoir, the upper reservoir cannot sustain full output.

The SeFPC urges the Corps not to deviate from its existing drought operation plans for Carters and Allatoona to support non-authorized purposes and benefit private industry, as requested by APC. As discussed below, SeFPC disagrees with the Corps' assertion that the Flood Control Act of 1944 (FCA '44) gives it the authority to augment downstream flow for the purposes requested by APC.

The Corps' notice provides no information regarding the agreement between APC and the Corps, nor the conditions in the Federal Energy Regulatory Commission (FERC) license that support the request. However, nothing in FCA '44 gives the Corps the authority to augment flows for privately held projects licensed by the FERC. Even considering FCA '44 in the most favorable terms to the Corps, the proposed action does not fall within the grant of authorities provided by Congress. Therefore, the SeFPC disagrees with the Corps' assertion that FCA '44 affords the Corps broad discretion to manage the reservoirs in the manner set forth in the May 31 notice. None of the underlying authorizations for the Carters and Allatoona projects supports the action contemplated by the request. In making its decision, the Corps cannot consider factors simply because they may seem relevant to others, but instead must limit itself to operation of the reservoirs within Congressional authorization.

The current Corps drought contingency plan for Allatoona and Carters recognizes the need to preserve storage during droughts to provide maximum benefits to authorized purposes. Due to the current drought, releases from the Corps' reservoirs in the GA-AL-SC system have been restricted to those necessary to deliver the minimum contract energy quantities under SEPA's contracts with its customers. Those contract minimums increased beginning June 1, and will increase again in July and August. Supplemental releases at this early stage of the existing drought will threaten the availability of hydropower production throughout this summer and potentially longer. Being much larger projects, the potential loss of capacity at these projects during this coming summer would impact the reliability of the electric system much more than reduced capacity at the APC projects. Therefore, while we do not oppose the APC request to reduce the minimum releases from their storage reservoirs, we do strenuously object to an increase in releases from Carters and Allatoona to augment downstream flows.

The SeFPC and its members are vitally interested in the operation of the Carters and Allatoona projects due to the direct impact on our contracts with the federal government, acting through SEPA. Please keep me informed of all actions taken and proposed to be taken by the Corps in this matter.

Sincerely,

Chart Bonham, Chairman
Water Storage Reallocation Committee

c: Jon Worthington, Administrator, SEPA

Sumner, Lewis C SAM

From: Jerry Sailors [cariainc@bellsouth.net]
Sent: Monday, June 11, 2007 11:34 AM
To: Sumner, Lewis C SAM
Cc: Fuller, William W SAM
Subject: CARIA Comments on Alabama Power Company Proposal to Reduice Minimum Flow Releases

Attachments: Min. flow release letter to COE.pdf; image001.jpg

Min. flow release letter to CO... image001.jpg (6 KB)

Chuck

Attached is a letter from the Coosa-Alabama River Improvement Association with comments regarding the proposal by Alabama Power Company to reduce weekly minimum flow releases into the Alabama River.

Please contact me with any questions.

Jerry L Sailors

President, CARIA

(334)265-5744

(334)265-6248 Fax

(334)324-6134 Cell

COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC.

300-A Water Street, Suite 307
Montgomery, Alabama 36104-2558
(334) 265-5744 Fax (334) 265-6248
Email: cariainc@bellsouth.net
Website: www.caria.org

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Ralph O. Clemens, Jr.
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Montgomery, Alabama

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Vice President - Georgia
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Slade Hooks, Jr.
Vice President - Alabama
Mobile, Alabama

Robert L. Henry, Jr.
Secretary-Treasurer
Montgomery, Alabama

ADMINISTRATION

Jerry L. Sailors
Executive Vice President

June 11, 2007

Colonel Peter F Taylor, Jr.
District Engineer
US Army Engineer District, Mobile
PO Box 2288
Mobile, AL 36628-0001

Dear Colonel Taylor:

The proposal by Alabama Power Company (Public Notice No. FP07-AC01-16) to reduce the weekly average minimum flow into the Alabama River from 32,480 cubic feet per second (cfs) to 19,488 cfs represents a major change in the operating envelope supporting functions on the Alabama River. The proposal is spawned by drought conditions in our area unlike any we have seen in our lifetime. In our view, the drought is any extraordinary event, which requires extraordinary measures to minimize the potentially devastating effects of an extended period of dry conditions.

The Coosa-Alabama River Improvement Association is made up of members from the municipalities, counties, industries, small businesses, and individuals from Rome, Georgia, to Mobile, Alabama. These members represent the gamut of functions supported by the Coosa and Alabama Rivers: navigation, hydropower, recreation, water supply, and environmental safety. Many of our members are submitting their own comments regarding the proposal, so I will not elaborate on the impacts on the electrical generation, paper, recreation, or environmental safety industries. I understand some of these businesses face complete shutdown without sufficient water flow to sustain operations.

As you know, the minimum flow release by Alabama Power Company augments the natural flows of the Alabama River to support various functions, but navigation is cited in correspondence I have seen as the driving force behind those releases. Currently, navigation on the Alabama River has been brought to a virtual standstill due to the lack of dredging, exacerbated by the low flows caused by the drought.

The Alabama River navigation channel has not been dredged since July 2005 when Hurricane Dennis caused sufficient shoaling to essentially close the channel to barge transportation. Except for a few months during the "rainy" season the past two years, channel depths have restricted barge loads to either light loading or nothing at all. Lack of federal funding has prevented further dredging. As a result, there have been major adverse impacts on the operations of those businesses using barge transportation. With the one exception of tank barges supporting the South Carlton Operating Company, which operates oil fields between River Miles 14 and 19, all other commercial barge operations have ceased. South Carlton is currently running light loads of two barges per month on the average at 40% capacity.

Additionally, the Corps has had to shut down the Robert F Henry Lock because low flows have hindered the operation of the downstream gate to the lock, closing off all waterborne traffic from the Montgomery area.

Given the current state of the navigation channel, in which depths below Claiborne Dam are down to five feet and Henry Lock is closed, the reduction of flows proposed by Alabama Power Company would not have an immediate, short-term impact on the majority of navigation users on the Alabama River.

In the long term, however, unless we get sufficient rain to help alleviate the impacts of the drought, the proposed reduced flow could impact future efforts to dredge the channel, for which federal funding has been made available in FY 2007. CARIA has been discussing with Mobile District the best way to use those funds, and while not final, it appears dredging operations could begin as soon as August 1, 2007.

It is important to have a fully operational channel as soon as possible as several businesses are relying on its availability. Alabama River Pulp Company is expending in excess of $100,000 a month to transport fuel oil by truck to its site in Monroe County. Roberts Sand & Gravel is losing over $100,000 a month in revenue. South Carlton Operating Company is operating at 40% barge capacity. Dixie Pellets Company, a $130 million investment with 107 jobs in Dallas County, plans to start barge operations in the early fall, which will result, at full operations, in 500,000 tons of wood pellets a year being moved on the river. And I have had strong overtures from a sand and gravel company that wants to move approximately 300,000 to 500,000 tons of aggregates down the river as soon as a channel is available.

It is CARIA's position that all functions supported by the Alabama River assist in minimizing the effects of an extreme drought. We think it is prudent to do what is necessary to address the current conditions. We urge the Corps to consider any and all measures to this problem, including additional releases from Carters Lake and Allatoona, reduction of interbasin transfers between the ACT and ACF, and minimum reservoir levels to allow hydropower generation to meet peak electrical demands.

In our opinion, any solution must serve the most critical survival and economic needs of the population. In that scenario, hydropower, water supply and quality, and navigation would outrank recreation

Should the Alabama Power proposal be approved, we urge a mechanism be put in place to return the required minimum weekly flows release to its current level of 32, 480 cfs as soon as conditions permit.

Sincerely,

Jerry L. Sailors
President

Sumner, Lewis C SAM

From: Rives, Rod N. [rivesro@dot.state.al.us]
Sent: Monday, June 11, 2007 11:05 AM
To: Sumner, Lewis C SAM
Subject: Alabama Power's proposal to reduce water flow at Lake Martin dam

I believe the cut off date for public input was 10 calendar days from March 31st and this is likely being sent to late, nevertheless, I have not heard a public release to a decision, so I want to provide my input if there is still time.

I do not believe that reducing water flow at Martin dam is a solution for the entire state. I realize from living on one of Alabama's lakes that residents of Lake Martin see this as the only way to continue to enjoy their lake throughout the summer and feel that otherwise the water is just being emptied into remote parts of the river in its journey to the gulf.

But there are many other residents of Alabama who enjoy or even depend upon water resources in the rivers below Martin dam. And they are already suffering losses of the water resource as well, but to remove more will make portions of the Alabama River and other smaller rivers impassible by vessel transportation.

I traveled the entire Alabama river last year from where it joins the Coosa and Tallapoosa in Montgomery to Little River and on through the delta into the Mobile Bay. Even last year, the water was at a low I have not witnessed before. I could see high above me where I would stop on the bluffs in years prior. Portions I passed over had depths less than 9 feet and will surely be lower this year.

I imagine that reducing the fresh water flow into the bay will increase brackish water flow northward into the river and destroy ecologies that probably aren't fairing well already this year.

The U.S. Drought Monitor Forum reports portions of Northern Alabama, including the county I currently hold residence at D4 drought, and while slow reductions may prove to reduce intensity in this area to provide relief, I would think the meter of those reductions would better be determined at small increases to the percentage. Instead of a 10% reduction in flow, perhaps a schedule of reductions at smaller percentages would better serve all.

Rod Rives

P 205.581.5679

F 205.581.5683

L 99*3047

Sumner, Lewis C SAM

From: Ed Mullinax [emullinax@cityofcartersville.org]
Sent: Monday, June 11, 2007 8:57 AM
To: Sumner, Lewis C SAM
Subject: FW: CITY OF CARTERRSVILLE RESPONSE TO APC REQUEST FOR FLOW MODIFICATION FROM LAKE ALLATOONA

Attachments: RESPONSE TO APC REQUEST FOR INCREASED RELEASES FROM ALLATOONA.pdf

RESPONSE TO APC REQUEST FOR IN...

From: Ed Mullinax
Sent: Friday, June 08, 2007 5:36 PM
To: 'lewis.c.sumner@usacae.army.mil'
Subject: FW: CITY OF CARTERRSVILLE RESPONSE TO APC REQUEST FOR FLOW MODIFICATION FROM LAKE ALLATOONA

From: Ed Mullinax
Sent: Friday, June 08, 2007 5:31 PM
To: 'lewis.c.sumner@sam.usacae.army.mil'
Cc: Jim Stafford; Sam Grove; 'LAPA - General Manager'
Subject: CITY OF CARTERRSVILLE RESPONSE TO APC REQUEST FOR FLOW MODIFICATION FROM LAKE ALLATOONA

Mr. Sumner,

Attached is a letter stating the position of the City of Cartersville, Georgia on the request by Alabama Power Company for increased water releases from Lake Allatoona. In short, we are strongly opposed to this request. We feel this measure will at best provide short term relief for low flows in the Alabama river but will result in a long term reduction in the stored water supply for our region during one of the worst droughts on record. Water users in the upper Etowah River drainage basin and Lake Allatoona area have complied with water conservation restrictions to maintain storage levels within Lake Allatoona. The water resources of the Lake represent the economic life blood of our region. We feel the increased releases from the lake discussed on page 2 of Public Notice No. FP07-AC01-16 are in nobody's best interest. Such releases would reduce our supply of water and may even have the ultimate impact of reducing water available for future releases to sustain flows of the Alabama River.

Sincerely,

Edmund L. Mullinax, P.E.

Assistant Director/Department Engineer – City of Cartersville Water Department

Bartow County Board Member – Lake Allatoona Preservation Authority

City of Cartersville
WATER DEPARTMENT

June 8, 2007

Mr. Chuck Sumner
Inland Environment Team
U.S. Army Engineer District, Mobile
Post Office Box 2288
Mobile Alabama 36628-0001

Re : Propose Modification of Flows From Lake Allatoona
Public Notice No. FP07-AC01-16

Dear Mr. Sumner,

This letter is written to express the grave concerns of the City of Cartersville, Georgia regarding water releases from Allatoona Dam as requested by Alabama Power and presented in the above referenced Public Notice form the U.S. Army Corps of Engineers. The City of Cartersville Water Department receives their water supply from Lake Allatoona. The government officials of the City of Cartersville and the management of the Cartersville Water Department strongly oppose providing additional releases from the lake to augment low flows in the Alabama River.

Increased water releases from Allatoona Lake will have an undeniable negative economic and environmental impact on our region. Any excess water released from the lake now will definitely result in less stored water available later on as the current drought continues. This could ultimately impair our ability to meet the water supply needs of residential and industrial customers in our area. Any lowering of the lake water elevation directly results in lessened recreational opportunities there. Recreational activities Lake Allatoona provide a significant economic benefit to our City and County. More importantly, lower water levels in the lake result in reduced

P.O. Box 1390 • 148 Walnut Grove Road • Cartersville, Georgia 30120
Telephone: 770-387-5653 • Fax: 770-606-2386 • www.cityofcartersville.org

water quality which in turn has negative impacts on, fish, wildlife, wetlands, shoreline erosion and general environmental concerns. This reduced water quality in turn presents greater difficulty in drinking water treatment. All these impacts are to the detriment of our community which has practiced water conservation to allow the accumulation of the storage water in Lake Allatoona.

The proposed increased releases from Allatoona will only provide temporary relief to low stream flows in Alabama, but will result in long term reductions in stored water to meet our economic and environmental needs. We do not feel increased water releases from Lake Allatoona is a prudent course of in action during the drought we are now experiencing.

Sincerely,

Edmund L. Mullinax

Edmund L. Mullinax, P.E.

Assistant Director/Department Engineer – Cartersville Water Dept.
Bartow County Board Member – Lake Allatoona Preservation Authority.

Sumner, Lewis C SAM

From: Barbara Alcorn [barbara_alcorn@yahoo.com]
Sent: Saturday, June 09, 2007 9:49 PM
To: Sumner, Lewis C SAM
Cc: barbara_alcorn@yahoo.com
Subject: Allatoona Lake Level

Sir,

I am not quite sure of all of the ramifications of the proposed release of Allatoona Lake to help supply Alabama Power, but I do know of one. I have bought a house here in Acworth in a subdivision that is on the lake. I could not get my boat into the slip until the last week of Apr and if things go the way they seem I will have to pull it by the 1st of July. I just do not understand. From what little I have read it seems that we are pulling water from the upper lakes to help stabilize lake Martin. But what of our lakes and the people who want to have a full pool or semi full level for the summer. According to the Corp web site I should be able to utilize my slip from the beginning of April until the 1week of October not the 2 months I may have now. I bought my home based on the data from the Corp website telling me that I would be able to use this part of the lake.

Since Georgia has been in drought conditions for the last couple of years and the forecast does not seem very favorable for the future why do we take the lake down so far for the winter. It seems that management of the lake needs to be reevaluated as to the amount of water that is drained from our lake during the winter. If we kept a higher level then maybe we could keep a higher summer pool during time of drought and everyone could be happy.

I hope that the Corp leaves what little water is in Allatoona where it is, but if that is not possible then I would hope that the Corp would leave the level up in Allatoona during the winter so that next year we do not face the same crisis. Currently lake Martin only drops 10 feet for their winter pool is there a reason we drop 20 feet. I would think that if we dropped 10 feet or even a little less we would still be able to accommodate any flooding that may occur. Water could be distributed between Allatoona and Martin in times of need and bring them both up until the flooding is over.

Please take this into consideration when making you decisions. I would hope that you also consider holding a public hearing on this matter so that the public can get more information and also express our concerns.

Thank you for your time,
DeWayne Alcorn

Get the Yahoo! toolbar and be alerted to new email <http://us.rd.yahoo.com/evt=48225/*http://new.toolbar.yahoo.com/toolbar/features/mail/index.php> wherever you're surfing.

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:52 AM
To: Sumner, Lewis C SAM
Subject: FW: CITY OF CARTERRSVILLE RESPONSE TO APC REQUEST FOR FLOW MODIFICATION FROM LAKE ALLATOONA

Attachments: RESPONSE TO APC REQUEST FOR INCREASED RELEASES FROM ALLATOONA.pdf

RESPONSE TO APC REQUEST FOR IN...

Chuck,

Evidently there are still some folks that are getting emails returned due to erroneous information in original document from the Corps. I apologize if some to these are redundant, but I would rather you have them than not.

Thanks for all you do.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Ed Mullinax [mailto:emullinax@cityofcartersville.org]
Sent: Friday, June 08, 2007 5:31 PM
To: lewis.c.sumner@sam.usacae.army.mil
Cc: Jim Stafford; Sam Grove; LAPA - General Manager
Subject: CITY OF CARTERRSVILLE RESPONSE TO APC REQUEST FOR FLOW MODIFICATION FROM LAKE ALLATOONA

Mr. Sumner,

Attached is a letter stating the position of the City of Cartersville, Georgia on the request by Alabama Power Company for increased water releases from Lake Allatoona. In short, we are strongly opposed to this request. We feel this measure will at best provide short term relief for low flows in the Alabama river but will result in a long term reduction in the stored water supply for our region during one of the worst droughts on record. Water users in the upper Etowah River drainage basin and Lake Allatoona area have complied with water conservation restrictions to maintain storage levels within Lake Allatoona. The water resources of the Lake represent the economic life blood of our region. We feel the increased releases from the lake discussed on page 2 of Public Notice No. FP07-AC01-16 are in nobody's best interest. Such releases would reduce our supply of water and may even have the ultimate impact of reducing water available for future releases to sustain flows of the Alabama River.

Sincerely,

Edmund L. Mullinax, P.E.

Assistant Director/Department Engineer – City of Cartersville Water Department

Bartow County Board Member – Lake Allatoona Preservation Authority

City of Cartersville
WATER DEPARTMENT

June 8, 2007

Mr. Chuck Sumner
Inland Environment Team
U.S. Army Engineer District, Mobile
Post Office Box 2288
Mobile Alabama 36628-0001

Re : Propose Modification of Flows From Lake Allatoona
Public Notice No. FP07-AC01-16

Dear Mr. Sumner,

This letter is written to express the grave concerns of the City of Cartersville, Georgia regarding water releases from Allatoona Dam as requested by Alabama Power and presented in the above referenced Public Notice form the U.S. Army Corps of Engineers. The City of Cartersville Water Department receives their water supply from Lake Allatoona. The government officials of the City of Cartersville and the management of the Cartersville Water Department strongly oppose providing additional releases from the lake to augment low flows in the Alabama River.

Increased water releases from Allatoona Lake will have an undeniable negative economic and environmental impact on our region. Any excess water released from the lake now will definitely result in less stored water available later on as the current drought continues. This could ultimately impair our ability to meet the water supply needs of residential and industrial customers in our area. Any lowering of the lake water elevation directly results in lessened recreational opportunities there. Recreational activities Lake Allatoona provide a significant economic benefit to our City and County. More importantly, lower water levels in the lake result in reduced

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water quality which in turn has negative impacts on, fish, wildlife, wetlands, shoreline erosion and general environmental concerns. This reduced water quality in turn presents greater difficulty in drinking water treatment. All these impacts are to the detriment of our community which has practiced water conservation to allow the accumulation of the storage water in Lake Allatoona.

The proposed increased releases from Allatoona will only provide temporary relief to low stream flows in Alabama, but will result in long term reductions in stored water to meet our economic and environmental needs. We do not feel increased water releases from Lake Allatoona is a prudent course of in action during the drought we are now experiencing.

Sincerely,

Edmund L. Mullinax

Edmund L. Mullinax, P.E.

Assistant Director/Department Engineer – Cartersville Water Dept.
Bartow County Board Member – Lake Allatoona Preservation Authority.

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:36 AM
To: Sumner, Lewis C SAM
Subject: FW: Allatoona Outflows

Please add to your comments on Allatoona.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: julie kraemer [mailto:jak4999@yahoo.com]
Sent: Tuesday, June 05, 2007 10:52 AM
To: rpapaleoni@premier-management.biz
Subject: Allatoona Outflows

As a 12 year resident of Bartow County and all of it living on the lake, it has become apparent just how much power Alabama has over the Corp of Engineers decisions.

I drive over the Etowah River on the way to Cartersville all the time and it is always as high as can be without overflowing the banks; winter or summer. At the same time, Lake Allatoona is never at full pool unless we have had hurricanes or tropical depressions that have affected the lake levels. We need to keep the water here in GA for our drought needs which grow ever larger with our current weather conditions.

Please use the influence of LAPA to recommend against allowing any more water into Alabama.

Sincerely,

Julie Kraemer

Building a website is a piece of cake.
Yahoo! Small Business gives you all the tools to get online. <http://us.rd.yahoo.com/evt=48251/*http:/smallbusiness.yahoo.com/webhosting/?p=PASSPORTPLUS>

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:33 AM
To: Sumner, Lewis C SAM
Subject: FW: Allatoona

Please add to your comments on Allatoona.

All the best,
Ron Papaleoni, General Manager
Lake Allatoona Preservation Authority
678.776.6331
Restore - Preserve - Protect

-----Original Message-----
From: Robert Morrison [mailto:robertlmorrison@comcast.net]
Sent: Monday, June 04, 2007 3:40 PM
To: 'Tom Heard'; 'Barry Mansell'; 'Buzz Ahrens'; cptzereo@alltel.net; 'Eric Wilmarth'; 'Gary Winchester'; bgraham@ccwsa.com; 'Danny Carson'; 'David M. Kubala'; dturner@ccwsa.com; 'Dwayne Fowler'; janhenderson@ccwsa.com; 'Jeffery S. Hooper'; 'Rick Wilson'; 'Ricky Dobbs'; 'Tom Roach'
Cc: Bob Sutton (LAPA); Carlos Dyer (LAPA); Ed Mullinax (LAPA); Greg Patton (LAPA); hicks153@windstream.net; John Knox (LAPA); John Seufert (LAPA); Ron Papaleoni; w.biasetti@mindspring.com
Subject: RE: URGENT News

I want to chime in on this issue of Alabama Power Company's request to the USACE. APC wants to reduce their minimum releases from their dams on the Coosa and Tallapoosa rivers. They then want to replace their minimum flows from the Corps lakes in Georgia, specifically lakes Allatoona and Carters.
Lake Allatoona was built primarily as a flood control facility, not as a water supply reservoir. APC's proposal has nothing to do with flood control, and everything to do with hydroelectric power generation and keeping APC's lakes at higher levels for recreation purposes in Alabama. Northwest Georgia is experiencing the same drought conditions as Alabama. Lake Allatoona is already 2.7 feet BELOW its normal summer elevation, and if fact has not even reached the normal summer elevation thus far in 2007. During 2006 Allatoona reached its normal summer elevation for no more than a week and was essentially unusable for normal recreational purposes long before Labor Day.
Lake Allatoona is already LOWER now than it was at this time last year. This proposed drawdown probably will have no material impact on CMWA, Bartow County or Cartersville water intakes, but it will have a material economic impact on the marinas, property owners and recreational users in the three counties in which Lake Allatoona is located. I believe the Cherokee County BOC has very good reasons for opposing this "beggar thy neighbor" water grab by Alabama and APC.

Robert Morrison

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:31 AM
To: Sumner, Lewis C SAM
Subject: FW: Lake Allatoona

Please add to your comments on Allatoona.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Dan & Tina Motley [mailto:danmotley@bellsouth.net]
Sent: Saturday, June 02, 2007 7:49 PM
To: LAPA - General Manager
Subject: Re: Lake Allatoona

Dear Mr. Chuck Sumner,

This email is in response to Alabama Power's request to the US Army Corps of Engineers for increased outflows from Lakes Allatoona and Carters.

The minimum specified outflows from these two lakes are 240 cfs each. According to the US Army Corps of Engineers data, these minimums are being exceeded: to wit 600 cfs at Allatoona and 400 cfs at Carters for a combined total of 2.08 times minimums or 520 cfs. Since Georgia is also experiencing severe drought conditions whereby its citizens are under outdoor watering restrictions and decreased ability to use lakes for recreational purposes, it does not seem wise to further significantly increase the draw down of these two lakes.

Good people in Georgia, Alabama, and Florida are all suffering from a lack of rain. Are all suffering equally and fairly?

Respectfully,

Dan Motley

1666 Carlson Lane

Marietta, GA 30064

danmotley@bellsouth.net

No virus found in this incoming message.
Checked by AVG Free Edition.
Version: 7.5.472 / Virus Database: 269.8.6/828 - Release Date: 6/1/2007 11:22 AM

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:30 AM
To: Sumner, Lewis C SAM
Subject: FW: Allatoona

Attachments: Public Notice APC Reduced Flows_FINAL (2).pdf

Public Notice APC Reduced Flow...

Please add to your comments on Allatoona.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Steve Prather [mailto:prather@bellsouth.net]
Sent: Saturday, June 02, 2007 6:29 PM
To: lewis.c.sumner@sam.usacae.army.mil
Cc: jim.mccluskey@RSCrental.com; 'Ron Papaleoni'; 'Brian Bulthuis'; 'James Albright'; Lew Oswald; 'Mayor Tommy Allegood'; Scott Evans; Steve Prather; 'Alderman Bob Weatherford (E-mail)'; 'Alderman Butch Price'; 'Doug & Marsha Allen'; Tim Houston; Tim Richardson
Subject: FW: URGENT News

To whom it may concern:

I have read the attached request from APC along with the public notification. Although I will not pretend to understand all that was stated, I did understand enough of the information to know the APC and surrounding area stakeholders are requesting that the Corps of Engineers sacrifice one reservoir in order to save another. I just cannot fathom why this would even be considered and hope that it is not really being considered but merely being responded to in accordance with the mandated federal laws based on a formal request.

In the event there is serious consideration of the request, as a stakeholder in the Allatoona reservoir I would strongly encourage you to please not allow Allatoona and its sister water sources to be sacrificed. As the report states, Alabama is not alone in its worse drought in measurable history, but shares it with the state of Georgia and others. Allatoona is a valuable source of water for our area and it too is down from its normal pool levels. We are struggling with our own drought conditions and are losing the lake levels these summer months as we strive to keep up with our own demands for potable water.

It is unconscionable that the Corps would consider sacrificing one's resources to enhance another's. I could accept the request being considered if Allatoona was at its normal pool levels and the request was asking that the Allatoona stakeholders pitch in using our abundance to help our neighbors. Under the current conditions, Allatoona is not in a bounty position and is struggling ourselves with drought conditions and low water levels.

Please do not jeopardize our resources for this purpose - it just does not make sense.

If I may comment on a related note. This communication might have a different recommendation had the Allatoona reservoir been at full pool and had water to spare. There is no reason why we should not be at full pool had the water been allowed to rise earlier in the year or had not been allowed to be lowered to such ridiculous levels in the winter. The surrounding stakeholders understand the purpose of the lake as a flood control reservoir but we do not understand or agree with the curve set for the lake levels and the extreme low levels achieved each year on this lake. History substantiates that this lake could operate at levels within 3 feet of its normal 840' level through October. With our mild climate, the water could be reduced to acceptable levels for the annual lake clean up performed yearly by countless volunteers as late as the first or second week of November. With December and January being some of our wettest months historically, the level could be further reduced in November to accept the winter high rainfall amounts. The lake should then be allowed ot fill starting with the January rains and effectively monitored inot the spring to prepare the normally wet months of April and May. I really believe it is time to re-evaluate the pool curves allowing for better water management in the late spring through early fall months.

I appreciate the opportunity to offer my input and hope you will seriously consider my opinions as I am confident they represent similar views to my peer stakeholders.

Best Regards,

Steve Prather

Co-Chairman, Acworth Lake Authority

5212 Dawn Drive

Acworth, GA 30101

770-974-8641 (h)

From: LAPA - General Manager [mailto:]
Sent: Friday, June 01, 2007 4:06 PM
To: 'Distribution List'
Subject: URGENT News

PLEASE read the attached information from the US Army Corps of Engineers. Alabama Power feels the need to attempt to force the Corps to increase out-flows from Lake Allatoona.

We need to respond during the next 10 days to insure that this does not happen.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:28 AM
To: Sumner, Lewis C SAM
Subject: FW: URGENT News

Attachments: URGENT News

URGENT News

Please add to your comments on Allatoona.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: rsu194@comcast.net [mailto:rsu194@comcast.net]
Sent: Friday, June 01, 2007 6:37 PM
To: LAPA - General Manager; 'Distribution List'
Subject: Re: URGENT News

Ron,

It is my opinion we do not agree to any change. If they are concerned about reduced flow and how it will affect their ability to produce electricity then they should have thought about this and built standby generation that is not dependent on river releases. Also the effort they made to halt the Tallapossa reservoir could have better spent adjusting the storage capacity of their dams. The Tallapossa reservoir if it had not been fought by APC might have been available to contribute to their needs.

I am against any adjustment for two reasons. First APC was one of the tri-state pushers who didn't support the plan for the solving the shortage of water for lake Allatoona and use by the surrounding area users. Second they need to have the standby facilities that can replace the power they are not able to generate with the flow.

I am flatly against any adjustment unless we can get a good agreement on our ability to use the water in Lake Allatoona as we feel it will best benefit our community and our users of the water in and around the Lake.

Bob Sutton

---------- Original message ----------
From: "LAPA - General Manager" <rpapaleoni@premier-management.biz>

To LAPA Members and SAC:

PLEASE read the attached information from the US Army Corps of Engineers. Alabama Power feels the need to attempt to force the Corps to increase out-flows from Lake Allatoona.

We need to respond during the next 10 days to insure that this does not happen.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Friday, June 01, 2007 3:02 PM
To: 'Distribution List'
Subject: URGENT News

Attachments: Public Notice APC Reduced Flows_FINAL (2).pdf

Public Notice APC Reduced Flow...

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 09, 2007 6:27 AM
To: Sumner, Lewis C SAM
Subject: FW: Lake Allatoona

Please add to your comments on Allatoona.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Roger Richardson [mailto:Roger@deltasigmacorp.com]
Sent: Friday, June 01, 2007 5:52 PM
To: The Hoveys
Cc: rpapaleoni@premier-management.biz
Subject: RE: Lake Allatoona

I can understand their concern, but it seems like keeping the water as far upstream as possible for as long as possible provides the most efficient use of it when it is in short supply. It only runs one way, and we can not get it back if we run out here – which seems possible. When the Corp requested to change their winter level from 823 to 828 ft, which would have given us some extra capacity that would be available today – who killed that?

I just looked at the Lake Martin levels for April & May. They are maintaining 3-5 feet below the desired pool level, and have dropped about a foot in the past couple weeks. So, they are not any worse off than we are.

We are in the same drought they are. We should release as though we are in a drought – not as though we have an oversupply. Someone should reconsider higher winter storage so if this drought last a few more years, we have a reserve that can be used by everyone from here to Mobile.

Texas has plenty of water these days. Maybe APC can buy power from them today & hold their water for a while. I suppose the Texans would be glad to have a use for it.

Roger Richardson

Delta Sigma Corporation

2100 Barrett Park Drive

Suite 508

Kennesaw, GA 30144

770-975-3992 x 202

www.deltasigmacorp.com

From: The Hoveys [mailto:hovey2131@bellsouth.net]
Sent: Friday, June 01, 2007 4:12 PM
To: Eola Hovey
Subject: Lake Allatoona

To: zoning email list

Re: special notice - Corps considering extra water from Allatoona to Alabama for electric power.

Please see the attached notice from the Corps

Bob Hovey

Planning Commissioner

REPLIES: Please put something we'll recognize in "subject". We delete all unidentified email.

The Hoveys
770 421 8227

-----Original Message-----
From: LAPA - General Manager [mailto:rpapaleoni@premier-management.biz]
Sent: Friday, June 01, 2007 4:03 PM
To: 'Distribution List'
Subject: URGENT News

PLEASE read the attached information from the US Army Corps of Engineers. Alabama Power feels the need to attempt to force the Corps to increase out-flows from Lake Allatoona.

We need to respond during the next 10 days to insure that this does not happen.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Sumner, Lewis C SAM

From: paratner@gmail.com on behalf of Paul Ratner [pratner@pillowperfect.com]
Sent: Friday, June 08, 2007 4:32 PM
To: Sumner, Lewis C SAM
Cc: R Papaleoni
Subject: Drawdown of Lake Allatoona for benefit of Private interests.

Dear Mr. Sumner,

I am a landowner on Lake Allatoona and citizen of the State of Georgia. I will admit I have a personal interest in the water levels of Lake Allatoona since I live on the lake. Aside from the inherent wrong of providing recreational improvement in Alabama Powers lakes at the expense of recreational use at Lake Allatoona there are several other reasons not to lower the levels any further at Lake Allatoona than they have already been.

Lake Allatoona partially supplies drinking water to a population of over 5 million people and bringing the Lake down at this stage of the drought gives us less options if the drought persists. Including options for the citizens of Alabama.

To lower the level more at Lake Allatoona would severely deteriorate the quality of the resource left. Which would cost the citizens of Georgia more to process the drinking water and use more potentially dangerous chemicals to accomplish this.

Alabama Power has the option to pull electricity from the national power grid. Granted it would cost more to this corporation near term but it is far more important at this stage to leave our options for drinking water open in the future. If as they state in their request to the Corp and the draught does persist; where will we go when this resource is depleted? Alabama Power will still have the option of the power grid, our water will be gone.

Please turn down their request and lets see if mother nature is kinder in the near future. We still have time to wait and see.

Sincerely.

Paul A. Ratner
Woodstock, GA 30188

Sumner, Lewis C SAM

From: Rick Oates [roates@alaforestry.org]
Sent: Friday, June 08, 2007 12:02 PM
To: Sumner, Lewis C SAM
Subject: Comments of the Alabama Pulp & Paper Council

Attachments: coe presentation.ppt; COE Comments.pdf

coe sentation.ppt (847 I

COE Comments.pdf (226 KB)

Mr. Sumner:

Attached are the comments of the Alabama Pulp & Paper Council regarding the Alabama Power Company proposal to the U.S. Army Corps of Engineers. I will also fax you a copy. If you have any questions, please give me a call at the numbers below.

Thank you,

Rick Oates, CAE
Alabama Forestry Association
555 Alabama Street
Montgomery, AL 36104
(p) 334-481-2130
(f) 334-262-1258

June 8, 2007

Colonel Pete Taylor
U.S. Army Corps of Engineers
109 St Joseph Street
Mobile, AL 36602-3630

Dear Colonel Taylor:

The Alabama Pulp & Paper Council has serious reservations concerning the proposal to modify the flow agreement between the Alabama Power Company (APC) and the U.S. Army Corps of Engineers (COE) on the Tallapoosa River. Our organization represents the thirteen pulp and paper mills that operate in Alabama; four of which would be directly impacted by this proposal as these mills are situated on the Alabama River below the confluence of the Tallapoosa and Coosa Rivers which forms the Alabama.

We understand the position of the Alabama Power Company and the need to ensure adequate water is stored in Lake Martin to meet the many demands placed on the lake for power generation, industrial uses, recreation and environmental needs. However, our data which we have separately presented to you and your staff shows the proposed reductions in water releases and the resulting decreases in flow on the Alabama River will have a significant impact on the four pulp and paper facilities mentioned above.

There are two issues which these mills face. The first is that in order to meet permit requirements to discharge effluent, there must be adequate flow in the rivers to safely assimilate these discharges. Most of the mills have ponds to store effluent; these ponds however, have a limited capacity. Once that is reached, the mills must either discharge effluent into the river or cease operations. Due to current low flows on the river, and projections based on the proposal, at least three of the mills may be forced to shut down by mid to late summer.

The other issue is related to the mills ability to take in water from the rivers. Two of these four mills are currently experiencing this problem. While they have taken steps to resolve the issue based on the current low flows, they do not know how the proposed reductions will impact these situations.

In the event of a mill shut down there will be a tremendous economic impact on the local communities around these mills. The four mills together employ over 2,500 people who would potentially be out of work during a shut down. This translates to a direct economic impact of several million dollars per day that the mills are not operating. This figure does not include the thousands of people who provide services to the mills, such as loggers, landowners, and suppliers. Additionally, if you take into account the many other

Alabama Pulp & Paper Council
555 Alabama Street ■ Montgomery, Alabama 36104
Telephone: 334-265-8733 ■ Fax: 334-262-1258
appco@alaforestry.org

businesses (restaurants, stores, etc.) who depend on the mill employees the economic impact grows exponentially.

As you know we have met with officials from APC as well as you and your staff to discuss the proposal and believe we can work out solutions that will improve the situation for most of the mills. Both APC and the COE can help the situation by working with the mills directly to determine how their water releases from the dams can be manipulated to alleviate the impacts of this situation.

These steps may not solve all of the problems faced by these facilities. We realize that without additional rain to recharge the lakes and rivers of Alabama, we may still face periods where some of these impacted mills will be forced to shut down. We do however hope that we are able to work very closely with the COE and APC to minimize the impacts of this drought.

We strongly urge the Corps of Engineers to consider releasing additional water from the Corps projects in Georgia that would provide additional water to the Tallapoosa River. While this again would not solve all of the problems, it will help the situation and is an equitable way to divide some of the water between Georgia and Alabama.

I am enclosing some data and reports from the impacted mills for you to consider along with our position statement. Thank you for considering these comments. Please feel free to contact me if you have any additional questions regarding our position.

Sincerely,

Rick Oates

Rick Oates
Executive Director
Alabama Pulp & Paper Council

Meeting between Alabama Pulp & Paper Council and U.S. Corps of Engineers

June 5, 2007

International Paper, Prattville Mill

The Facility

On the Alabama River between the confluence of the Coosa and Tallapoosa Rivers and Robert F. Henry Lock & Dam

Our discharge is approximately located at Alabama River Mile 271 and our intake at Alabama River Mile 275

Total site square footage is 6,000 acres

International Paper, Prattville Mill

Mill Impact

Largest employer in Prattville – approx. 575 team members

$42MM in payroll per year

Average of 100 contactors on-site daily

Generate about $100MM per year for Forest Products industry

Spend approx. $120MM in parts/supplies

Spend $25-$30MM on capital projects annually

International Paper, Prattville Mill

Permit requirements

[illegible]

International Paper, Prattville Mill

Impact of flow reductions

Alabama Power projects flow reductions from 4,640 cfs to 2,784 cfs

Discharge will be curtailed to ~10 mmgpd

Holding ponds will be full around the end of July

Production will have to be curtailed or ceased

International Paper, Prattville Mill

Flow requirements – what we need to operate

For continued mill operation through the summer, the following is needed:

- River flows of 3,712 cfs (25,984 cfs/day)
- 7 hours of daily generation at Robert F. Henry
- River D.O. levels remain [illegible]

Continue implemented plans...

- Water conservation
- Reduction of fiber and soda losses
- Improvement of effluent treatment

International Paper Riverdale Mill

near Selma, Alabama

The mill is located at Alabama River Mile 221

Total mill site is 1,555 acres

International Paper Riverdale Mill

Mill Impact

- Largest employer in Dallas County – 778 employees
- Annual Payroll: $50.1 million
- Annual Sales & Use Tax: $1.1 million
- Average W-2: $64,500
- As part of IP's Printing & Communications Papers business manufactures virgin & recycled grades of reprographic paper and offset printing paper
- Contributes to the community through IP Foundation grants and is area's largest contributor to United Way ($144,000+ in 2006)

International Paper Riverdale Mill

Permit constraints

- The mill pumps 32 million gallons per day from the river and returns the same amount of wastewater (both approximate)
- The mill's wastewater permit allows discharge only when the river is flowing
- The mill cannot discharge wastewater that would deplete the river's oxygen concentration below 5 parts per million – This is calculated daily based on river flow and river oxygen concentration.

International Paper Riverdale Mill

R.F. Henry requirements to sustain operation

Wastewater discharge minimum requirements

- 6 hours of flow per day through RFH
- 2000 cfs (average for day) through RFH
- 6.4 ppm dissolved oxygen at Alabama River mile 221

Water intake from Alabama River minimum requirements

- 76.5' msl minimum level at RFH tail water
- Minimal level fluctuation at RFH tail water

International Paper Riverdale Mill

What we're doing to help

Water Conservation

- Track water use daily, avoid all unnecessary flow

Reduce Chemical/Fiber Losses

- Track daily, plan in place to minimize losses

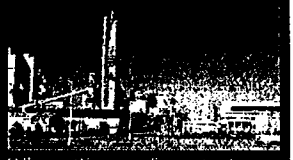
Effluent Treatment Management

- Keeping treatment system at maximum efficiency

Weyerhaeuser

Mill Location and Impacts

- Wilcox County on the Alabama River (Pine Hill)
- Largest employer in Wilcox County
- Four separate operations at this location: Containerboard operation; lumber mill, veneer mill, and timberlands operation
- Employs approximately 700 people
- From its Alabama River intake, Weyerhaeuser's Pine Hill operation supplies water to the Pine Hill municipal water system, which treats and supplies water to communities in Wilcox, Clarke and Marengo counties.



Weyerhaeuser

Drought issues and impacts

Alabama River Pulp

Mill's current and future

- Largest market pulp and paper facility in North America
- Located below the Claiborne Dam near Perdue Hill, Alabama
- Mill employs approximately 800 people
- Economic impact is approximately $800,000 per day—includes direct employees only

Alabama River Pulp

Drought impact

- Mill's current problem related to the drought is ability to maintain adequate water to run mill.
- Below [illegible] feet at Claiborne tail, pumps lose suction.
- Lock overflows necessitates additional truck traffic to get fuel oil to mill; estimated cost, $1,000,000 per year, plus additional trucks on road

Alabama River Pulp

Drought impact

- Installed supplemental pumps on a barge to meet needs ($132,000+)
- Dropping below 5 ½ feet at Claiborne tail could cause shut down
- Currently mill effluent discharges are not an issue, but low DO levels are of concern

Alabama River Pulp

Solutions

- Communication with Corps of Engineers at Claiborne Dam to negotiate higher releases as needed to prevent mill shut down

Evaluation of Proposed Decreased Alabama River Flow on the Weyerhaeuser Pine Hill Mill Millers Ferry Lock and Dam

Overall Water Availability a Serious Concern

- The substantial rainfall deficits throughout the Alabama River basin have resulted in diminished storage and low river flows. The early occurrence of extremely dry conditions and climatic outlook for continued dry conditions presents a challenge to water resource management.
- Present conditions have a strong potential to impact the ecosystems of the Alabama River as well as industries and cities.
- Weyerhaeuser is committed to helping manage available water resources in an equitable manner while protecting the environment.

May Impact Mill Water Withdrawal

- The Weyerhaeuser Pine Hill Mill ("Mill") withdraws raw water from the Alabama River near Mile 122 within Claiborne Pool.
- Water withdraw is treated on-site and used in manufacturing processes.
- The Mill water intake is also used to supply potable water to the Pine Hill water district and the communities in three counties that it serves (~16,000 people).
- Review of recent minimum water levels shows a decreasing pattern but of relatively small magnitude (see Fig. 1) despite daily flows of ~5,000 cfs.
- **Conclusion** – if operation of Claiborne Lock and Dam downstream of the Mill maintains water level in Claiborne Pool within 2 ft of the recently observed minimum levels then the raw water intake should not be threatened.

May Impact Alabama River Dissolved Oxygen Concentrations

- Background analysis performed by Weyerhaeuser and ADEM for the proposed Alabama River Total Maximum Daily Load (TMDL) for organic enrichment / low dissolved oxygen (DO) showed river DO below the 5 mg/L water quality standard when river flows are low. Figure 2 shows low DO occurs on an intermittent basis.
- The NPDES permit for the Mill does not allow discharge of biochemical oxygen demand (BOD) when river DO decreases below 5.0 and reduces effluent discharge between 5.0 and 5.3 mg/L.
- Treated effluent that cannot be discharged is stored in an on-site holding pond. Available capacity is 660 million gallons at current low pond level.
- Table 1 compares frequency of DO values from <5.0 to <5.8 mg/L by flow range. Limited data available show a higher frequency of low DO for flows <6,000 cfs.
- Extrapolation of DO evaluation to flows of 3000 and 4000 cfs indicates that a flow of approximately **3000 cfs** would allow mill to operate through October. In the analysis, the factor DO frequencies changed between 7,000 cfs and 5,000 cfs in available data (see Table 1) was projected to a flow of 3,000 cfs (3x increase).
- **Conclusion** – potential for increased frequency of low DO is uncertain but likely. It is estimated that river flows below 3000 cfs may threaten mill production capability due to holding pond being full of stored effluent.

Figure 1. Alabama River water level below Millers Ferry and river flow for May-June 2007.

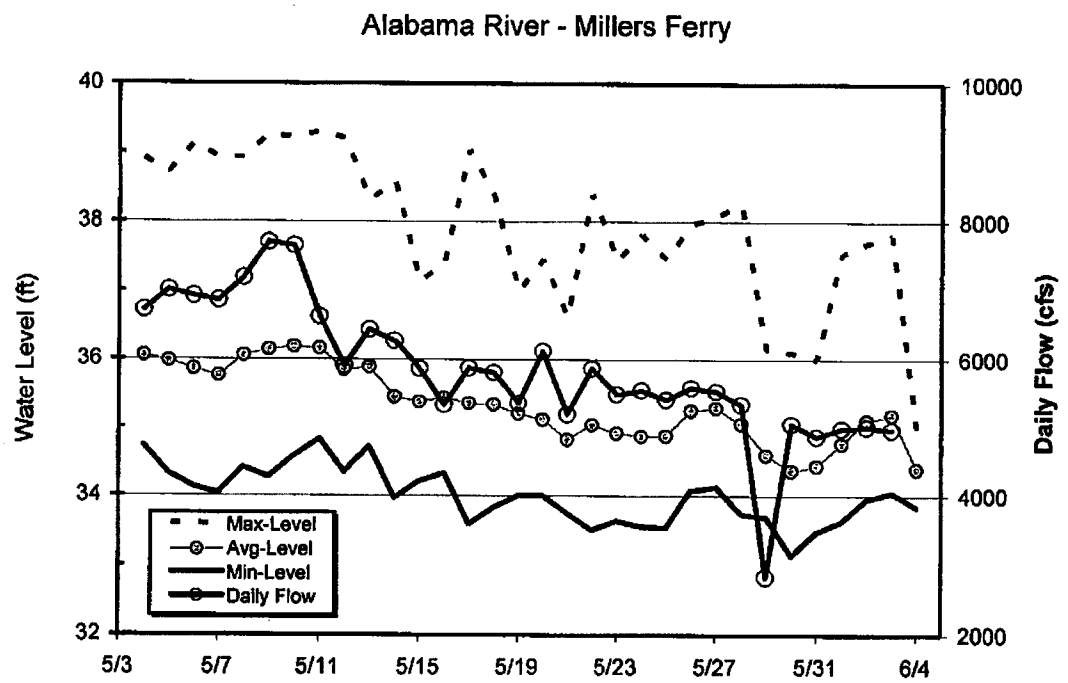


Figure 2. Dissolved oxygen (DO) concentration in Alabama River at Frisco Railroad Bridge (ADEM Station A3) near Mile 106. Data are from 1973-97.

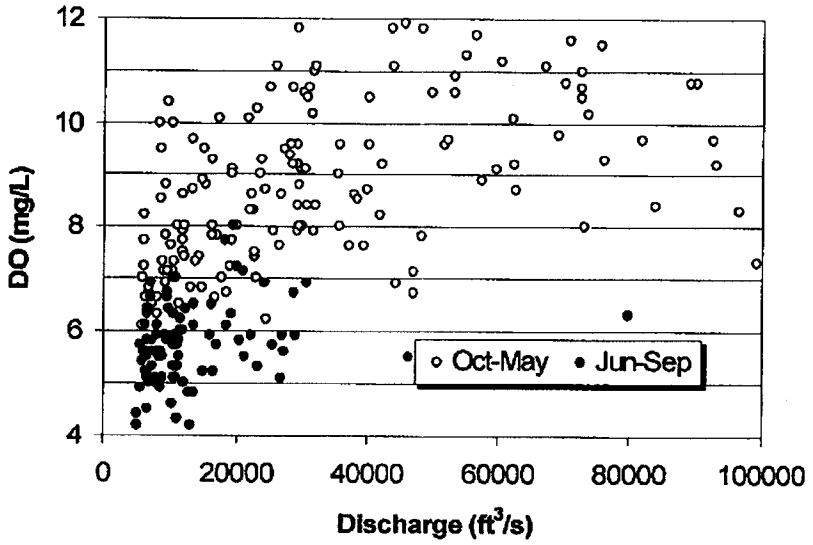


Table 1. Frequency of DO values of <5.0 to <5.8 mg/L by flow range in cfs.

Flow Range	Count	<5.0	<5.2	<5.4	<5.6	<5.8
~3000	Extrapolation	14.4%	24.3%	N/A	N/A	N/A
~4000	Extrapolation	9.6%	15.2%	N/A	N/A	N/A
4626-5999	62	4.8%	8.1%	12.9%	26.0%	44.0%
6000-6999	109	None	0.8%	1.8%	23.2%	39.1%
7000-7999	105	1.5%	3.3%	4.7%	17.2%	32.5%
8000-8999	64	None	None	1.4%	9.3%	26.8%
9000-9999	47	0.3%	1.2%	2.1%	12.8%	28.0%

Sumner, Lewis C SAM

From: Daniel, Albert G (GE Comm Fin) [albert.daniel@ge.com]
Sent: Friday, June 08, 2007 10:31 AM
To: Sumner, Lewis C SAM
Subject: Public Ntice Dated May 31, 2007

Attachments: COE 6-8-07.pdf

COE 6-8-07.pdf (36 KB)

Mr. Sumner,

Please find attached a letter from the Atlanta Yacht Club providing public comment to your notice of May 31, 2007.

Regards,

Al Daniel

<<COE 6-8-07.pdf>>

g_____
GE REAL ESTATE BUSINESS PROPERTY
Al Daniel
1100 Abernathy Rd, Suite 900
Atlanta, GA 30328
678-320-8882
678-320-8880 (F)
678-697-4135 (C)
Albert.Daniel@ge.com

ATLANTA YACHT CLUB

ON LAKE ALLATOONA

7120 Yacht Club Drive, Acworth, GA 30102

Member United States Sailing Association, South Atlantic Yacht Racing Association and Dixie Inland Yacht Racing Association

June 8, 2007

Mr. Chuck Sumner, Inland Environment Team,
U.S. Army Engineer District, Mobile,
Post Office Box 2288,
Mobile, Alabama 36628-0001

Dear Mr. Sumner,

I am writing on behalf of The Atlanta Yacht Club, which is located on Lake Allatoona. In response to the letter dated May 31 seeking input on Alabama Power Company's ("APC") request that the Corps of Engineers ("Corp") increase the daily release of water (outflows) from the Allatoona reservoir to, among other things, enhance Alabama Power Company's ability to generate power in the coming months, we strongly recommend that this request be denied.

It has been noted that recent daily outflows from Allatoona already exceed average inflows and that average outflows exceed the required minimum outflow thresholds by more than 150%. Though information related to inflows/outflows associated with Corp reservoirs is readily available via their website, we note that no comparable information related to APC reservoirs appear to be available to the public.

We believe that it would be inequitable to call on upstream Corps of Engineers reservoirs to take actions that negatively impact these facilities solely to benefit downstream reservoirs and users. Instead, we would request that consideration be given to reducing outflows from Allatoona to match inflows, thus preserving Lake Allatoona water levels and water quality.

More specifically, we believe that increasing outflows from Allatoona will be detrimental for the following reasons:

- Lake Allatoona water quality will suffer as lower lake levels and reduced water volume will result in higher pollution levels when expressed as a percentage of overall reservoir volume.
- Reduced water volumes will increase algae bloom and reduce oxygen levels in Lake Allatoona.
- An important source of drinking water for northwest Georgia will be compromised if lake levels are reduced.
- Allowing the release of water, an important regional resource, will compromise northwest Georgia's ability to withstand an extended drought through the remainder of 2007 through 2008.

ATLANTA YACHT CLUB

ON LAKE ALLATOONA

7120 Yacht Club Drive, Acworth, GA 30102

Member United States Sailing Association, South Atlantic Yacht Racing Association and Dixie Inland Yacht Racing Association

The request by Alabama Power Company appears to be an attempt by that entity - and perhaps other Alabama constituents – to shift the burden of the current drought situation from Alabama to Georgia. It should be a burden that is shared by all.

To reiterate, we strongly recommend that you deny Alabama Power's request to increase outflows from Lake Allatoona. Though your letter does not necessarily seek a response to the question of whether power generation should figure prominently in deciding on water release levels, we suggest that the interests of water availability and water quality, and to a lesser extent recreation needs, should take precedence over power generation priorities, noting that most if not all of the investment for power generation capacity has likely long since been recovered.

We look forward to learning of the Corps of Engineer's decision on this matter.

Sincerely,

Albert G. Daniel, Jr.
Commodore

Cc: Karl Andersen, Secretary
Atlanta Yacht Club Board of Governors

Sumner, Lewis C SAM

From: Lebo, Martin [martin.lebo@weyerhaeuser.com]
Sent: Thursday, June 07, 2007 1:47 PM
To: Sumner, Lewis C SAM
Subject: FW: Weyerhaeuser Pine Hill Mill Comment on 5/15 Flow Proposal

Attachments: Eval Decr Q on WY Pine Hill Mill.pdf

Eval Decr Q on WY Pine Hill Mi...

Seems like there may be an extra letter in the email listed in the public notice. I received a message that the domain could not be found.

From: Lebo, Martin
Sent: Thursday, June 07, 2007 2:41 PM
To: 'lewis.c.sumner@sam.usacae.army.mil'
Cc: Rast, Mike; Larrimore, Brad
Subject: Weyerhaeuser Pine Hill Mill Comment on 5/15 Flow Proposal

RE: Public Notice No. FP07-AC01-16 (Alabama Power request to reduce minimum flow on Alabama River)

Dear Mr. Sumner:

Attached is a revised version of the handout provided by Weyerhaeuser this past Tuesday when APPCO and pulp and paper mill representatives met with Colonel Taylor and staff to discuss water management in the Alabama River basin. We appreciate your willingness to understand how river flow affects our facility approximately 12 miles below Millers Ferry Lock and Dam. Based on questions posed on Tuesday, revisions to the handout are:

* the approximate number of people served through the Pine Hill water district by raw water withdrawn through the mill intake has been added;
* the extrapolated impact of extremely low flow on river dissolved oxygen has been converted to an estimated flow needed to maintain mill production capability utilizing available effluent storage volume in the mill holding pond.

<<Eval Decr Q on WY Pine Hill Mill.pdf>>

The handout provides a brief description of the design of the dissolved oxygen frequency analysis and the resulting estimated river flow needed to support mill operations. Additional details on the calculations can be provided if desired (contact information provided below).

It is important to re-state that the extrapolation of the available data to dissolved oxygen levels predicted for flows well below those in the available database introduces considerable uncertainty in the flow prediction provided. Observed dissolved oxygen levels at extreme low flows, if such low flows are approved, provide the reliable means to evaluate how water management actions affect the Alabama River system. On-going evaluation of available data on dissolved oxygen provide a valuable feedback step to any proposed adjustment to minimum river flow in the Alabama River system. Weyerhaeuser is committed to sustainable operations that protect the Alabama River ecosystem.

Let me know if additional information is needed to aid in pending decisions on how to best manage water resources in the Alabama River basin given the current extreme drought impacting the region.

Regards,
Martin E. Lebo

Martin E. Lebo, Ph.D
Senior Aquatic Scientist
Weyerhaeuser Company
P.O. Box 1391, New Bern, NC 28563
Ph 252-633-7511; Fax 252-633-7404

Evaluation of Proposed Decreased Alabama River Flow on the Weyerhaeuser Pine Hill Mill Millers Ferry Lock and Dam

Overall Water Availability a Serious Concern

- The substantial rainfall deficits throughout the Alabama River basin have resulted in diminished storage and low river flows. The early occurrence of extremely dry conditions and climatic outlook for continued dry conditions presents a challenge to water resource management.
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- **Conclusion** – if operation of Claiborne Lock and Dam downstream of the Mill maintains water level in Claiborne Pool within 2 ft of the recently observed minimum levels then the raw water intake should not be threatened.

May Impact Alabama River Dissolved Oxygen Concentrations

- Background analysis performed by Weyerhaeuser and ADEM for the proposed Alabama River Total Maximum Daily Load (TMDL) for organic enrichment / low dissolved oxygen (DO) showed river DO below the 5 mg/L water quality standard when river flows are low. Figure 2 shows low DO occurs on an intermittent basis.
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- Extrapolation of DO evaluation to flows of 3000 and 4000 cfs indicates that a flow of approximately **3000 cfs** would allow mill to operate through October. In the analysis, the factor DO frequencies changed between 7,000 cfs and 5,000 cfs in available data (see Table 1) was projected to a flow of 3,000 cfs (3x increase).
- **Conclusion** – potential for increased frequency of low DO is uncertain but likely. It is estimated that river flows below 3000 cfs may threaten mill production capability due to holding pond being full of stored effluent.

Figure 1. Alabama River water level below Millers Ferry and river flow for May-June 2007.

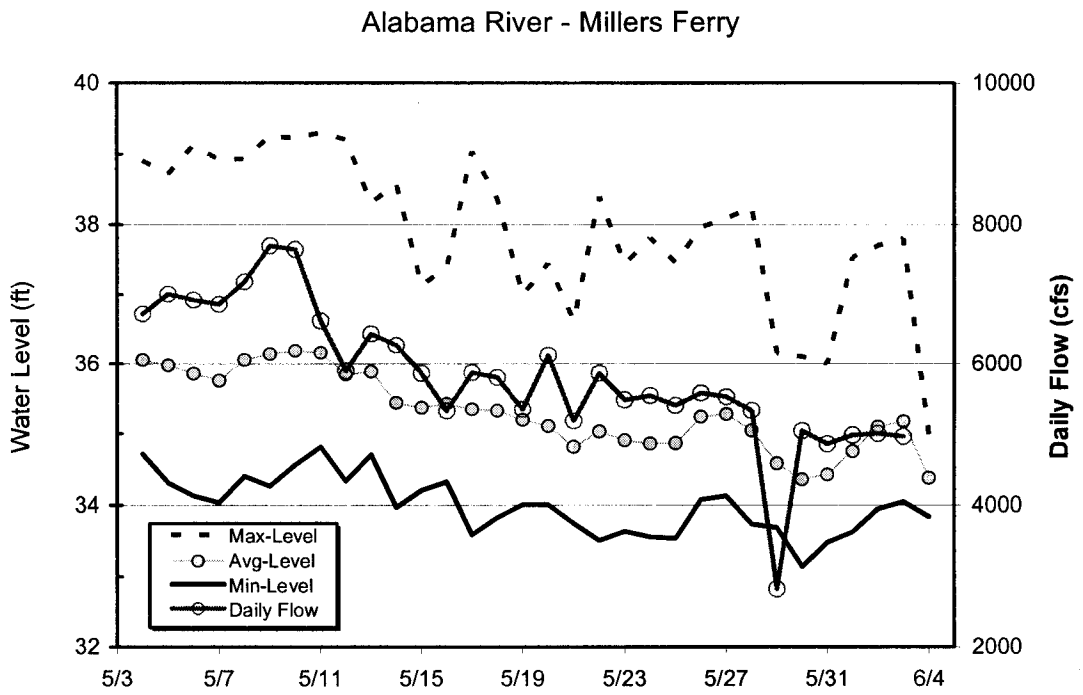

Figure 2. Dissolved oxygen (DO) concentration in Alabama River at Frisco Railroad Bridge (ADEM Station A3) near Mile 106. Data are from 1973-97.

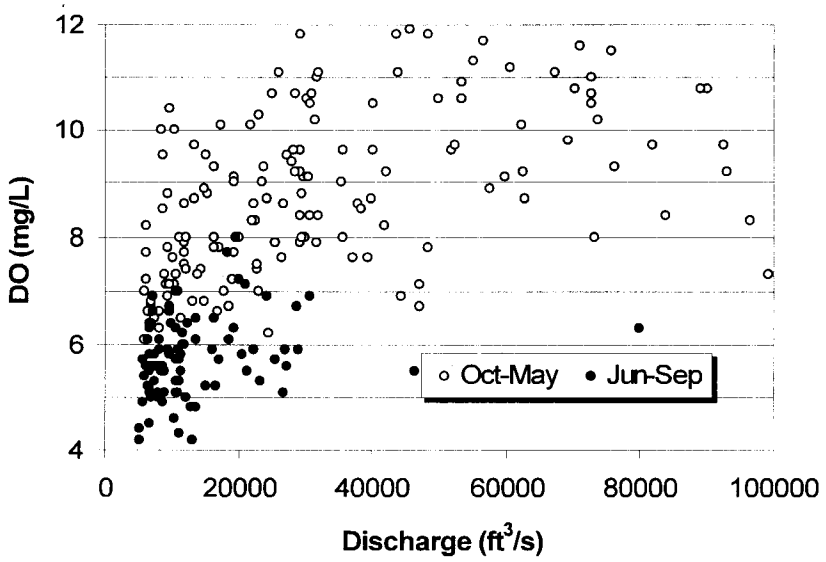

Table 1. Frequency of DO values of <5.0 to <5.8 mg/L by flow range in cfs.

Flow Range	Count	<5.0	<5.2	<5.4	<5.6	<5.8
~3000	Extrapolation	14.4%	24.3%	N/A	N/A	N/A
~4000	Extrapolation	9.6%	15.2%	N/A	N/A	N/A
4626-5999	62	4.8%	8.1%	12.9%	26.0%	44.0%
6000-6999	109	None	0.8%	1.8%	23.2%	39.1%
7000-7999	105	1.5%	3.3%	4.7%	17.2%	32.5%
8000-8999	64	None	None	1.4%	9.3%	26.8%
9000-9999	47	0.3%	1.2%	2.1%	12.8%	28.0%

Sumner, Lewis C SAM

From: Lazenby, David [DavidL@ariver.com]
Sent: Thursday, June 07, 2007 7:20 AM
To: Sumner, Lewis C SAM
Subject: Public Notice Response from Alabama River Pulp Co. Inc.

The following is a summary of the potential impact of the drought on the Alabama River Pulp, Inc. mills located in Perdue Hill, Alabama, downriver of the Claiborne Lock and Dam:

1) Impact - Low river levels affect the intake of water to operate our processes. We operate the largest market pulp and paper facility in North America and use approximately 55 million gallons of water per day. When the Claiborne tail level drops below 7 feet we begin to lose suction at our river intake pumps. Dropping the water level below the 5 1/2 foot level at Claiborne tail could cause us to shut down. To combat this, we place a barge with additional pumps into the river and these pumps supply additional water to flood the river intake. We would like to work with the COE and Alabama Power to coordinate how lowering the river levels affects the operation of our mill. If we experience levels that cause us to shutdown we would like to be able to communicate with the Claiborne Lock and Dam and have them release more water to maintain a level that we can operate. Dropping below the 5 1/2 foot level at the Claiborne tail could cause us to shutdown. We realize that we are all in uncharted waters.

Our effluent discharge is not flow limited but low DO levels are definitely an area of concern. This problem will worsen as the river levels drop and temperatures rise.

2) Problems - We are currently experiencing problems maintaining enough water to keep our mills operating. We are daily using water from our emergency water tank and we have not been able to keep that tank full to help the mill operate in case we have additional problems. We are currently operating below our normal water usage and are operating on a hour by hour basis. Any type of upset at the river intake area will impact mill operations.

3) Economic Impact - The initial installation for supplemental pumps will cost over $132,000 and then approximately $5000 per week to operate the pumps. This situation also places the operation of the entire facility in jeopardy if one of these additional pumps fails. Loss of production for the entire facility is estimated at an $800,000/day impact with the jobs of approximately 800 employees at risk. The loss of indirect jobs will leave approximately 4000 people without work.

Low river levels impact navigation on the lower Alabama River prohibiting our normal barge shipments of fuel oil. The additional cost of truck transport is estimated at a $1 million annual cost. This also places an additional 140 trucks per month on Alabama's highways with associated emissions, congestion, and traffic problems.

4) Solutions - By maintaining a minimum 5 1/2 foot river level or greater at the Claiborne tail will allow the mill to operate at the current critical stage.

Thanks,

David Lazenby
Environmental Manager
Alabama River Group
Phone 251-743-8793
Mobile phone 251-362-1429
Fax 251-743-8758

davidl@ariver.com <mailto:davidl@ariver.com>

www.ariver.com

Sumner, Lewis C SAM

From: biviengunn@aol.com
Sent: Wednesday, June 06, 2007 11:00 PM
To: Sumner, Lewis C SAM
Cc: rpapaleoni@pemier-management.biz

Mr. Sumner, I am writing to voice my concern about the possibility of further lowering Lake Allatoona by five (5) feet. As the level of the lake is already down by three (3) feet, further lowering would have a tremendous impact on the many users of Lake Allatoona and the local economy. I have enjoyed the Lake for over 50 years and want to see it preserved and enhanced for future generations. Sincerely, Louise Staton Gunn

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Sumner, Lewis C SAM

From: Lynda Perryman [l.perryman@chattnaturecenter.com]
Sent: Wednesday, June 06, 2007 3:34 PM
To: Sumner, Lewis C SAM
Cc: rpapaleoni@premier-management.biz
Subject: please save Allatoona!

Importance: High

Dear Mr. Sumner,

We are writing on behalf of news we just received regarding yet another release of water supply from the Allatoona Dam. Being residents of VCCI (Victoona Civic Club, Inc.) for eight years, we have withstood inappropriate allocation of our lake water several times… including last year. Since we are considered lake front property, we have paid substantially more for our property and homes than any of the surrounding areas. Several weeks ago, we received our property tax bills which were raised 45% over last year.

The lake brings in thousands of visitors over the summer months and millions of dollars for the county's economy. There are many excited children's camps that will be harmed and many who plan their vacations on Allatoona Lake that will forfeit much looked-forward to enjoyment. Please don't disappoint all those who enjoy and protect the lake.

All of the resident of VCCI are very cautious and put forth a lot of effort toward Allatoona Lake's conservation. The amount of water you are proposing to give to Alabama Power would substantially hurt the lake's ecology and delicate balance of wildlife, not to mention our local economy. We all live here in order to maintain a certain quality of life which may forever be damaged.

We completely understand that others need water. So do we. Please be fair about it and let us keep our lake.

Ronald & Lynda Runyon

146 Little Victoria Road

Woodstock, GA 30189

678-238-2387

Sumner, Lewis C SAM

From: Stella Dillard [queenofquiet@gmail.com]
Sent: Wednesday, June 06, 2007 12:27 PM
To: Sumner, Lewis C SAM
Subject: FP07-AC01-16

Dear Mr. Sumner,
I am an Atlanta resident who buy vegetables from one of the farms on the Coosawattee River, and would like to voice my opposition to the Alabama Power Company's petition to increase high-volume flushes from Carter's and Allatoona lakes. In the 1970s, when such high-volume flushes were common, the farm that I buy from lost a great deal of soil from its most fertile fields due to erosion. The farm's then-operator, Carter Swancy, petitioned the Army Corps of Engineers to change the flows to the current schedule, which is both more steady, and lower, and thus more similar to a river's natural course. This has allowed the Swancy family to operate an organic farm that is fiscally sound, and as someone who has bought vegetables and meat from them for three years, I would hate for the farm to lose its ability to produce the high quality food I've come to know and love, as well as its ability to stay solvent, especially in rural North Georgia, where the economy is already depressed. Please do what's right for the people in North Georgia, and those who make their livelihoods possible, and refuse APC's petition.
Thank you,
Stella Dillard

Sumner, Lewis C SAM

From: Angela McDonald [Angela_McDonald@mannington.com]
Sent: Wednesday, June 06, 2007 3:59 AM
To: Sumner, Lewis C SAM
Subject: Alabama Power Company Request

Dear, Sir or Madam,

I live in Ranger GA. 5 miles from Carters and my family and I go nearly every week to fish at the reservoir dam. My main concern is that according to the notice they are already releasing nearly twice the minimum amount as it is and now they are wanting to increase that amount even more. Carters water level is already quite low as it is and it is already impacting the wild life. For instance many fisherman and women have noticed that the fish have not been biting as well for a few months now and the water level has got so low that the Large Mouth Bass are bedding (laying eggs) again (I saw this on May 30th) they normal only bed in the early spring (which they already did). I'm afraid that if they increase the amount that they are already releasing from Carters it might do more damage than good.

Sincerely,

Angela McDonald

Sumner, Lewis C SAM

From: Robert Morrison [robertlmorrison@comcast.net]
Sent: Tuesday, June 05, 2007 3:32 PM
To: Sumner, Lewis C SAM
Cc: Rainey, Timothy A SAM; Schroedel, Joseph BG SAD
Subject: APC Request to Reduce Minimum Flow on Alabama River

This email is with regard to Public Notice No. FP07-AC01-16 dated 31 May 2007.

I have been a full-time resident on Lake Allatoona in Cherokee County, Georgia since 1998, on the same lot purchased from the USACE where my parents had a weekend cottage which was built in 1953. It has always been my understanding that Allatoona was constructed initially and primarily for flood control purposes. Allatoona's so-called summer elevation is 840 msl, a level which is most noted for rarely ever being at during the summer months of May to September. During the winter the level is drawn down to approximately 823 msl, when the surface area of Allatoona is reduced by about 25%. We live with at least 17 feet of water level fluctuations every year, not counting the flood level elevations which have exceeded 20 feet (860+ msl). In 2006, Allatoona reached the 840 msl level for less than a week in May, and then dropped about 8 feet by Labor Day, at which time most normal boating and recreational activities were curtailed or impossible. So far in 2007, Allatoona has yet to reach 840 msl, and presently is about 1.5 feet below the level in 2006, and almost 3 feet below the 840 msl summer level. The same drought conditions that are affecting Alabama are affecting the Coosa River Basin in Georgia as well. Any draw downs of Allatoona above the minimum required releases, considering the existing severe drought conditions, in my opinion are totally unjustified. It would be interesting to know what the APC lake levels were on Labor Day 2006.

APC's request has nothing to do with flood control, and everything to do with hydroelectric power generation, and keeping APC lake levels higher for recreational purposes in Alabama than they would be without regard to the severe drought conditions prevailing throughout the watershed. Unwarranted draw downs of Allatoona will have serious and lasting ecological, quality and economic impacts on residents, marinas, businesses and recreational users throughout and beyond the three counties in which Allatoona lies. APC just needs to be patient; it will eventually get all of the water it wants now from Allatoona when the winter draw downs begin. And keep in mind, no water has ever flowed the other way from Alabama to Georgia to refill Allatoona. Is it asking too much for all of us to share this pain of drought equally?

Robert Morrison

128 Myrtle Road

Woodstock, GA 30189

Sumner, Lewis C SAM

From: Mr Don Ladner [don.ladner@al-legislature.gov]
Sent: Tuesday, June 05, 2007 2:24 PM
To: Sumner, Lewis C SAM
Subject: Drought Conditions/ Water Flow Reductions

Mr. Sumner

I am writing you not in an official capacity but as a concerned citizen. While I can understand Alabama Power Company's concern

regarding lake levels as it relates to power generation it seems to me they are acting without regard to the " big picture." Reduced

water flow would affect in a major way so many aspects of life down stream i.e.; industries, municipalities the environment to mention

a few. The latter (the environment) would likely take the worst hit in long term recovery.

I have been involved in water monitoring, litter removal and other projects on the Alabama River. I believe it to be just as viable a source

of recreation as any of our other bodies of water not to mention the life blood of those entities named above. I appreciate what the USCE

does for us all and thank you for the opportunity to offer these comments.

Please feel free to contact me.

Don Ladner

334-242-7614

334-399-4035

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This message has been scanned for viruses and dangerous content by MailScanner <http://www.mailscanner.info/> , and is believed to be clean.

Sumner, Lewis C SAM

From: Laura Austin [lealaw@mindspring.com]
Sent: Monday, June 04, 2007 5:43 PM
To: Sumner, Lewis C SAM
Subject: Taxes

Taxes for Lake Property have more than doubled during the four years I've had this property - showing increased value for the property because of the lake - the boating activity is a huge industry for this area and will be irreparably harmed with release of water.

L.E. Austin & Associates, P.C.
Laura E. Austin
Attorney At Law
520 West Atlanta Street
Marietta, GA 30060
770-427-0141
FAX: 770-499-1711
lealaw@mindspring.com

IF THIS IS NOT ADDRESSED TO YOU AS AN ADDRESSEE OR COPIED TO YOU, THEN THIS COMMUNICATION IS AN INADVERTENT DISCLOSURE. PLEASE DELETE AND DESTROY THIS ELECTRONIC COMMUNICATION AND CONTACT US. ANY OPINION REPRESENTED HEREIN IN INTENDED FOR THE ADDRESSEE(S). ANY OTHER RELIANCE UPON THIS MATTER CONTAINED HEREIN IS AT YOUR OWN PERIL IF YOU ARE NOT THE ADDRESSEE AS LISTED BY US ON THIS ELECTRONIC CORRESPONDENCE.

Sumner, Lewis C SAM

From: Laura Austin [lealaw@mindspring.com]
Sent: Monday, June 04, 2007 5:41 PM
To: Sumner, Lewis C SAM
Subject: And by the way

Mr. Sumner - one more thing - it appears to me that the only lake that never gets tapped for water is Lake Burton, owned by the power company - That's not fair and not right.

L.E. Austin & Associates, P.C.
Laura E. Austin
Attorney At Law
520 West Atlanta Street
Marietta, GA 30060
770-427-0141
FAX: 770-499-1711
lealaw@mindspring.com

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Sumner, Lewis C SAM

From: Laura Austin [lealaw@mindspring.com]
Sent: Monday, June 04, 2007 5:39 PM
To: Sumner, Lewis C SAM
Subject: Lowering the water at Lake Allatoona is not an option

Mr. Sumner - I paid a fortune for the property that I have that has a little cove and dock. We are already below poole level, and it is more than inappropriate to lower our water tables further for economic gain to the south. Allatoona has taken a bad rap for years because the Corps strips the water out of the lake and sometimes, if there is a drought, the water levels never to recover. They finally ceased the horendous bacterial infestation, but a lot of that was as a result of low water tables as well. This area of Atlanta is rapidly growing, and the lake is a huge industry for this location. The property values have soared because it is, quite frankly, the closest lake property to Atlanta, but a lake is not a lake when there is no water!!!. I can't put a boat in my dock with the water table down as it is - we would be totally dry taking out another 5 feet. Please stop this madness! Alabama can use what it has and let us use what we have - we're in a drought, for goodness sakes, and we don't need to be letting our water go south for Alabama or Alabama Power to be happy and profitable. Thank you, Laura Austin

L.E. Austin & Associates, P.C.
Laura E. Austin
Attorney At Law
520 West Atlanta Street
Marietta, GA 30060
770-427-0141
FAX: 770-499-1711
lealaw@mindspring.com

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Sumner, Lewis C SAM

From: Greg Thompson [MarinaManager@GladeMarina.com]
Sent: Monday, June 04, 2007 4:21 PM
To: Sumner, Lewis C SAM
Subject: Allatoona Water Level

Mr. Sumner,

Please do not lower the lake level at Allatoona Lake. Lake Allatoona is a seasonal lake. If the lake level goes down to the winter level, it will jeopardize our business. As one USACE leasee, Glade Marina depends on the summer lake level to remain around 840mls in order to stay in business. The power companies can outsource for additional electricity. Our sole source of income comes from the summer lake level, and as such we cannot afford the loss of water.

This email is in response to the Public Notice of APC Reduced Flows.

Thank you for giving us time to respond,

Greg Thompson
Glade Marina Manager

Sumner, Lewis C SAM

From: Doug Kindred [dkindred@eau-x.com]
Sent: Monday, June 04, 2007 1:03 PM
To: Sumner, Lewis C SAM
Cc: rpapaleoni@premier-management.biz
Subject: Reject APC's request for more water

Importance: High

Attachments: image001.jpg

image001.jpg (3 KB)

Gentlemen,

It is unfortunate that most of the southeast is experiencing severe drought conditions. However, the preservation of drinking water for major population centers clearly takes precedence over preserving the ability of APC to continue to operate their lowest cost, hydroelectric, power plants. I am sure they are not excited about having to purchase power or even generate it from their more expensive coal, gas and oil fired plants.

Once water is released downstream it can not be recovered. No one knows how long or how severe this drought will be. Please reject APC's request and do not allow them to increase the outflow from upstream lakes to support power production.

Regards,

Doug Kindred

Douglas W. Kindred, P.E.

EAU Technologies, Inc

Cell: 678-644-0195

Fax: 404-759-2503

www.eau-x.com

Sumner, Lewis C SAM

From: Steve Prather [prather@bellsouth.net]
Sent: Sunday, June 03, 2007 8:02 AM
To: lewis.c.sumner@sam.usace.army.mil.
Subject: Stakeholder feedback on APC request

Attachments: Public Notice APC Reduced Flows_FINAL (2).pdf

Public Notice APC Reduced Flow...

I am re-sending with corrected email address. I believe, as you may now be aware, the email address in the attached document is incorrect. Can you please acknowledge receipt of this email - Thank You.

From: Steve Prather [mailto:prather@bellsouth.net]
Sent: Saturday, June 02, 2007 6:29 PM
To: 'lewis.c.sumner@sam.usacae.army.mil'
Cc: 'jim.mccluskey@RSCrental.com'; 'Ron Papaleoni'; 'Brian Bulthuis'; 'James Albright'; Lew Oswald (lewoswald@hotmail.com); 'Mayor Tommy Allegood (tcallegood@acworthcablenet.net)'; Scott Evans (sdevans@bellsouth.net); Steve Prather (steve.prather@hds.com); 'Alderman Bob Weatherford (E-mail)'; 'Alderman Butch Price'; 'Doug & Marsha Allen (dallen7@mindspring.com)'; Tim Houston (lthouston@att.net); Tim Richardson (trichardson@acworth.org)
Subject: FW: URGENT News

To whom it may concern:

I have read the attached request from APC along with the public notification. Although I will not pretend to understand all that was stated, I did understand enough of the information to know the APC and surrounding area stakeholders are requesting that the Corps of Engineers sacrifice one reservoir in order to save another. I just cannot fathom why this would even be considered and hope that it is not really being considered but merely being responded to in accordance with the mandated federal laws based on a formal request.

In the event there is serious consideration of the request, as a stakeholder in the Allatoona reservoir I would strongly encourage you to please not allow Allatoona and its sister water sources to be sacrificed. As the report states, Alabama is not alone in its worse drought in measurable history, but shares it with the state of Georgia and others. Allatoona is a valuable source of water for our area and it too is down from its normal pool levels. We are struggling with our own drought conditions and are losing the lake levels these summer months as we strive to keep up with our own demands for potable water.

It is unconscionable that the Corps would consider sacrificing one's resources to enhance another's. I could accept the request being considered if Allatoona was at its normal pool levels and the request was asking that the Allatoona stakeholders pitch in using our abundance to help our neighbors. Under the current conditions, Allatoona is not in a bounty position and is struggling ourselves with drought conditions and low water levels.

Please do not jeopardize our resources for this purpose - it just does not make sense.

If I may comment on a related note. This communication might have a different recommendation had the Allatoona reservoir been at full pool and had water to spare. There is no reason why we should not be at full pool had the water been allowed to rise earlier in the year or had not been allowed to be lowered to such ridiculous levels in the

winter. The surrounding stakeholders understand the purpose of the lake as a flood control reservoir but we do not understand or agree with the curve set for the lake levels and the extreme low levels achieved each year on this lake. History substantiates that this lake could operate at levels within 3 feet of its normal 840' level through October. With our mild climate, the water could be reduced to acceptable levels for the annual lake clean up performed yearly by countless volunteers as late as the first or second week of November. With December and January being some of our wettest months historically, the level could be further reduced in November to accept the winter high rainfall amounts. The lake should then be allowed ot fill starting with the January rains and effectively monitored inot the spring to prepare the normally wet months of April and May. I really believe it is time to re-evaluate the pool curves allowing for better water management in the late spring through early fall months.

I appreciate the opportunity to offer my input and hope you will seriously consider my opinions as I am confident they represent similar views to my peer stakeholders.

Best Regards,
Steve Prather
Co-Chairman, Acworth Lake Authority
5212 Dawn Drive
Acworth, GA 30101
770-974-8641 (h)

From: LAPA - General Manager [mailto:]
Sent: Friday, June 01, 2007 4:06 PM
To: 'Distribution List'
Subject: URGENT News

PLEASE read the attached information from the US Army Corps of Engineers. Alabama Power feels the need to attempt to force the Corps to increase out-flows from Lake Allatoona.

We need to respond during the next 10 days to insure that this does not happen.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 02, 2007 9:24 PM
To: Sumner, Lewis C SAM
Subject: FW: Lake Allatoona

Mr. Sumner,

Attached is an email from one of our constituents. It appears that the email in the "Release" was incorrect.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Dan & Tina Motley [mailto:danmotley@bellsouth.net]
Sent: Saturday, June 02, 2007 7:49 PM
To: LAPA - General Manager
Subject: Re: Lake Allatoona

Dear Mr. Chuck Sumner,

This email is in response to Alabama Power's request to the US Army Corps of Engineers for increased outflows from Lakes Allatoona and Carters.

The minimum specified outflows from these two lakes are 240 cfs each. According to the US Army Corps of Engineers data, these minimums are being exceeded: to wit 600 cfs at Allatoona and 400 cfs at Carters for a combined total of 2.08 times minimums or 520 cfs. Since Georgia is also experiencing severe drought conditions whereby its citizens are under outdoor watering restrictions and decreased ability to use lakes for recreational purposes, it does not seem wise to further significantly increase the draw down of these two lakes.

Good people in Georgia, Alabama, and Florida are all suffering from a lack of rain. Are all suffering equally and fairly?

Respectfully,

Dan Motley

1666 Carlson Lane

Marietta, GA 30064

danmotley@bellsouth.net

No virus found in this incoming message.

Sumner, Lewis C SAM

From: Dan & Tina Motley [danmotley@bellsouth.net]
Sent: Saturday, June 02, 2007 6:46 PM
To: Sumner, Lewis C SAM
Subject: Fw: Increased Outflows From Lakes Allatoona and Carters

Dear Mr. Chuck Sumner,
This email is in response to Alabama Power's request to the US Army Corps of Engineers for increased outflows from Lakes Allatoona and Carters.
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Respectfully,
Dan Motley
1666 Carlson Lane
Marietta, GA 30064
danmotley@bellsouth.net

Sumner, Lewis C SAM

From: LAPA - General Manager [rpapaleoni@premier-management.biz]
Sent: Saturday, June 02, 2007 5:51 PM
To: 'Steve Prather'; Sumner, Lewis C SAM
Cc: jim.mccluskey@RSCrental.com; 'Brian Bulthuis'; 'James Albright'; 'Lew Oswald'; 'Mayor Tommy Allegood'; 'Scott Evans'; 'Steve Prather'; 'Alderman Bob Weatherford (E-mail)'; 'Alderman Butch Price'; 'Doug & Marsha Allen'; 'Tim Houston'; 'Tim Richardson'
Subject: RE: URGENT News

Steve,

I think they had the incorrect email in the document. I believe that correct email address should be lewis.c.sumner@sam.usace.army.mil.

I copied Mr. Sumner on this email. Thanks.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

From: Steve Prather [mailto:prather@bellsouth.net]
Sent: Saturday, June 02, 2007 6:29 PM
To: lewis.c.sumner@sam.usacae.army.mil
Cc: jim.mccluskey@RSCrental.com; 'Ron Papaleoni'; 'Brian Bulthuis'; 'James Albright'; Lew Oswald; 'Mayor Tommy Allegood'; Scott Evans; Steve Prather; 'Alderman Bob Weatherford (E-mail)'; 'Alderman Butch Price'; 'Doug & Marsha Allen'; Tim Houston; Tim Richardson
Subject: FW: URGENT News

To whom it may concern:

I have read the attached request from APC along with the public notification. Although I will not pretend to understand all that was stated, I did understand enough of the information to know the APC and surrounding area stakeholders are requesting that the Corps of Engineers sacrifice one reservoir in order to save another. I just cannot fathom why this would even be considered and hope that it is not really being considered but merely being responded to in accordance with the mandated federal laws based on a formal request.

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I appreciate the opportunity to offer my input and hope you will seriously consider my opinions as I am confident they represent similar views to my peer stakeholders.

Best Regards,

Steve Prather

Co-Chairman, Acworth Lake Authority

5212 Dawn Drive

Acworth, GA 30101

770-974-8641 (h)

From: LAPA - General Manager [mailto:]
Sent: Friday, June 01, 2007 4:06 PM
To: 'Distribution List'
Subject: URGENT News

PLEASE read the attached information from the US Army Corps of Engineers. Alabama Power feels the need to attempt to force the Corps to increase out-flows from Lake Allatoona.

We need to respond during the next 10 days to insure that this does not happen.

All the best,

Ron Papaleoni, General Manager

Lake Allatoona Preservation Authority

678.776.6331

Restore - Preserve - Protect

Sumner, Lewis C SAM

From: MReesejr@aol.com
Sent: Friday, June 01, 2007 10:22 AM
To: Sumner, Lewis C SAM
Subject: Fwd: Against APC proposal. (CONFIDENTIAL)

Attachments: Against APC proposal. (CONFIDENTIAL)

Against APC
›roposal. (CONFID..

See what's free at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000503> .

Sumner, Lewis C SAM

From: MReesejr@aol.com
Sent: Friday, June 01, 2007 10:13 AM
To: lewis.c.sumner@sam.usacae.army.mil
Cc: Lyon, Edward I SAM
Subject: Against APC proposal. (CONFIDENTIAL)

Why should a few wealthy Lake Martin property owners benefit from the APC proposal at the cost or inconvenience of many Alabama River lake property owners? Laws and regulations are in place and should not be amended under the present drought circumstances. This would set a precedent that would never be reversed. It would also taint the Corps reputation and could be interpreted by some as showing favoritism. Alabama Power and Russell Lands own most all of Lake Martins undeveloped lots. Alabama Powers president has a mansion on Lake Martin valued in the millions. You can bet the farm that his lake friends and neighbors encouraged him to sponsor this proposal.

I am developing 171 residential lots and 725 condo units on Woodruff Lake next to Gunter Hill Campground.
My prospective owners don't like exposed sandbars, visible tree stomps or dead fish.
Please do the right thing by denying Alabama Power the right to right to hold back our legal and much needed water flow. The Alabama River and Woodruff Lake must be managed in a healthy manner.
Thank You !

Marlow Reese
3408 Oak Grove Circle
Montgomery, Al 36116

See what's free at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000503> .

Sumner, Lewis C SAM

From: Farrow Burks [farrow@reapp.com]
Sent: Monday, June 11, 2007 2:49 PM
To: Sumner, Lewis C SAM
Subject: Lake martin water levels

I am a home owner on Lake Martin and, as are many others on the Lake, very concerned over the water levels. Please do what you can to keep the levels from plummeting to levels that will take years to replenish.

Thank you,

Farrow Burks

Lake Martin, AL

Sumner, Lewis C SAM

From: Alexander, Les [lalexander@aeagroup.com]
Sent: Sunday, June 10, 2007 8:08 AM
To: Sumner, Lewis C SAM
Subject: Lake martin request

Dear Mr. Sumner,

I am a homeowner on Lake Martin, Alabama. I am writing to ask you to take every action available to the Corp to mitigate the water loss in our lake including requiring other lakes to make equally severe releases. Currently our lake is significantly below drought levels while other lakes feeding the Alabama River system are not being similarly impacted (we are 60% below).

Thank you,

Les Alexander

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Sumner, Lewis C SAM

From: JAMESRUZIC@aol.com
Sent: Monday, June 04, 2007 9:53 PM
To: Sumner, Lewis C SAM
Subject: Lake Martin Dam

Please see fit to reduce the water flow through Lake Martin Dam. I have been a home owner for 10 years and my families main recreation is on Lake Martin. I would like to ask that you keep the lake level as high as humanly possible during the drought year.
James Ruzic
4229 Wilderness Road
Birmingham, AL 35213 and
680 Quarry Road
Eclectic, AL

See what's free at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000503> .

Sumner, Lewis C SAM

From: Dannydavisc@aol.com
Sent: Monday, June 04, 2007 8:34 PM
To: Sumner, Lewis C SAM
Subject: (no subject)

Dear Mr. Sumner,

Thank you for the opportunity to respond to Alabama Power's request to reduce the flow from Martin Dam. As a homeowner on Lake Martin and in Birmingham, I am acutely aware of the severity of this summer's drought and the potentially devastating impact on the state's economy and quality of life. I believe Alabama Power has considered the statewide impact and the recommendation to reduce the flow is an equitable solution. I support their request and ask for your favorable consideration.

Danny C. Davis
4600 Round Forest Drive
Mountain Brook, AL 35213

See what's free at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000503> .

Sumner, Lewis C SAM

From: tpmelton4@bellsouth.net
Sent: Monday, June 04, 2007 6:51 PM
To: Sumner, Lewis C SAM
Subject: Lake Martin Water Level

Dear Chuck,

I support any proposal to reduce the water release from Martin Dam. Not only is one of Alabama's most beautiful areas being affected drastically by the drought from an asthetic standpoint. It is becoming a real danger. With the water level down, there are many inexperienced boaters/jet skiers who are in real danger of contacting rocks etc.. and causing great harm to themselves and others while riding in areas that would normally be acceptable. Falling below the winter pool would be unacceptable to waterfront owners, recreational users and wildlife.

THOMAS P. MELTON
Attorney at Law, L.L.C.
The Kress Building
301 Nineteenth Street North, Suite 516
Birmingham, Alabama 35203

Direct Dial (205) 458-4556
Direct Fax (205) 458-4557
Email tmelton@tmeltonlaw.com
Cell (205) 572-2001

Sumner, Lewis C SAM

From: Chris Champion [cchampion@cahins.com]
Sent: Monday, June 04, 2007 10:36 AM
To: Sumner, Lewis C SAM
Subject: Lake Martin Water Level

Mr. Sumner,

It has recently come to my knowledge the Corps is reviewing a proposal by Alabama Power to reduce the required flow of water by 10% from the Lake Martin Dam. In response to Col. Taylor's request to have public input on the request, I would like to strongly support the request by Mr. Bowers of Alabama Power.

While it is understandable, we are in a significant drought, the water level at Lake Martin is at disastrous levels that are dangerous to not only the wildlife but also recreational boaters. Lake Martin is one of the greatest places to be in the State of Alabama and as you know is used by thousands of visitors each summer. As stated we understand the drought and that water levels will still be at record lows without this reduction of flow, we feel like this will do a small part in keeping the water level from dropping even lower.

Thank you for the work you do in conserving our resources and making Alabama a great place. Please accept the proposal request by Mr. Bowers to reduce the flow of the Dam this summer.

Sincerely,

Chris Champion

SBU Producer

Cobbs, Allen & Hall, Inc.

115 Office Park Drive, Ste. 200

Birmingham, AL 35223

205-874-3611 (direct)

205-874-1990 (fax)

www.cahins.com <http://www.cahins.com/>

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Sumner, Lewis C SAM

From: Cook, Mike (COO / SRVP) [Mike.Cook@CottonStates.com]
Sent: Monday, June 04, 2007 7:41 AM
To: Sumner, Lewis C SAM
Subject: Lake Martin Water Level

Attachments: image001.jpg

image001.jpg (1 KB)

I support Alabama Power's proposal to reduce water flow by 10%.

Mike Cook

Sumner, Lewis C SAM

From: Kirk Wascom [kirk.wascom.bgqp@statefarm.com]
Sent: Monday, June 04, 2007 7:01 AM
To: Sumner, Lewis C SAM
Subject: Lake Martin Water Level

I am a homeowner in Stillwaters (Dadeville, AL) and an avid boater at Lake Martin, AL. I support reduction of the water flow to 10% in an effort to slow the reduction in water level at Lake Martin.

Thank you for your consideration.

~A. Kirk Wascom
Lakeview Ridge Golf Colony
Dadeville, AL

Sumner, Lewis C SAM

From: John A. Thompson [jat@u.washington.edu]
Sent: Sunday, June 03, 2007 8:01 PM
To: Sumner, Lewis C SAM
Subject: Lake Martin water flow

Dear Mr. Sumner,
I am writing in support of your plan to reduce the flow of water out of Lake Martin, so as to prevent the water level in the lake from dropping even more.Our family plans to vacation at the lake in June/July.

Sincerely,

John A. Thompson

Sumner, Lewis C SAM

From: WJCopeland@aol.com
Sent: Saturday, June 02, 2007 11:56 AM
To: Sumner, Lewis C SAM
Cc: vjackson@southernco.com
Subject: Fwd: FW: U.S. Army Corps of Engineers Public Notice on Alabama Power Company ...

Attachments: FW: U.S. Army Corps of Engineers Public Notice on Alabama Power Company Request for Approval to Reduce Minimum Flow on Alabama River

FW: U.S. Army Corps of Enginee...

TO: USACE

I live on Neely Henry Lake and have participated in the Alabama Power relicense meetings and I am a Professional Engineer in Alabama and a retired Colonel, USAF.

I recommend you approve the request from Alabama Power to reduce the out flow of water and feel this must be done unless you can make it rain with adequate amounts to allow the flows in the past to continue.

Also Alabama Power did a lot of engineering studies in concert with USACE and recommended the winter lake levels on lakes above and below Neely Henry be adjusted up and this was not approved by USACE. Why will you not allow Alabama Power to manage the lake levels to insure the lack of rainfall impact is minimized. If the water is not available you cannot flow what you don't have without draining the Coosa River dry and no one wants that disaster.

William J. Copeland P.E.
WJCopeland@aol.com
361 Bay Point Drive
Rainbow City, AL 35906

See what's free at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000503> .

Sumner, Lewis C SAM

From: Jackson, Viki R. [VJACKSON@SOUTHERNCO.COM]
Sent: Thursday, May 31, 2007 5:06 PM
Cc: Bowers, Willard L.; Sznajderman, Michael; Stover, Charles M.; Crew, James F.
Subject: FW: U.S. Army Corps of Engineers Public Notice on Alabama Power Company Request for Approval to Reduce Minimum Flow on Alabama River

Attachments: Public Notice APC Reduced Flows_FINAL.pdf

Public Notice APC Reduced Flow...

Sent on behalf of the U.S. Army Corps of Engineers

Attached is a public notice from the U.S. Army Corps of Engineers regarding Alabama Power Company's request for approval to reduce minimum flow on the Alabama River.

Thank you for your attention and continued interest in Alabama Power Lakes.

Viki Jackson
Support Specialist, SR
Hydro Relicensing

Phone: 205-257-2211
Cell: 205-919-6092
Fax: 205-257-1596

Email: vjackson@southernco.com

From: Eubanks, Michael J SAM
Sent: Thursday, May 31, 2007 4:07 PM
Subject: U.S. Army Corps of Engineers Public Notice on Alabama Power Company Request for Approval to Reduce Minimum Flow on Alabama River

The attached Public Notice is being distributed for public and agency 10-day comment period. Please distribute to others who may have an interest in this matter.

Mike Eubanks
Chief, Inland Environment Section
U.S. Army Corps of Engineers

<<Public Notice APC Reduced Flows_FINAL.pdf>>

Sumner, Lewis C SAM

From: Grizzle [grizzle@netmaxx.net]
Sent: Friday, June 01, 2007 8:11 PM
To: Sumner, Lewis C SAM
Subject: Martin Dam

Please sir, I ask you to seriously consider the reduction of flow from Martin Dam. I realize we can't control the drought we're having this year. The low lake level is hurting more than just people wanting to enjoy riding around in their boats. For those not familiar with the lake it has already become a hazard. Most of the area businesses are going to suffer also.
Sincerely,
Donna Grizzle

Sumner, Lewis C SAM

From: fredcanoes@aol.com
Sent: Friday, June 01, 2007 7:29 PM
To: Sumner, Lewis C SAM
Cc: cariainc@bellsouth.net
Subject: drought solutions

Dear Mr. Sumner,

Having just read Jerry Sailors assessment of the dire conditions regarding the needed water flow for our State of Alabama, notwithstanding what I have personally witnessed, my hat is off to all of you who are seeking a solution from our current water pool.

It should be sufficiently evident to the vast cross section of individuals all across our State of the impending crisis, so that drawing down from otherwise full pools of recreational lakes will just be downright necessary, unless a monsoon solution happens. As a retailer, I try to advertise in advance on items I want to sell, and such should now be the case with all parties which are part of this need.
By that I believe it is currently prudent to 'get the word out' now to various lake associations, government entities contiguous thereto the rivers, and all such to anticipate drawdowns that will, unfortunately, affect the recreational incomes they would otherwise relish receiving. It is just the fact of the situation. Appealing now to the resilency of our citizens will go a long way toward acceptance; we will survive this, and be better for it.

Respectfully yours,

Fred Couch, Jr., Couch;s Jewelers, Anniston-Oxford, www.couchs.com Chairman and CEO of the Alabama Scenic River Trail cell 256-591-0437, work 256-237-4628

AOL now offers free email to everyone. Find out more about what's free from AOL at AOL.com <http://www.aol.com?ncid=AOLAOF00020000000437> .

Sumner, Lewis C SAM

From: Jim Fitts [fittso@gulftel.com]
Sent: Friday, June 01, 2007 4:01 PM
To: Sumner, Lewis C SAM

Mr. Sumner,

I support the proposal to reduce the flow from Martin Dam.

Jim Fitts

Sumner, Lewis C SAM

From: japark@elmore.rr.com
Sent: Friday, June 01, 2007 2:35 PM
To: Sumner, Lewis C SAM
Subject: Lake Martin Water Level

Request your support in the APCO request to decrease in the outflow of water from the Lake Martin Dam.

John Park
540 Old Jasmine Hill RD
Wetumpka, Al, 36093

Sumner, Lewis C SAM

From: Regina Clinton [crclinton@gmail.com]
Sent: Friday, June 01, 2007 2:22 PM
To: Sumner, Lewis C SAM
Subject: Low Water Levels on Lake Martin

June 1, 2007

Dear Sir:

I am sending this email to you regarding the low water levels on Lake Martin. I have been living on Lake Martin for 23 years. I love Lake Martin and the community surrounding the lake. In 1985, I graduated from Auburn University with a degree in Textile Chemistry. My professors and college counselors were aghast that I did not interview with companies all over the country. However, I knew I would not be happy anywhere but Lake Martin.

The low water levels we are experiencing this year have caused great concern on my part. I am particularly worried about the environmental effects such draw downs could cause to the wildlife ecology of Lake Martin. It is my understanding that the water is allowed to flow over the dam so that wildlife below Lake Martin will not be harmed. My question is why could you not draw water from some of the other Lakes flowing along this same route. None of the other lakes in this system are being drawn down.

Please respond to my concerns at the email address on this letter.

Sincerely,

Regina Clinton

Sumner, Lewis C SAM

From: Ron Carlson [Ron@ABSHOP.COM]
Sent: Friday, June 01, 2007 2:20 PM
To: Sumner, Lewis C SAM
Subject: Lake martin water levels

I am aware of the conflicting demands on the waters of the Coosa River and the tough job you have in times like these. However, I want to remind you that Lake Martin never reached full pool last year. I think 488 was about the high water elevation and that did not last long. In light of changes that are taking place in our environment, I think the current rules should be reviewed and changed now instead of waiting on the re-licensing in 2013. An empty lake does more than annoy or inconvenience lake dwellers and users. It contributes further to our energy dependence by limiting or eliminating the generation of electricity without the use of fossil fuels.

More and more people choose to live on Lake Martin and they generate tremendous economic energy for the governments and businesses in the area. I realize the drought is one of record proportions, but the rule could be temporarily amended to provide for a full lake one month later in the season and begin filling the lake one month earlier. Winter pool could be increased to 482. We would then have live data to review at the 2013 re-licensing.

I support the reduction in flow that Alabama Power has requested. My only question is why did they wait so long?

Ron Carlson

Executive Vice President

AIG Baker Shopping Center Properties, LLC

1701 Lee Branch Lane

Birmingham, AL 35242

205 972-9649 Office Direct

205 706-6767 Cell

205 969-1051 FAX

Sumner, Lewis C SAM

From: Ruthie Barnes [rab1956@hotmail.com]
Sent: Friday, June 01, 2007 1:11 PM
To: Sumner, Lewis C SAM

Mr. Sumner,

My grandmother's maiden name was Sumners--think we might be related? Please leave our water where it is--it is like our front yard. We are not even able to use our boats.

Thank you,

Ruthie Barnes

Make every IM count. Download Windows Live Messenger and join the i'm Initiative now. It's free. Make it count! <http://im.live.com/messenger/im/home/?source=TAGWL_June07>

Sumner, Lewis C SAM

From: Kelly R. Conaty, MD, MBA [conaty@yahoo.com]
Sent: Friday, June 01, 2007 12:15 PM
To: Sumner, Lewis C SAM
Subject: LAKE MARTIN

I am in favor of restricting water releases from Lake Martin Alabama. The economic impact to the community is already devastating and not trying to curb water level drop would make matters much worse. thank you

Kelly R. Conaty
Eclectic, AL

Sumner, Lewis C SAM

From: kenneth johnson [kjohnson577@charter.net]
Sent: Friday, June 01, 2007 10:06 AM
To: Sumner, Lewis C SAM
Subject: Reduction in flow from Lake Martin

Mr. Sumner,

I support the reduction in water flow from Lake Martin. Such a drastic release will impact the livelihood of many businesses located on the lake. I appreciate your attention.

Ken Johnson

Sumner, Lewis C SAM

From: Brunson, Carl [Carl.Brunson@morgankeegan.com]
Sent: Friday, June 01, 2007 10:33 AM
To: Sumner, Lewis C SAM
Subject: FW: Reduced Flow request for Lake Martin

Mr. Sumner,

As a property owner on Lake Martin , I am concerned about the water management at Lake Martin since the middle of 2006. We have been in an obvious drought condition since at least last July, and Lake Martin seems to have taken more than its share of the burden for required flows into the Alabama River. I support the request for reduced flows out of Lake Martin because of the potential for economic losses in the area. A drawdown to winter pool levels or below at this stage will set us up for a similar situation going into the next spring and summer season. The majority of boating on the lake will cease because of lack of access. I know it is a difficult situation for everybody, but I feel Lake Martin has suffered more to this point than any of the other lakes in the area. Thanks for your consideration.

R.Carl Brunson
Managing Director
Morgan Keegan & Co.
1-800-786-8398
carl.brunson@morgankeegan.com

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http://www.morgankeegan.com

Sumner, Lewis C SAM

From: Jim Clinton [amazeu@gmail.com]
Sent: Friday, June 01, 2007 10:17 AM
To: Sumner, Lewis C SAM
Subject: Water Draws from lake martin

Gentlemen,

I am writing this email to you regarding Alabama Power's reqest for reduced draws on Lake Martin.
I support this proposal.

I am a homeowner on Lake Martin and feel that I have been treated unfairly. I understand that water is needed down stream for navigational purposes and for enviornmental reasons, also for industries to continue opperation.

There is a fair way to do this in drought conditions. Everyone should share the burden equally. If that were done, then all lakes feeding into the Alabama River watershed should be depleted by the same number of gallons, or in the alternative by the same number of inches below full pool. This is not what is happening. Lake Martin has been drawn by the greatest number of gallons and the greatest number of inches.

Draws on Lake Martin should be stopped untill all lakes in the water shed are 5.5 feet below full pool and then all should be drawn equally thereafter.

Regarding the need of papermills down stream, it seems that they should be required to modify their process so that people up stream are not being required to subsidise the cost of paper to the customers of these mills by giving up quality of life, as I am now required to do. Let the customers pay more for paper so that the mills can upgrade their effluent discharge systems.

Thank you in advance for considering my input on this matter

Sincerely
James J. Clinton

Sumner, Lewis C SAM

From: Steve Lewis [SLewis@midwestexp.com]
Sent: Friday, June 01, 2007 9:49 AM
To: Sumner, Lewis C SAM
Subject: Reduction of flow request

Attachments: image001.gif

image001.gif (5 KB)

Mr. Sumner,

Please approve the request by Alabama Power to reduce the flow from Martin Dam.

Thanks,

Steve Lewis

Sumner, Lewis C SAM

From: Hensley, Daniel K SAM
Sent: Friday, June 01, 2007 9:43 AM
To: Otto, Douglas C Jr SAM; Vaughan, Memphis Jr SAM; Allen, Robert A SAM; Sumner, Lewis C SAM; Brandt, Joanne U SAM; Curry, James R SAM; Ridenour, Devlin K SAM
Subject: FW: Drought Conditions in Alabama and Corps of Engineers Public Notice

Attachments: image001.jpg; Public Notice APC Reduced Flows_FINAL.pdf

image001.jpg (6 KB) Public Notice APC Reduced Flow...

FYI, in case you're not on the CARIA mailing list.

Danny

From: Jerry Sailors [mailto:cariainc@bellsouth.net]
Sent: Friday, June 01, 2007 9:35 AM
To: cariainc@bellsouth.net
Subject: Drought Conditions in Alabama and Corps of Engineers Public Notice

Drought conditions across Alabama and Georgia are severe with flows in many rivers and streams the lowest ever recorded. Every day sees a new record low flow set at many sites. The US Army Corps of Engineers and Alabama Power Company are being challenged to provide sufficient water to meet the needs of consumers in the Alabama-Coosa-Tallapoosa basin. Hydropower generation, water supply for municipal and industrial use, recreation, navigation, and environmental discharge permits, all functions relying on river flows, are feeling the impact.

The National Weather Service predicts, due to the current weather patterns, no appreciable prospect of precipitation relief until possibly November, with the possibility only occasionally of summer afternoon storms or perhaps a tropical storm. Just how long these drought conditions will last is uncertain, but the situation is severe and approaching the extreme.

At a meeting of the Alabama Drought Assessment and Planning Team (ADAPT) on May 24, Alabama Power presented a proposal requesting relief from the required minimum weekly flow release of 32,480 cubic feet per second (per agreement with Mobile District) from its facilities on the Coosa and Tallapoosa Rivers into the Alabama River. The proposal calls for a phased reduction in four stages so that, once begun, within three weeks, the weekly flow would be 19,488 cfs, approximately 60% of the current minimum. I cannot translate what the proposed reduction would mean in terms of river levels, but you know it will be appreciable.

Mobile District of the US Army Corps of Engineers has put out a 10-day public notice (attached) asking for comments on the proposed flow reduction and its impacts. Please be aware of this request and submit any impacts in writing to the Mobile District in accordance with the public notice instructions. Deadline for submitting the comments is Monday, June 11. Comments may be sent to Mr. Chuck Sumner of Mobile District's Inland Environment Team by fax at 251-694-3815, email at lewis.c.sumner@sam.usace.army.mil, or by postal mail at District Engineer, US Army Engineer District, Mobile, PO Box 2288, 36628-0001, Attn: Planning and Environmental Division. Posted mail should be sent to arrive no later than June 11.

I would appreciate being copied on your comments as well, using the fax, email, or mailing address listed below.

The State of Georgia has already implemented water conservation measures. Alabama is just now gearing up and has at least put out a drought advisory, but more information about stakeholder impacts is needed to determine the appropriate course of action in dealing with the current conditions and beyond. We need to be proactive in addressing these drought conditions. Let the Corps hear from you so the most beneficial solution can be found.

Jerry L Sailors

President, CARIA

(334)265-5744

(334)265-6248 Fax

(334)324-6134 Cell

300A Water Street

Suite 307

Montgomery, AL 36104-2558

Sumner, Lewis C SAM

From: Dwight Norris [norris@business.auburn.edu]
Sent: Friday, June 01, 2007 9:33 AM
To: Sumner, Lewis C SAM
Subject: Owner on Lake Martin

Would urge you to respond favorably to Alabama Power Company's request for relief in passing the water through the dam in the terrible drought.
Been at the lake over 30 years, and this is the lowest the water has even been in my memory on June 1.

Thanks

Dwight Norris

Sumner, Lewis C SAM

From: Don Hawkins [dphoton@eezznet.com]
Sent: Friday, June 01, 2007 9:03 AM
To: Sumner, Lewis C SAM
Subject: Support for reducing water flows from Lake Martin ASAP!

I would like to give my support to the proposed flow reduction from Lake Martin. Please do all you can to implement APC's flow reduction plan ASAP.

Sincerely,
Donald Hawkins (full time resident on Lake Martin)

Sumner, Lewis C SAM

From: Mooresmith, John T. [Jmooresm@burr.com]
Sent: Friday, June 01, 2007 8:17 AM
To: Sumner, Lewis C SAM
Subject: Lake Martin

Dear Mr. Sumner,

It is my understanding that Alabama Power Company has requested permission from the Corps of Engineers to reduce the drawdown of the lake this summer due to severe drought levels, and that there is a public comment period extending for 10 days from May 31st. Please add my comments in support of Alabama Power Company's request. We live full time at Lake Martin, and see first hand the problems that home owners are facing from the low lake levels. Of particular concern are weekend boaters who are not as familiar with the lake as we are, and are facing dangers from normally submerged islands and tree stumps. If the lake is drawn down any further this summer, the problems and dangers can only increase. Thank you for consideration of my comments in support of Alabama Power Company.

John T. Mooresmith

Sumner, Lewis C SAM

From: Gayle.English@protective.com
Sent: Friday, June 01, 2007 8:03 AM
To: Sumner, Lewis C SAM
Subject: Lake Martin water levels

I support the effort to stop the lowering of Lake Martin. While I realize the lack of rain has contributed greatly to this problem, the amount of 'winter pull down' also has an impact on the summer levels.

Gayle English
LAD Systems Administration
Protective Life Corporation
(205)268.3388
gayle.english@protective.com

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Sumner, Lewis C SAM

From: Jesse Cunningham [jessecunningham@msn.com]
Sent: Friday, June 01, 2007 6:41 AM
To: Sumner, Lewis C SAM
Subject: FW: Lake Martin & Alabama Power

YOUR EMAIL ADDRESS LISTED IN PUBLIC NOTICE IS INCORRECT. PLEASE SEE MY LETTER BELOW.

Jesse Cunningham
c: 228-327-2224
lake: 256-825-0919
E-mail: JesseCunningham@msn.com <mailto:JesseCunningham@msn.com>

From: jessecunningham@msn.com
To: lewis.c.sumner@sam.usacae.army.mil
Subject: Lake Martin & Alabama Power
Date: Thu, 31 May 2007 19:25:55 -0500

Dear Mr. Sumner:

As a full time resident of Lake Martin in Dadeville, AL, I would like to request that the Corps of Engineers honor the request of Alabama Power Company to reduce the flows from the Coosa and Tallapoosa River downstream into the Alabama River.

While it's understandable that some industries feel that they need/deserve a continuous water flow so that they can continue operations without interruption, we feel that everyone must suffer through this drought together. Because of mismanagement of the lake levels on Lake Martin we have been severely impacted. The Dadeville Sewage Treatment Plant has been polluting this lake for over five years and is currently operating under a Consent Decree, after a Civil Suit was filed by the Attorney General. As the levels of pollution get more concentrated as the lake is drawn down, our area of the lake could see disastrous effects.

Alabama Power has seemed reluctant to request an increase in the winter pool level, but this whole mess could have been avoided if the winter pool had been held at 485ft instead of the usual 480ft. Residents have been requesting a rise in winter pool for years with little interest or response from APCo.

Please check into the Dadeville pollution.

Jesse Cunningham
c: 228-327-2224
lake: 256-825-0919
E-mail: JesseCunningham@msn.com <mailto:JesseCunningham@msn.com>

Sumner, Lewis C SAM

From: John Dicke [johndicke@yahoo.com]
Sent: Thursday, May 31, 2007 11:07 PM
To: Sumner, Lewis C SAM
Subject: Lake Martin

Dear Mr. Sumner,

It is time something is done for better control of lake levels in the southeast. Many of the existing flood control and environmental flow standards used by the CE are outdated and need to be re-evaluated.

Lake Martins water problems are just one of this years examples of poor planning. Now that we are in this predicament, I urge you to limit the impact on the lake by reducing outflow. I know that doing this it causes other areas to be impacted, but the problem must be spread around.

It is also time to re-evaluate winter levels and be more proactive on lake level variances based on forecasts that have become much more reliable as technology increases. The current system in use could be managed much better!

Sincerely,

John Dicke
Eclectic, Al

Building a website is a piece of cake.
Yahoo! Small Business gives you all the tools to get online. <http://us.rd.yahoo.com/evt=48251/*http://smallbusiness.yahoo.com/webhosting/?p=PASSPORTPLUS>

Sumner, Lewis C SAM

From: Stephen Merrick [merrickse@gmail.com]
Sent: Thursday, May 31, 2007 10:21 PM
To: Sumner, Lewis C SAM
Subject: Fwd: Lake Martin - Reduction in Flow Output

Mr. Sumner:

As a long time Lake Martin stakeholder I am totally in support of Alabama Power Company's (APCO) request for a reduction in Lake Martin's required downstream flow.

At is current level of 484.94 the lake is only within 4.94 feet above its normal winter pool level and based on the severe draught conditions being experienced throughout the Southeast, I have to concur with APCO's request for said reduction based on the projected anticipated rainfall levels over the course of the next 30 to 60 days.

As the lake level stands today, it is having not only a major impact on the lake itself, but on numerous businesses whom rely solely on the economic impact that Summer brings to the lake to sustain a reasonable livelihood.

Therefore, based on the above as a Lake Martin Stakeholder I am totally in support of APCO's request for a reduction in Lake Martin's downstream flow requirements.

Regards,
Stephen E. Merrick
Lake Martin Stakeholder

Sumner, Lewis C SAM

From: Denise Kiely [carterlake@ellijay.com]
Sent: Wednesday, June 13, 2007 4:03 PM
To: Sumner, Lewis C SAM
Subject: Response to Public Notice FP07-AC01-16

----- Original Message -----
From: Denise Kiely <mailto:carterlake@ellijay.com>
To: lewis.c.sumner@sam.usacae.army.mil
Sent: Wednesday, June 13, 2007 1:02 PM
Subject: Response to Public Notice FP07-AC01-16

Dear Mr.Sumner,

We are writing in response to the request for comments from the public regarding the Alabama Power Company request for approval to reduce minimum flow requirements on the Alabama River.

We own and operate Carters Lake Marina and Resort, a Corps of Engineers concession. We have had the lease since 1991.

The lake is already much lower than normal for this time of year. As we are only in Mid June, the lake level will continue to drop due to low rainfall, even if no increase in release is approved. Today's lake level is 1068.6, which is 5.4 ft down from normal pool. This level is on a Wednesday, by Friday the lake is usually even lower, at the time when most of the recreational use begins for the weekend.

We have serious concerns about the impact on Carters Lake of increasing the release of water from the lake. There are several cumulative impacts that would occur if the level of the lake were to drop much further.

The impact on waterborne recreation would be severe; access to some docks would be impossible, preventing marina tenants from using their boats, the public ramps may need to be closed, preventing the general public from boating, there would be no safe area at the beach for swimming, for those able to use the lake there would be additional navigational hazards.

There would also be economic impact on the local economy; loss of revenue for the marina results in less paid to the Corps and less sales tax. Local businesses who provide goods and services to lake users would also suffer reduced revenue. The low water also damages docks, creating additional expense for the marina.

There would also be environmental impacts: shoreline erosion would increase, wildlife and fish habitats would be affected, the lake would be affected aesthetically.

We would like to submit this email as an objection to the Corps of Engineers allowing increased releases from Carters Lake.

Thank you for your consideration.

Denise & Dermott Kiely
Carters Lake Marina & Resort

600 North 18th Street
Post Office Box 2641
Birmingham, Alabama 35291

Tel 205.257.1000

ALABAMA POWER
A SOUTHERN COMPANY

June 11, 2007

BY EMAIL

Colonel Pete Taylor
District Engineer
C/O Planning & Environmental Division
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628-0001

Re: **May 31, 2007, Public Notice No. FP07-AC01-16 Concerning Alabama Power Company's Request for Approval to Reduce Minimum Flow on Alabama River**

Dear Colonel Taylor:

We are in receipt of your May 31, 2007 public notice No. FP07-AC01-16 concerning Alabama Power Company's proposal to temporarily reduce minimum navigation flow releases from the Company's Tallapoosa and Coosa River projects. Alabama Power's proposal also requested the Corps to increase releases from its Allatoona and Carters projects in response to the present exceptional/extreme drought conditions (the "Public Notice").[1] The requested downstream flow reductions and increased flows from Allatoona and Carters are critical to maintaining the reliability of Alabama Power's electric system, and to postponing and, thereby, hopefully avoiding catastrophic impacts downstream later in the summer. Alabama Power offers the following comments in response to the Public Notice:[2]

The Alabama-Coosa-Tallapoosa ("ACT") River Basin is currently experiencing historic drought conditions. On June 7, 2007, the U.S. Drought Monitor released its weekly report indicating that much of the Alabama portion of the ACT Basin is in the midst of an "exceptional" or "extreme" drought.[3] On June 8, Governor Bob Riley announced drought emergencies for 19 counties in north and central Alabama and has requested a federal disaster declaration to make farmers eligible for aid. The Governor's actions come after the Alabama Office of Water Resources issued a new advisory declaring severe drought conditions throughout the state. Flows in the Coosa River at the Alabama-Georgia state line, as measured at the

[1] Alabama Power's request included a minimum additional release of 1,000 cfs from storage from Allatoona and Carters. *See* Attachment A (May 29, 2007 e-mail from Charles Stover to Doug Otto).

[2] The Public Notice requested comments within 10 calendar days. This period ended on Sunday June 10, 2007, and we confirmed by phone with Mr. Chuck Sumner that these comments would be accepted if submitted today.

[3] *See* Attachment B (U.S. Drought Monitor reports for U.S. Southeast and Alabama, released June 7, 2007).

Mayo's Bar gage, reached an all-time low of 848 cfs on June 5, 2007.[4] That is more than 870 cfs below the previous all-time low for the month of June and is only 42% of the 7Q10 flow for June of 2,010 cfs.

Alabama Power operates 11 projects in the basin, and each project is well below not only its normal condition for this time of year, but below historic experience as well. Each of Alabama Power's hydropower facilities operate under operating licenses issued by the Federal Energy Regulatory Commission ("FERC"). Alabama Power's ACT hydropower facilities rely on adequate water levels in Alabama Power's reservoirs for hydropower production, and adequate water flows in the Coosa and Tallapoosa Rivers to replenish reservoir levels. Without adequate water levels in these reservoirs and the capacity to generate hydropower from Alabama Power's facilities, the entire Alabama Power electrical grid could be undermined, increasing the risk of brownouts and blackouts.[5] Alabama Power reservoirs also provide storage for water supply and for releases to support downstream flows.

As the attached graphs illustrate, the drought has had tremendous impacts on Alabama Power's reservoirs.[6] Lake Martin is already 6 feet below full pool, and if current conditions continue, and only minimum flows are released from Carters and Allatoona, Lake Martin will be at winter pool levels by approximately July 14, and Alabama Power's other Tallapoosa and Coosa River reservoirs will drop below winter pool levels by approximately July 27.[7] In contrast, the elevation at Allatoona Reservoir currently is above 837 feet—just 3 feet below full pool and 14 feet above winter pool in a reservoir containing 40 feet of storage.[8]

This historic drought has severely limited local inflows into Alabama Power's reservoirs. Exacerbating the stress on the reservoirs, however, are the minimum flows that continue to be released from those projects. The minimum flows are driven by a variety of considerations and obligations, and the one expressly at issue here is the "navigation flow" aggregate releases from the Coosa projects and Lake Martin of 4,640 cfs. In light of the drought, without increased releases from Allatoona and Carters, Alabama Power will be physically unable to continue to

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[4] *See* Attachment C (graph and table illustrating flows from Allatoona and Carters, and flows in the Coosa River as measured at the Mayo's Bar gage).

[5] *See* Attachment D (statement of Ronald G. Parsons, Transmission Interconnections & Operations, Alabama Power Company).

[6] *See* Attachment E (graphs showing elevation and rule curves for Alabama Power's Weiss, Henry, Logan Martin, Harris, Martin and Smith reservoirs).

[7] *See* Attachment F (containing operating plan summary for 2007 drought identifying basic projections for future operations based on minimum releases from Allatoona and Carters and the continuation of the 4,640 cfs minimum navigation flow requirement). Attachment F also contains a timeline of actions taken during 2007 to date.

[8] *See* Attachment G (graphs showing elevation and rule curves for the Corps' Allatoona and Carters reservoirs).

support navigation flows of 4,640 cfs through the summer. Reduction of navigation flow requirements, along with increased releases for Carters and Allatoona, is essential to managing the remaining storage in the ACT reservoirs for the duration of the present drought.

The proposed reduction of navigation flows set forth in Mr. Willard Bowers' letter of May 15, 2007, attached as an exhibit to the Public Notice, is based on the understanding that the Corps has not committed to release more than the minimum at-site requirements of 240 cfs from Allatoona and Carters Lakes regardless of conditions downstream. Approximately 60% of the flow being released into the Alabama River is from storage in Alabama Power reservoirs. As the drought grinds on, this proportion increases. In view of this, we maintain that at least a 40% reduction in navigation flows is an appropriate and necessary response. This level of response is not unprecedented. During both the 1986 and 1988 droughts, the navigation flows in the Alabama River were reduced by more than 40%.

As indicated in your Public Notice, the Corps has increased releases to approximately 600 cfs from Allatoona and 400 cfs from Carters. Despite these modest increases in releases from Allatoona and Carters since our letter of May 15, 2007, and without relief from the "navigation flow" requirement, Alabama Power's reservoir storage has continued to deteriorate. Even at the stated total releases of 1,000 cfs in combination from Allatoona and Carters, Lake Martin has dropped to 6 feet below full pool. In addition, without relief, water levels will drop to levels that endanger both the Alexander City and Coosa-Elmore Water Authority's water intakes in Lake Martin at elevation 475 and the Wedowee intake in Lake Harris at 783. In order to prevent the loss of these three intakes and further problems downstream of Thurlow for the remainder of the year, Alabama Power cannot draw Lake Harris below 785 and Lake Martin below 478.5. As that threat approached, Alabama Power would be forced to put greater strains on its Coosa River reservoirs to meet the current 4,640 cfs navigation flow minimum. In that case, Alabama Power's Coosa River reservoirs would quickly be pulled down well below winter pool levels, threatening the stability and reliability of Alabama Power's electric generating system, as well as other municipal and industrial water supply intake structures. With only minimum releases from Carters and Allatoona and with no reduction of the 4,640 cfs, this catastrophe could occur before the end of August. Once Alabama Power's reservoirs reached this point, it would be impossible to maintain all but the 2,000 cfs minimum flows required from Jordan for endangered species. This flow would also quickly become impossible to meet.

Alabama Power recognizes the Corps' concerns regarding water quality and assimilative capacity for municipal and industrial water users downstream from Alabama Power's reservoirs.[9]

[9] The Public Notice states that approving Alabama Power's request could "reduce navigation channel depths on the Alabama River." However, as the Corps is aware, the Alabama River channel has not been maintained for several years, and the river has not been actually navigable at flows of less than 12,000 cfs since 2005. To the degree the Alabama River is to be maintained as a navigable waterway, that responsibility is not Alabama Power's alone. The Corps has a legal obligation to dredge the river and to make navigation support releases from Allatoona and Carters.

These are important issues. Many Alabama stakeholders share these concerns as well. However, as mentioned above, if present conditions continue, navigation flows of 4,640 cfs cannot physically be maintained. The drought conditions will eventually force the reduction of those flows and the consequences to downstream interests will arise in any event. Reduced navigation flows, coupled with increased releases from Allatoona and Carters, will help sustain downstream water conditions better than abruptly eliminating flows later in the summer when the physical capacity of the ACT reservoir system runs out. In other words, it is a mistake to compare the consequences of reduced flows with "no drought" conditions. The drought is real and severe, and, so, the Corps should compare the proposed management changes with the alternative that in late summer, the system may fail to function and downstream flows will no longer be supported by the reservoirs at all.

With these considerations in mind, Alabama Power recommends that the Corps approve its proposal to reduce the navigation releases and to increase releases from Carters and Allatoona to be implemented as follows: as a reasonable first step response, an immediate reduction of navigation flow releases by 10% should be allowed, followed one week later by an additional 10% reduction, combined with releases by the Corps of at least 1,000 cfs from the storage of Allatoona Reservoir and Carters Lake. Alabama Power believes that this would be an adequate first step in responding to the extreme drought conditions suffered throughout the ACT Basin. Under current conditions, these changes would stretch storage in the Coosa and Tallapoosa projects to November, when seasonal rains are more likely. However, navigation flow releases and releases from Allatoona and Carters would have to be reconsidered continually during the drought to make necessary modifications as conditions require. If conditions continue to deteriorate, greater reductions in navigation flows and/or increased releases from Allatoona and Carters will be needed to protect various municipal and industrial entities' intake structures and, ultimately, the viability of Alabama Power's hydropower projects to maintain electric service. Alabama Power would adjust the future navigation releases as conditions warrant (after notice to the Corps and stakeholders sufficient to provide an opportunity to prepare for further changes) in proportion to future changes in inflows to the system.

Importantly, Alabama Power believes that additional releases from Allatoona and Carters would be entirely consistent with the Corps' operational manuals for both reservoirs. In fact, according to the Corps' 1993 draft reservoir regulation manual for Allatoona, which the Corps has said that it is following, the Corps should have made releases for at least two hours of hydropower generation each weekday in addition to a continuous release of 240 cfs. During May 2007, the elevation of Lake Allatoona was above 836′ at all times,[10] which is in Allatoona's Zone 1 for the month of May. According to Chart 1-11 in the 1993 draft manual for Allatoona, under such conditions the Corps is to make "normal conservation releases of water" in an amount "equivalent to between two and six hours of full powerhouse generation." Moreover,

[10] *See* Attachment G.

when Allatoona falls into Zone 2, the Corps is to make releases for two hours peak hydropower generation each weekday, plus maintain a continuous release of 240 cfs. Based on our review of the hydropower generation records for Allatoona Reservoir for May 2007, the Corps has not followed the guidelines contained in the draft manual. Had the Corps followed its guidelines, the average daily flow would have been considerably above the minimal releases made from Allatoona and Carters Lake during the month of May. This is also consistent with a basin-wide response to an exceptional/extreme drought.

Alabama Power is also providing information regarding potential water quality impacts to Weiss Lake. On November 1, 2004, the U.S. Environmental Protection Agency established a Total Maximum Daily Load ("TMDL") for nutrients in Lake Weiss.[11] Water quality modeling conducted at Weiss indicated that algae productivity in Lake Weiss increases with the retention time of the lake. As indicated in the attached documentation,[12] the retention time of Weiss Lake so far this year is approximately twice as long as the worst case conditions used in the TMDL modeling. Unless inflows are increased, this high retention time will likely result in very high algal growth and deterioration of water quality in the reservoir. Moreover, this deterioration will likely be exacerbated this year because nutrients (*e.g.*, Phosphorus) entering the reservoir during the spring (March – May) are normally moved through the reservoir rather quickly. However, this year instead of moving through the reservoir in 1-2 weeks, the retention time increased almost three fold to 46 days. Without increased inflows into Weiss Lake, extremely high eutrophication is likely, increasing the possibility of significant fish kills.

Lastly, Alabama Power's proposal is consistent with the primary purposes of Allatoona and Carters Lakes, which were both authorized and constructed for navigation, hydropower production and flood control. The legislative history of the Congressional actions authorizing both projects, as well as the Corps' own manuals and plans, clearly indicate that these primary purposes are to be reached through close coordination with Alabama Power's reservoir operations, and that the operation of both federal reservoirs was intended to aid the production of hydropower at Alabama Power's dams.[13] Indeed, Alabama Power has paid significant headwater benefits to the U.S. Treasury to pay for the construction, operation and maintenance of both federal reservoirs.

In conclusion, we ask that the Corps approve Alabama Power's proposal to temporarily reduce minimum navigation flow releases from our Tallapoosa and Coosa River reservoirs and for the Corps to increase releases from Allatoona and Carters to relieve the severe drought conditions in Alabama. Under present conditions, the ACT reservoir system would fail before

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[11] *See* Attachment H (U.S. EPA approval of TMDLs for Weiss Lake).

[12] *See* Attachment I (indicating comparative date concerning flows into Weiss Lake and retention time).

[13] The Allatoona and Carters reservoirs are located in Georgia, but the Corps' projects are to be operated in a manner to best manage the resources of the ACT Basin as a whole.

the end of the summer, during the driest period of the year. It is prudent to take steps to preserve the system until seasonal rainfall can be expected to increase toward the end of the year.

Sincerely,

Charles M. Stover
System Operations Supervisor

cc: Mr. Chuck Sumner, COE

APPENDIX
A

Stover, Charles M.

From: Stover, Charles M.

Sent: Tuesday, May 29, 2007 3:29 PM

To: Otto, Douglas C Jr SAM; Allen, Robert A SAM; memphis.vaughan.jr@sam.usace.army.mil; 'michael.h.thompson@sam.uscae.army.mil'

Cc: Atkins, Brian; Bowers, Willard L.; Akridge, R. M.; Allison, Eugene B., Jr.

Subject: Proposed Recuction of Alabama River Flow

Attachments: PROJECT 349 EXCERPT_001.pdf; Changes in Expenditures.pdf; Martin Rec Use Summary.doc

Doug and Bob,

Attached is the Martin License Article 12 dealing with navigation and 2 paragraphs from the Order issuing the license that reference the 1972 agreement.

Also attached are estimates of recreational impacts.

According to our records, here are the elevations of the water intakes @ Martin:

- Willow Point Golf Course - Current Withdrawal 0.85 MGD
  Elevation - (not yet determined)

- Alex City - Adams Water Treatment Facility - Current Withdrawal - 10.6 MGD
  Elevation of Intake - 470'

- Central Elmore water Authority - Current withdrawal - 6.7 MGD -
  Elevation of Intake 471' MD (centerline)

- Still Waters Resort - Current Withdrawal less than 1 MGD
  Elevation of Intake 484.7' MD

The storage projects on the Coosa and Tallapoosa are all below their drought contingency curve peak elevations. With inflows at record lows on the Coosa and Tallapoosa, the impact of maintaining a release of 4640 cfs to the Alabama River has fallen completely on the storage at Martin. Three scenarios, each with different discharge requirements, were forecasted to determine the scope of this impact.

#1 All projects reach winter level and flow terminates:

Weiss	558.00	7/25
Henry	506.50	7/19
Logan	459.70	7/18
Harris	784.89	7/19
Martin	479.97	7/11

#2 Flows begin to ramp by 10% a week beginning on June 16 after public comment period:

Martin	481.4	8/1

#3 Flow begin to ramp by 10% every 5 days beginning on June 1 after consultations:

Martin	483.4	8/1

APC advocates case #3 involving an immediate reduction in the provided navigation flow to the Alabama River. The navigation release would be reduced in 10% increments every five days beginning June 1st until a flow of 2784 cfs is achieved. The Martin elevation is forecasted to be at 483.4 by August 1. This case has the least devastating effects on the Tallapoosa and Coosa reservoirs.

The second scenario reviewed involves reducing the flows by 10% every seven days beginning on June 16th. Delaying a

reduction in flow until June 16th will result in Martin arriving at 481.4 by August 1.

If the 4640 cfs release is continued until the Coosa and Tallapoosa projects reach winter pool levels, the discharge is expected to be reduced to inflows by July 25th. In maintaining the 4640 cfs release throughout the summer, Martin is projected to be 14 ft below the rule curve by early August.

Additionally we would ask that you reconsider your operations at Carters and Allatoona to provide releases from storage withdrawals of approximately 1000 cfs a day to supplement the record low flows downstream of those projects. If this drought continues unabated we are in danger of loosing all generating capability at Weiss, Henry and Logan Martin as water levels become too low to operate the turbines. At Weiss at 556.0 the intake canal impinges on the turbine capacity. At Henry and Logan Martin the limits for operation are 496 and 453 respectively. Without sufficient releases from Corps storage projects we could see these levels before the summer is out. The loss of this generation would severely impact the reliability of the electric system.

Please keep us informed as to the progress of these requests.

Charles Stover

APPENDIX
B

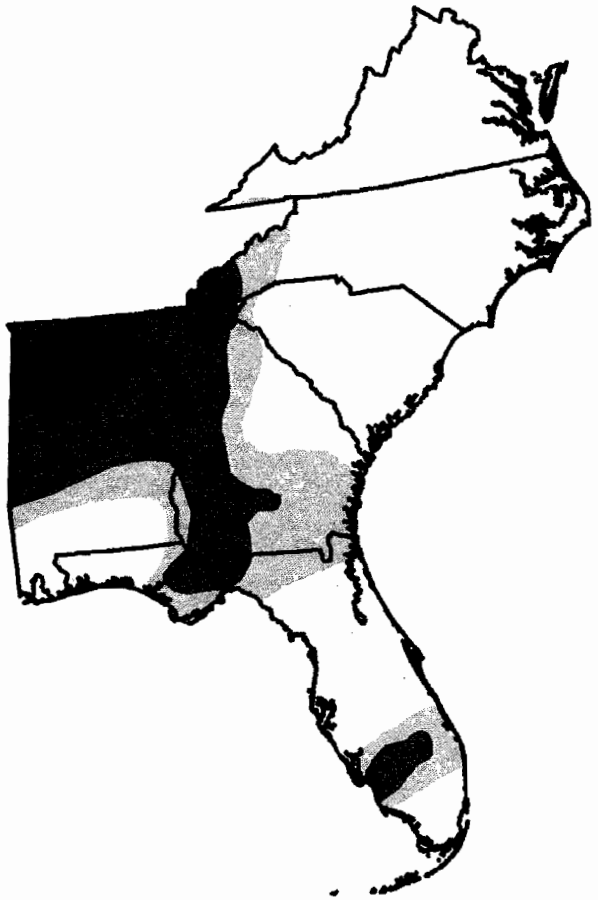
U.S. Drought Monitor

June 5, 2007
Valid 7 a.m. EST

Southeast

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.2	88.8	68.1	39.9	24.0	3.9
Last Week (05/29/2007 map)	10.3	89.7	82.6	47.6	27.6	0.0
3 Months Ago (03/13/2007 map)	24.9	75.1	24.8	1.8	0.0	0.0
Start of Calendar Year (01/02/2007 map)	52.2	47.8	10.2	1.5	0.0	0.0
Start of Water Year (10/03/2006 map)	47.0	53.0	33.2	0.0	0.0	0.0
One Year Ago (06/06/2006 map)	34.6	65.4	31.3	3.7	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

USDA National Drought Mitigation Center NOAA

Released Thursday, June 7, 2007

Author: Scott Stephens, NOAA/NESDIS/NCDC

http://drought.unl.edu/dm

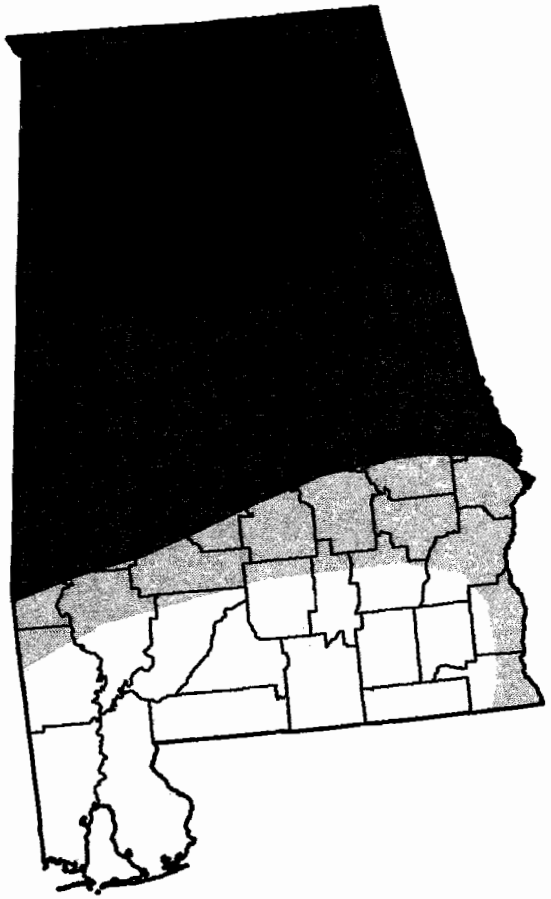
U.S. Drought Monitor

June 5, 2007
Valid 7 a.m. EST

Alabama

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.0	100.0	100.0	76.4	62.7	21.9
Last Week (05/29/2007 map)	0.0	100.0	100.0	69.1	60.1	0.0
3 Months Ago (03/13/2007 map)	5.8	94.2	60.7	7.0	0.0	0.0
Start of Calendar Year (01/02/2007 map)	51.9	48.1	0.0	0.0	0.0	0.0
Start of Water Year (10/03/2006 map)	0.0	100.0	73.3	0.0	0.0	0.0
One Year Ago (06/06/2006 map)	79.6	20.4	8.3	5.4	0.0	0.0



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

USDA National Drought Mitigation Center

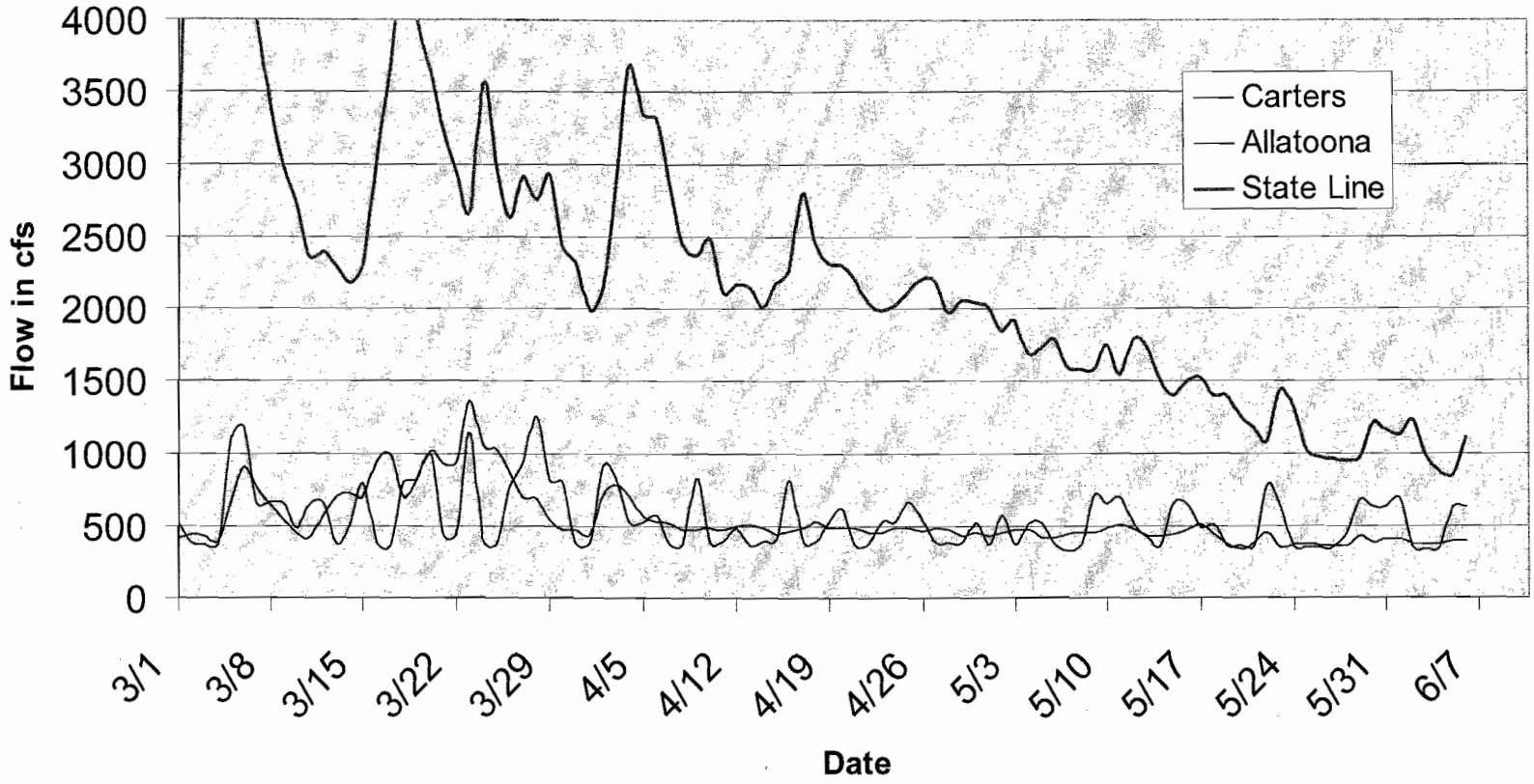
Released Thursday, June 7, 2007

http://drought.unl.edu/dm

Author: Scott Stephens, NOAA/NESDIS/NCDC

APPENDIX
C

2007 Flows from Corps Projects



Date	Coosawattee R. at Carters, GA	Etowah R. at Allatoona Dam, abv Cartersville, GA	Coosa R. near Rome, GA
3/1/2007	423	525	2900
3/2/2007	437	379	6420
3/3/2007	427	378	8220
3/4/2007	397	378	6310
3/5/2007	666	1110	4460
3/6/2007	902	1190	4160
3/7/2007	765	650	4000
3/8/2007	642	671	3390
3/9/2007	541	659	2980
3/10/2007	456	489	2730
3/11/2007	422	641	2360
3/12/2007	580	654	2390
3/13/2007	702	376	2290
3/14/2007	726	511	2180
3/15/2007	706	789	2300
3/16/2007	949	369	3080
3/17/2007	992	367	3700
3/18/2007	706	801	4460
3/19/2007	819	810	4020
3/20/2007	1020	992	3640
3/21/2007	921	425	3220
3/22/2007	937	439	2940
3/23/2007	1370	1140	2680
3/24/2007	1050	380	3570
3/25/2007	1030	378	2970
3/26/2007	869	772	2630
3/27/2007	698	923	2910
3/28/2007	684	1250	2760
3/29/2007	542	816	2930
3/30/2007	473	806	2430
3/31/2007	469	383	2330
4/1/2007	437	388	1990
4/2/2007	714	914	2150
4/3/2007	784	825	2870
4/4/2007	708	530	3680
4/5/2007	569	532	3340
4/6/2007	531	578	3320
4/7/2007	515	378	2880
4/8/2007	478	378	2450
4/9/2007	478	825	2370
4/10/2007	485	387	2490
4/11/2007	479	391	2110
4/12/2007	492	484	2170
4/13/2007	510	363	2150
4/14/2007	491	397	2010
4/15/2007	436	402	2180
4/16/2007	467	810	2260

Date	Coosawattee R. at Carters, GA	Etowah R. at Allatoona Dam, abv Cartersville, GA	Coosa R. near Rome, GA
4/17/2007	484	389	2800
4/18/2007	532	390	2450
4/19/2007	484	535	2320
4/20/2007	490	618	2310
4/21/2007	481	378	2220
4/22/2007	447	380	2040
4/23/2007	451	526	1990
4/24/2007	481	531	2020
4/25/2007	486	666	2110
4/26/2007	465	528	2200
4/27/2007	483	379	2190
4/28/2007	472	379	1980
4/29/2007	426	381	2060
4/30/2007	452	524	2040
5/1/2007	428	378	2010
5/2/2007	452	574	1850
5/3/2007	479	378	1920
5/4/2007	470	523	1690
5/5/2007	420	523	1730
5/6/2007	418	378	1800
5/7/2007	443	333	1610
5/8/2007	456	378	1580
5/9/2007	455	714	1580
5/10/2007	488	650	1750
5/11/2007	508	704	1550
5/12/2007	475	511	1800
5/13/2007	425	416	1740
5/14/2007	426	367	1510
5/15/2007	441	657	1400
5/16/2007	474	649	1500
5/17/2007	510	489	1520
5/18/2007	445	511	1400
5/19/2007	373	366	1400
5/20/2007	337	366	1250
5/21/2007	387	366	1170
5/22/2007	447	783	1090
5/23/2007	354	640	1430
5/24/2007	368	354	1310
5/25/2007	373	354	1020
5/26/2007	361	354	972
5/27/2007	357	354	955
5/28/2007	359	447	946
5/29/2007	434	681	972
5/30/2007	381	635	1210
5/31/2007	404	634	1160
6/1/2007	408	688	1130
6/2/2007	369	345	1230

Date	Coosawattee R. at Carters, GA	Etowah R. at Allatoona Dam, abv Cartersville, GA	Coosa R near Rome, GA
6/3/2007	368	344	979
6/4/2007	375	343	882
6/5/2007	394	629	848
6/6/2007	393	630	1110

APPENDIX
D

Reliability Impacts On Transmission System Operation Due To Reduced Availability Of Alabama Power Company Hydro Generation

The reliable operation of Alabama Power Company's interconnected transmission system would be negatively impacted by reducing the availability of our Hydro Generation, particularly during our peak demand months this summer. Some of the effects on transmission system reliability caused by reduced hydro availability this summer would be, but are not limited to the following:

- The transmission system is planned, designed and constructed assuming that all but two elements of our bulk power system (transmission lines and generators) are available to serve our customers peak summer demand. Reduced availability of our Hydro generation when daily system loads are greater than 92% of our forecasted peak demand for that day will result in the potential for the following reliability problems:
    - Thermal overloads on transmission lines
    - Inability to remove equipment from service to perform emergency maintenance
    - Inability to redirect power flows during system outages
    - Inability to redirect power flows to accommodate unexpected generator outages or unusual generation dispatch patterns
- Potential curtailment of non-firm business on our bulk power system during peak load conditions
- Potential reduction in certain fossil generation due to the inability to provide cooling water from the reservoirs to fossil plants during peak load conditions on the bulk power system

As reduced availability of our Hydro generation becomes more severe, all of the reliability issues listed above become more probable. Ultimately, the only control mechanism left to prevent a wide area blackout is to curtail service to large numbers of our customers in order to solve these identified reliability problems and maintain the stability of our bulk power system.

Ronald G. Parsons
Manager -
Transmission Interconnections and Operations

6-11-07
Date

APPENDIX
E

APC Hydro Operating Plan Summary

Record Drought Conditions 2007

(blue is 6/11 modeling - revised 6/11/07)

Assumes minimum release from upstream Corps projects and no reduction in navigation release.

Stage 1 — Dry Winter

January 1 – February 16

- Begin at normal winter levels
- Normal Operations

Stage 2 — Limit Tallapoosa to Thurlow Minimum

February 17 – March 8

- Begin Martin and Harris at winter levels
- Reduced Thurlow flow on February 27
- Filling all projects

Stage 3 — Filling While Meeting Navigation Flow from Coosa

March 8 - April 8

- Limit releases to navigation flow beginning March 8
- Filling all projects
- Further reduction in Thurlow Minimum Flow by pulsing
- Reduction of Jordan spring release

Stage 4 — Pull Coosa to Meet Navigation – Filling Tallapoosa

April 9 – May 18

- Begin Coosa at full – Tallapoosa 3-4 feet low
- Pull 1 foot from Lay and Mitchell

Stage 5 — Pull Martin to Meet Navigation – Pull Coosa for Jordan Minimum

May 19 - June 2

- Weiss and Logan Martin near or below drought curves

Stage 6 — Pull Martin to Meet Navigation – Pull Lower Coosa for Jordan 2250

June 2 – June 30

- Jordan to 2250 by June 5
- Notices to pull Lay, Mitchell and Jordan up to3 feet below normal

Stage 7 Pull Martin to Meet Navigation – Pass 3000 from Logan Martin

July 1- July 27

- Water to meet DO, Gaston temperature and Bowater
- Store 750 in Lay, Mitchell and Jordan

Stage 8 Thurlow to 300 – Coosa Meets Navigation - 3000 from L Martin

July 27 - August 28

- Tallapoosa meets minimum only and holds for water intakes
- Harris at 785 – Martin at 487.5 (Water supplies)
- Water to meet DO, Gaston temperature and Bowater

Stage 9 Lower Coosa Meets Jordan 2250

August 29 – August 31

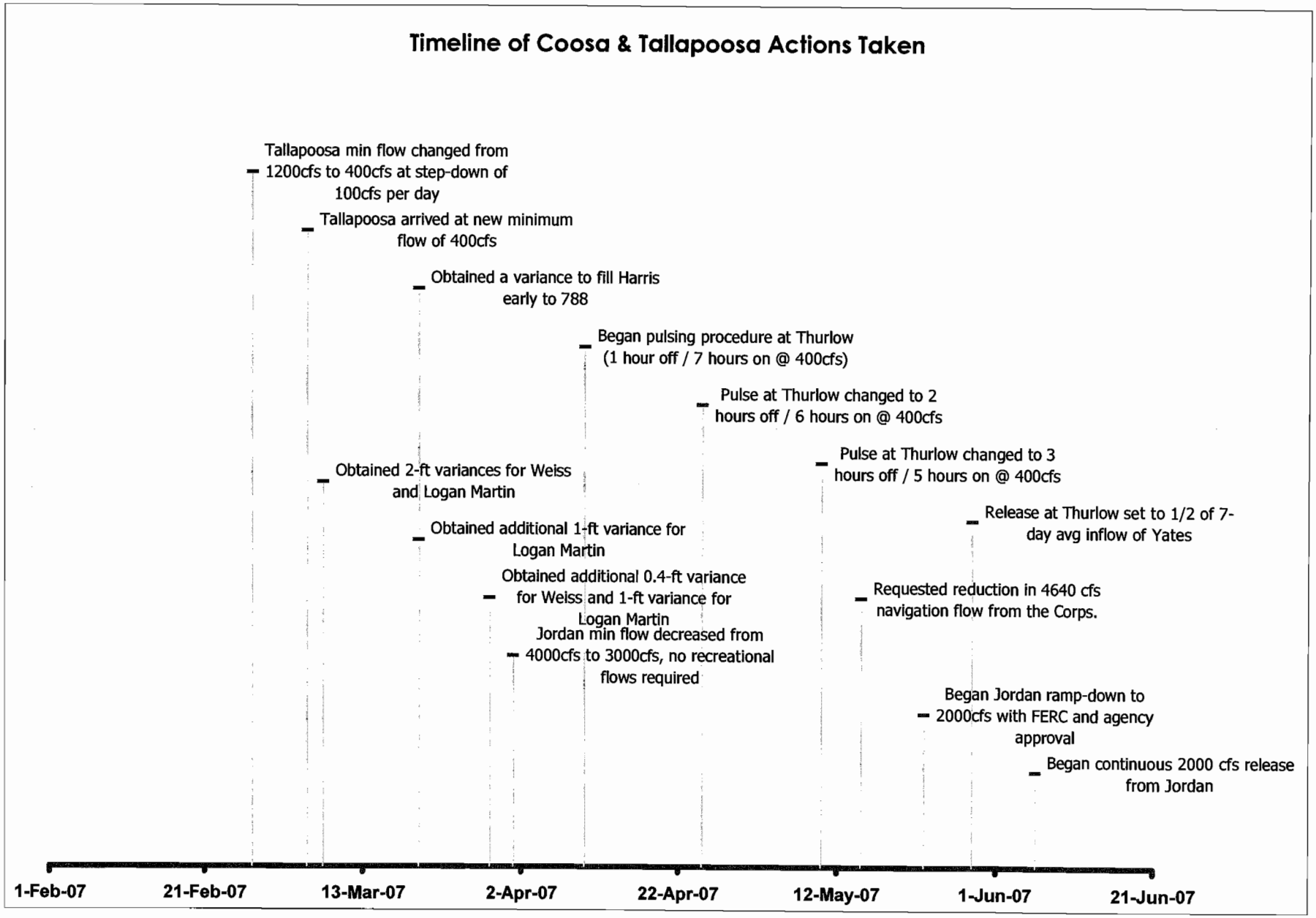
- Upper Coosa at lower limits Weiss 555.5 – Henry 500 – Logan Martin 452.5
- Inflow by Logan Martin
- Pull lower Coosa to Limits
- 300 from Thurlow

Stage 10 Coosa Storage Exhausted – Pass inflow

September 1

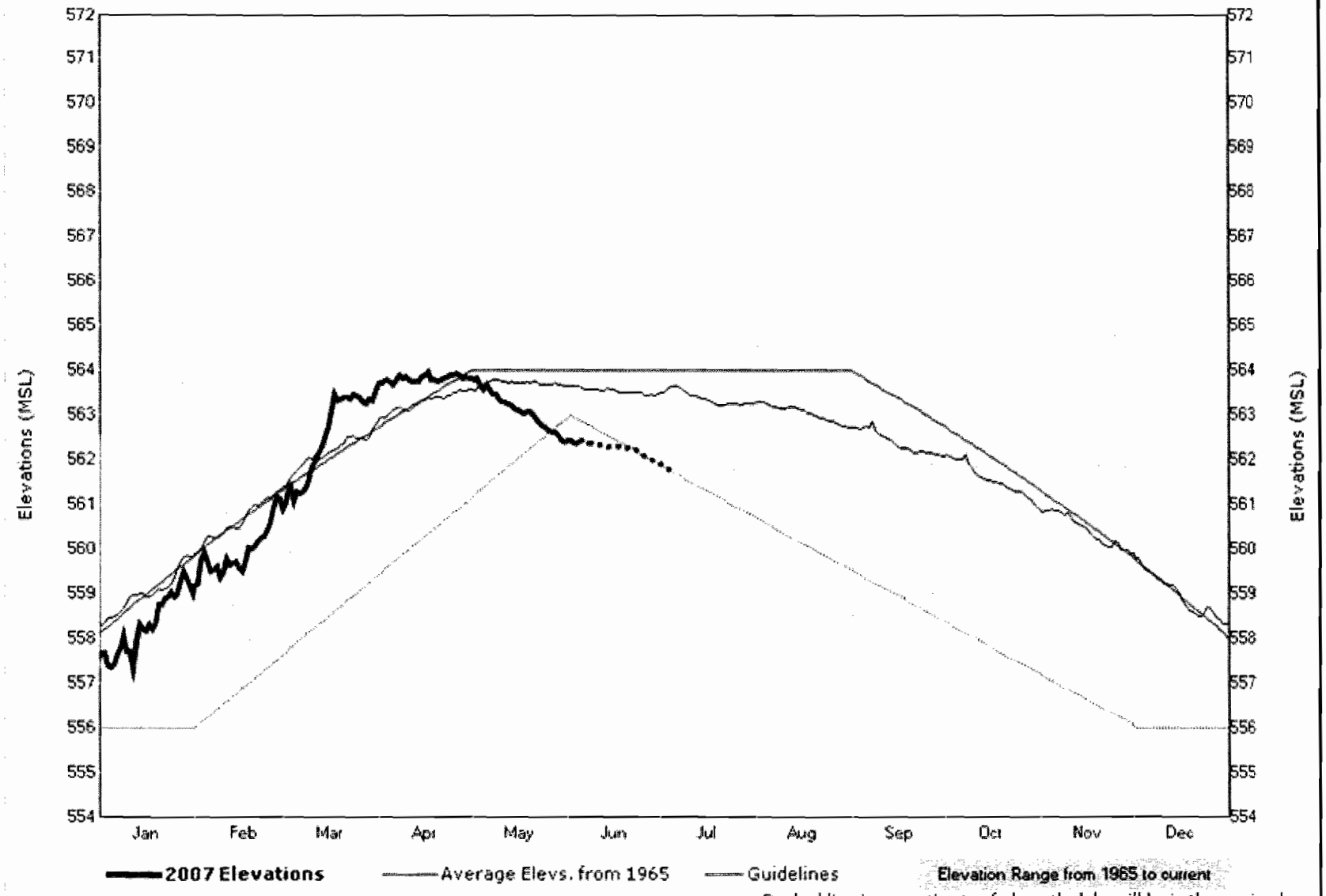
- Upper Coosa at lower limits Weiss 555.5 – Henry 500 – Logan Martin 452.5
- Inflow by Logan Martin
- Lower Coosa at lower limits Lay 389 – Mitchell 305 – Jordan 248
- 300 from Thurlow

Water supply limits in blue are increase by 1 foot. Hydro plant operational limits are in red.
Jordan – Bouldin are limited by both at the same elevation


Timeline of Coosa & Tallapoosa Actions Taken
Tallapoosa min flow changed from 1200cfs to 400cfs at step-down of 100cfs per day
Tallapoosa arrived at new minimum flow of 400cfs
Obtained a variance to fill Harris early to 788
Began pulsing procedure at Thurlow (1 hour off / 7 hours on @ 400cfs)
Pulse at Thurlow changed to 2 hours off / 6 hours on @ 400cfs
Pulse at Thurlow changed to 3 hours off / 5 hours on @ 400cfs
Obtained 2-ft variances for Weiss and Logan Martin
Release at Thurlow set to 1/2 of 7-day avg inflow of Yates
Obtained additional 1-ft variance for Logan Martin
Obtained additional 0.4-ft variance for Weiss and 1-ft variance for Logan Martin
Requested reduction in 4640 cfs navigation flow from the Corps.
Jordan min flow decreased from 4000cfs to 3000cfs, no recreational flows required
Began Jordan ramp-down to 2000cfs with FERC and agency approval
Began continuous 2000 cfs release from Jordan
1-Feb-07
21-Feb-07
13-Mar-07
2-Apr-07
22-Apr-07
12-May-07
1-Jun-07
21-Jun-07

APPENDIX
F

Alabama Power - WEISS



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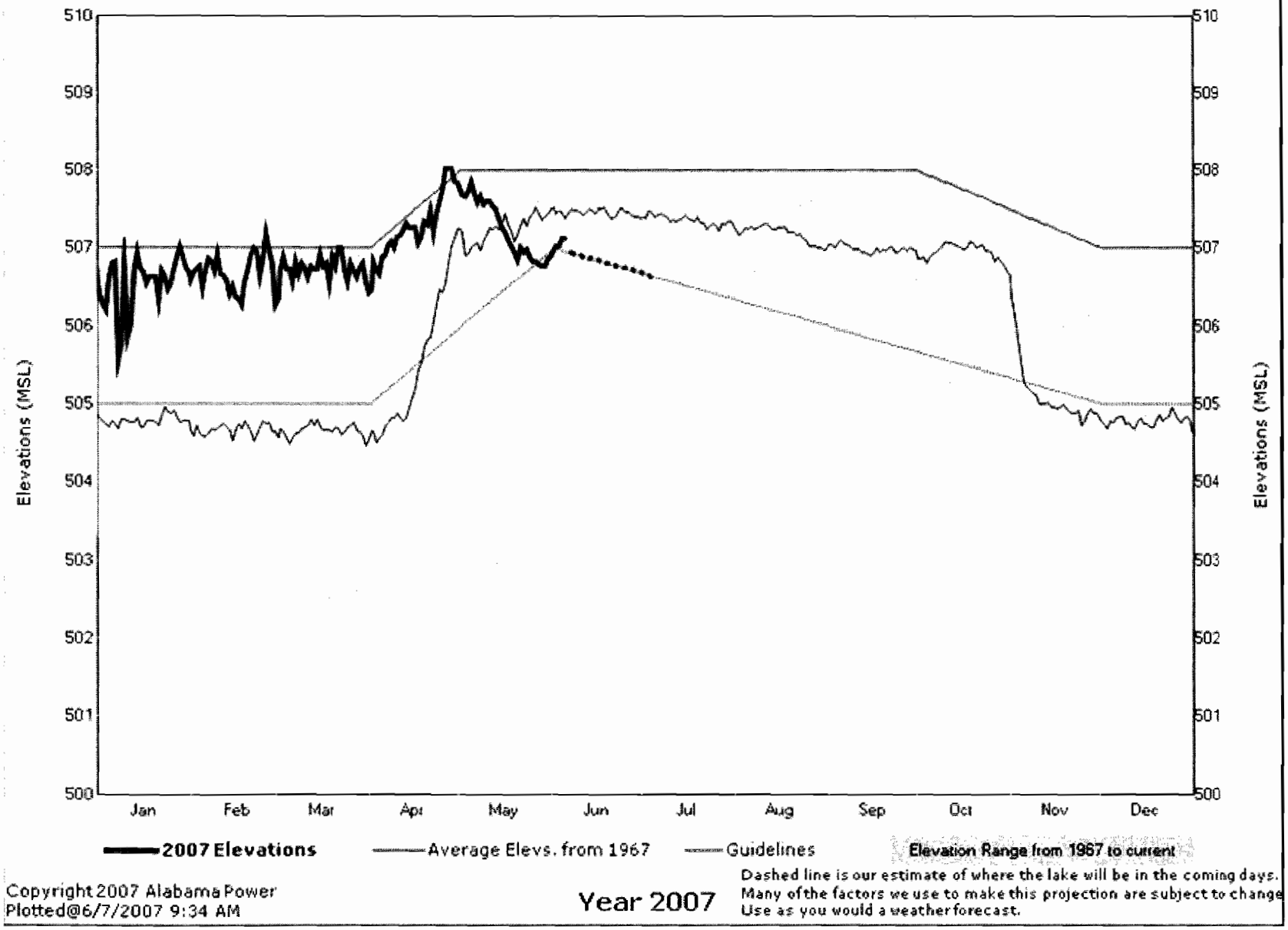
Year 2007

Dashed line is our estimate of where the lake will be in the coming days.
Many of the factors we use to make this projection are subject to change
Use as you would a weather forecast.

Alabama Power - HENRY



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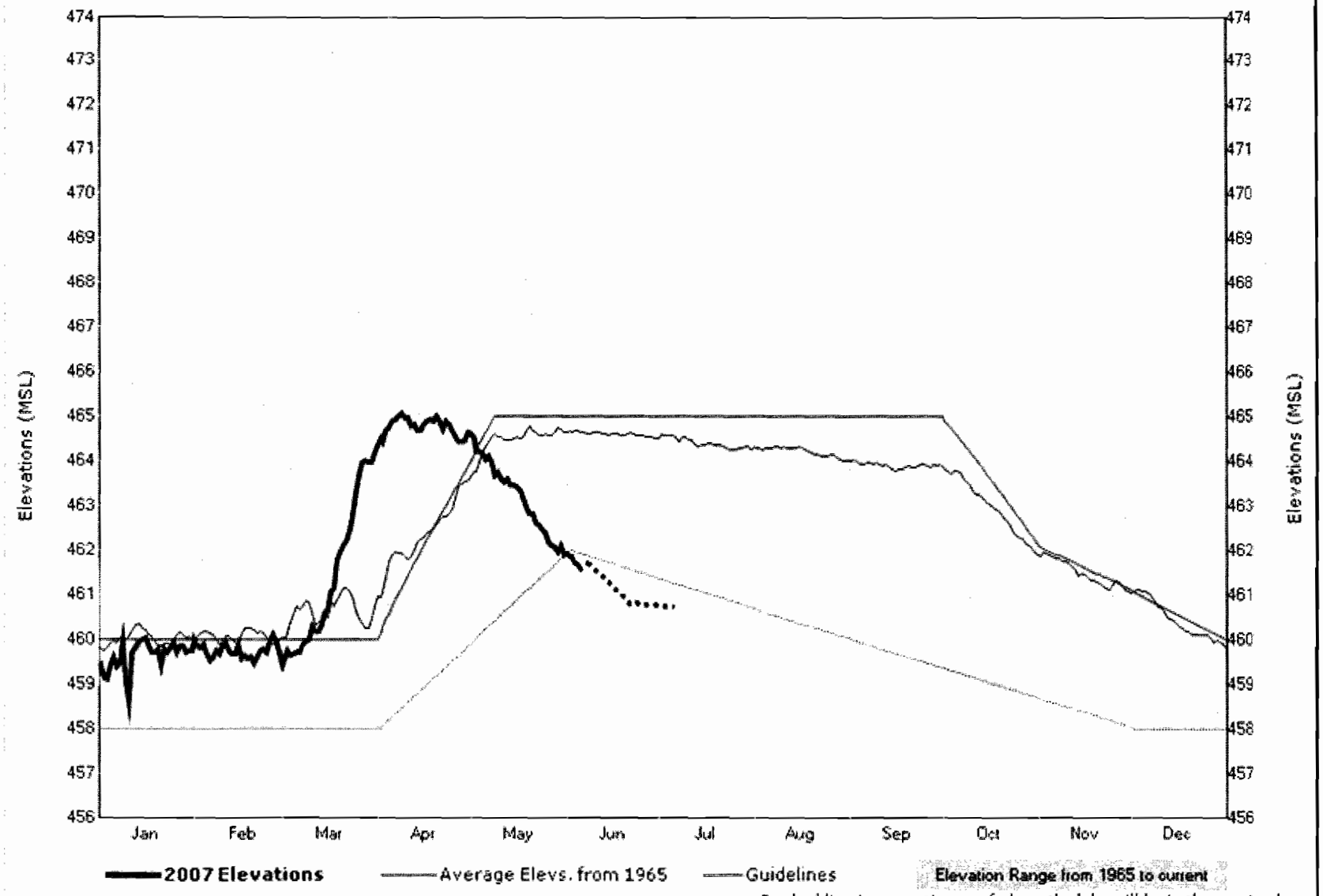
Alabama Power - LOGAN MARTIN



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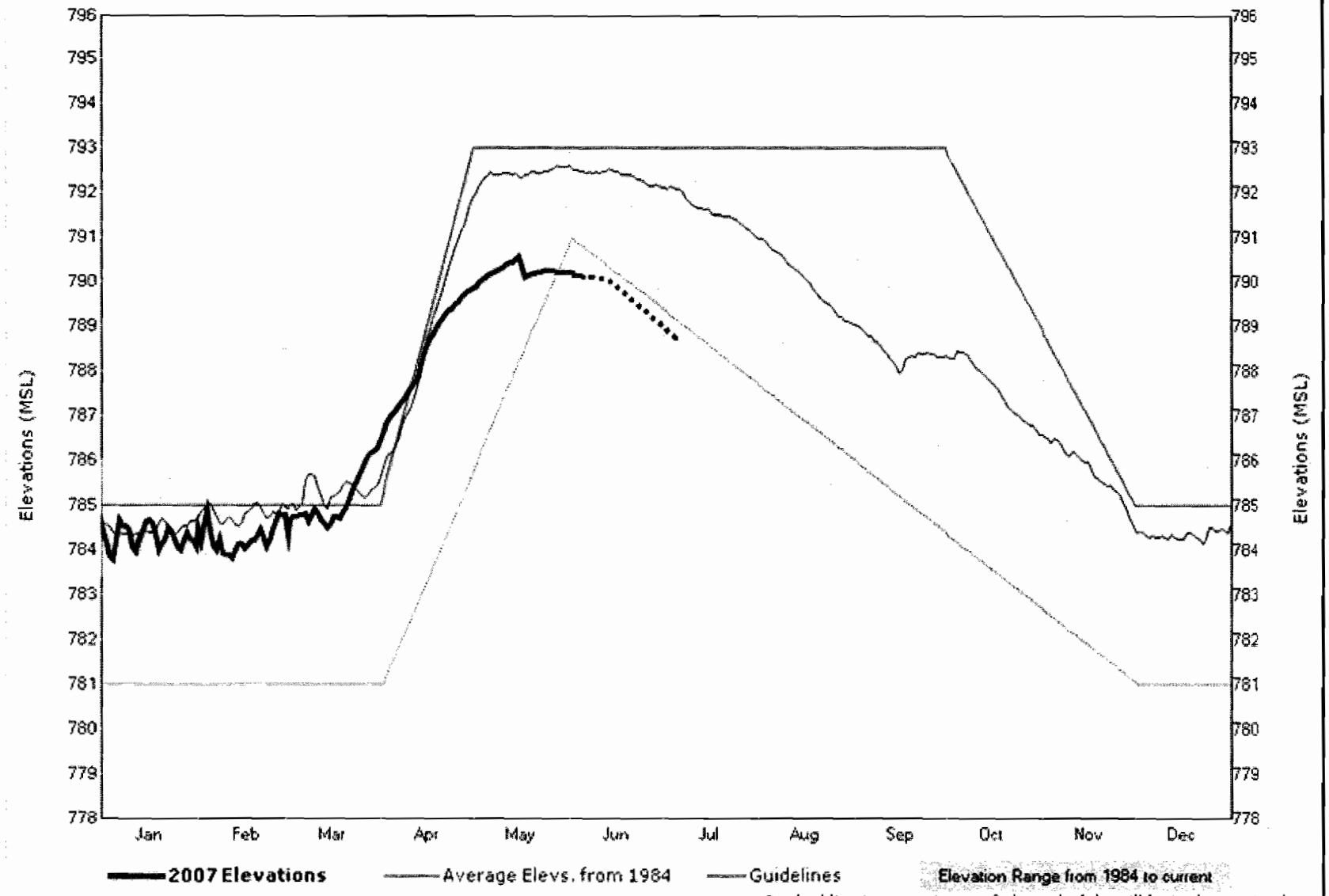
Alabama Power - HARRIS



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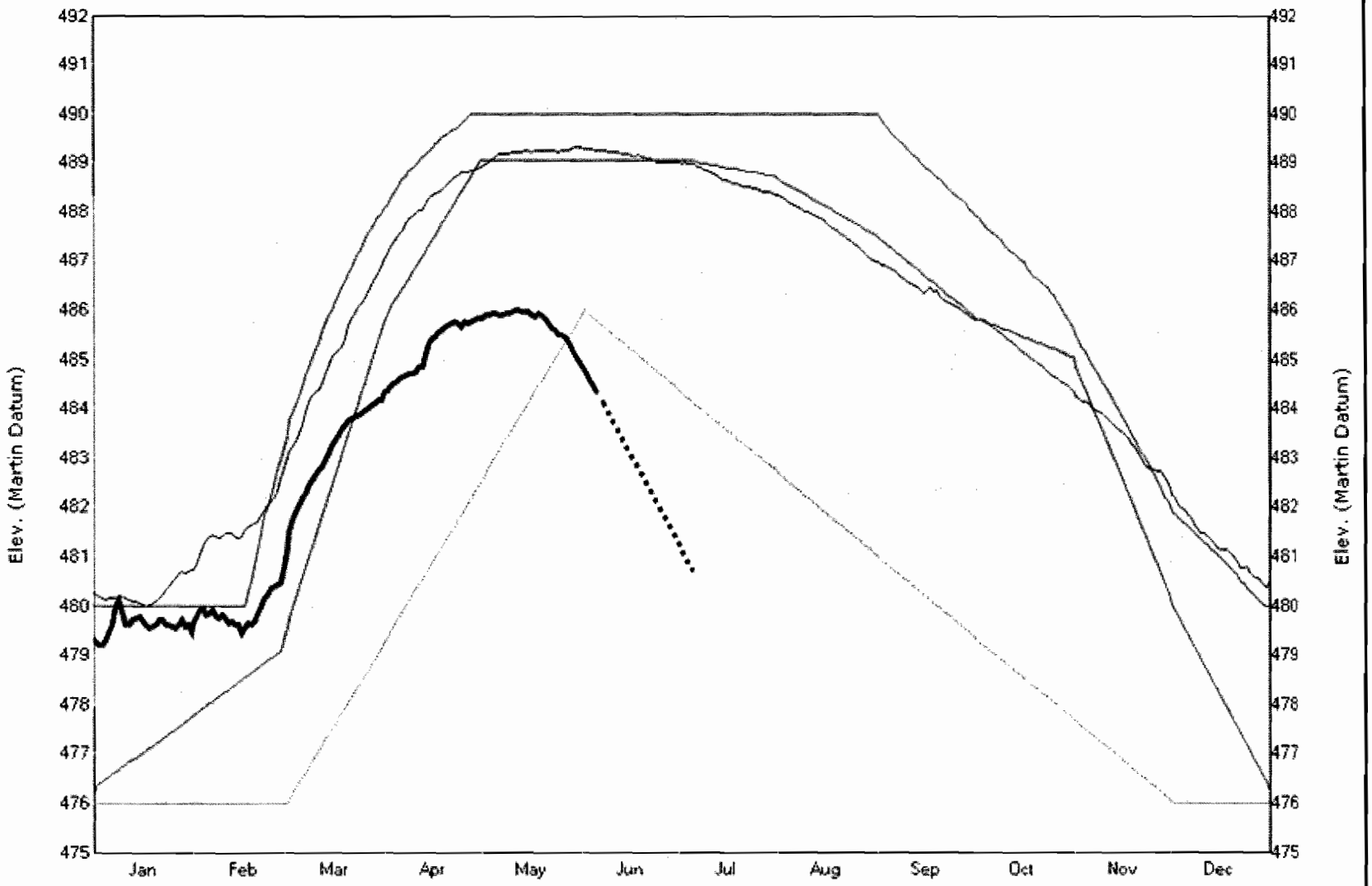
Alabama Power - MARTIN



2007 Elevations — Average Elevs. from 1960 — Guidelines — Elevation Range from 1960 to current

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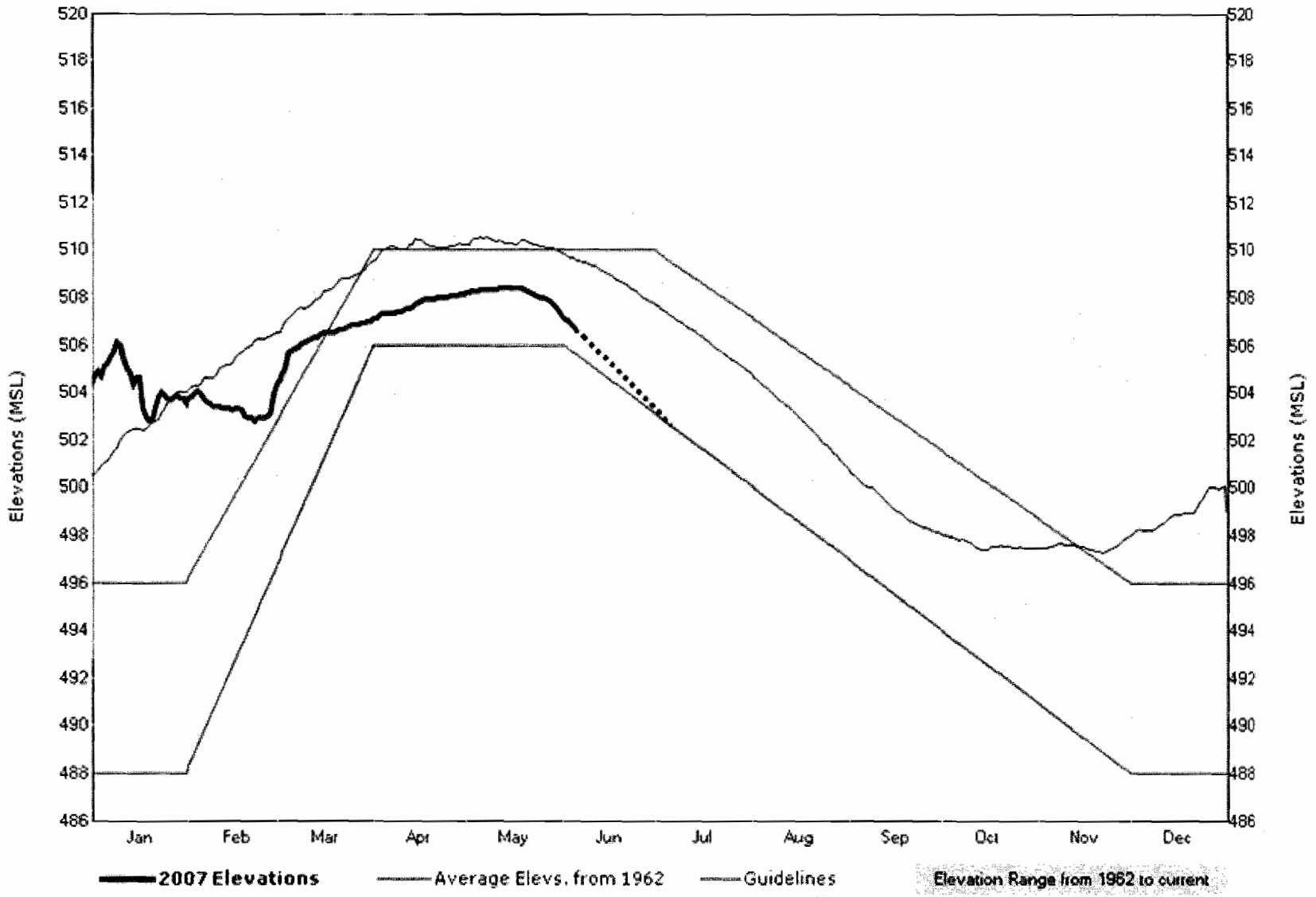
Alabama Power - SMITH



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APPENDIX
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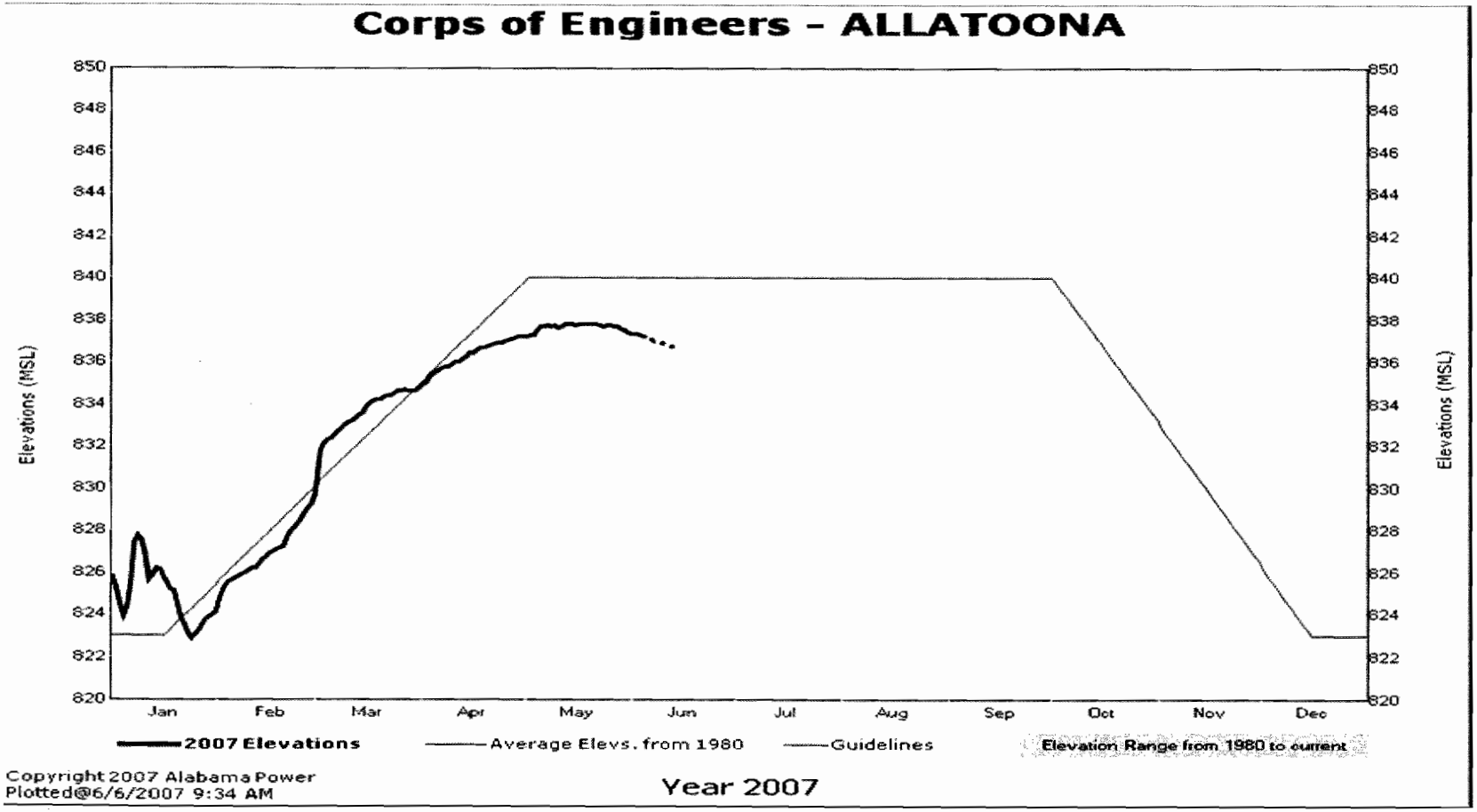
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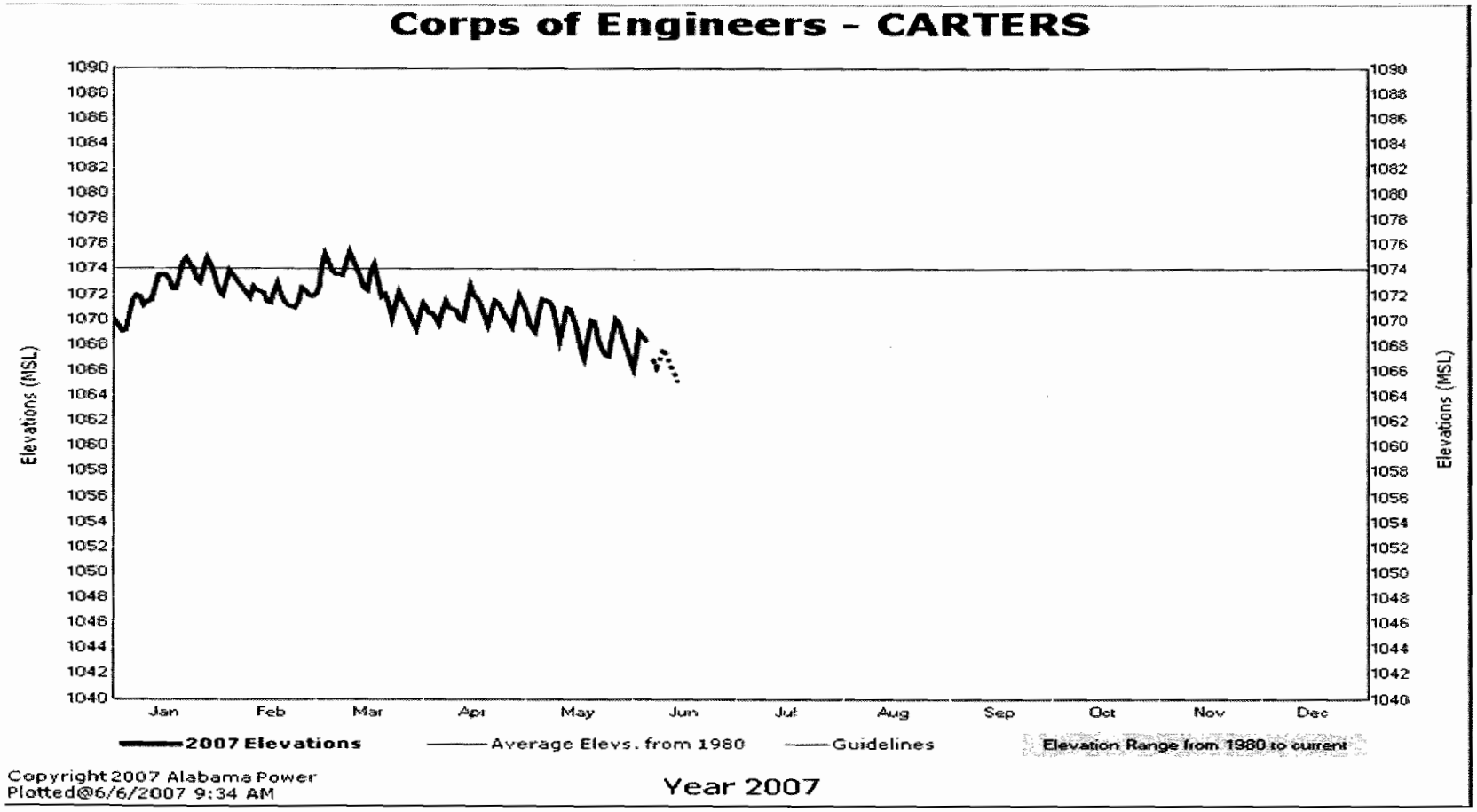
Corps of Engineers - CARTERS
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Year 2007

APPENDIX
H

TOTAL MAXIMUM DAILY LOAD (TMDL) DEVELOPMENT

For NUTRIENT ENRICHMENT in

LAKE WEISS

(HUC 03150105)

Cherokee County, Coosa River Basin, Alabama

EPA
United States
Environmental Protection
Agency

Region 4
serving the southeast

Under the authority of Section 303(d) of the Clean Water Act, 33 U.S. Code §1251 et seq., as amended by the Water Quality Act of 1987 (PL 100-4), the U.S. Environmental Protection Agency is hereby establishing a TMDL for nutrients in Lake Weiss.

/s/ 11/01/04

James D. Giattina, Director
Water Management Division

Date

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Introduction

Section 303(d) of the Clean Water Act (CWA) as Amended by the Water Quality Act of 1987, Public Law 100-4, and the United States Environmental Protection Agency's (USEPA/EPA) Water Quality Planning and Management require each State to identify those waters within its boundaries not meeting water quality standards. Total maximum daily loads (TMDLs) for all pollutants violating or causing violation of applicable water quality standards are established for each identified water. Such loads are established at levels necessary to implement the applicable water quality standards with consideration given to seasonal variations and margins of safety. The TMDL process establishes the allowable loadings of pollutants or other quantifiable parameters for a water body, based on the relationship between pollution sources and in-stream water quality conditions, so that states can establish water-quality based controls to reduce pollution from both point and nonpoint sources and restore and maintain the quality of their water resources (USEPA, 1991).

Problem Definition

Alabama's Section 303(d) lists identified forty miles of Lake Weiss in the Coosa River Basin between the Alabama-Georgia state line to the Lake Weiss powerhouse dampool as not supporting its designated use as a fishing water, with the pollutant of concern being nutrient enrichment. The Specific Lakes water quality criteria and antidegradation narrative criteria from the Code of Alabama rules and regulations (335-6-10.11 and 335-6-10.06 (c), 2001) applies. This listing decision was based on historical routine monitoring data that was collected in Lake Weiss and the data available in the Lake Weiss Phase 1 Diagnostic/Feasibility Study for water years 1991 and 1992 (Bayne 1993).

Target Identification

The chlorophyll-a target is based on Alabama Water Quality Criteria Applicable to Specific Lakes (335-6-10-.11 (2) (b) (1)) for Lake Weiss in the Coosa River Basin. chlorophyll-a: the mean of photic-zone composite of chlorophyll-a samples collected monthly April through October shall not exceed 20 ug/l, as measured at the deepest point, main river channel, power dam forebay; or 20 ug/l,

as measured at the deepest point, main river channel, immediately upstream of the causeway (Alabama Highway 9) at Cedar Bluff. This water quality criterion was approved by USEPA in August 2002. The target level for the development of the nutrient enrichment TMDL in Lake Weiss are these specific lake criteria of 20 ug/l chlorophyll-a. The TMDL will be represented by the average nutrient loads that are allowable so that the reservoir achieves an average growing season (May-October) reservoir-wide chlorophyll-a concentration of 20 ug/l. This target will allow for sufficient productivity in the reservoir to maintain the fisheries, but on the other hand, reduce the risk of nuisance blooms of algae and reduce the hypolimnetic oxygen deficit, thereby improving fish habitat.

Background

Lake Weiss is a major impoundment with significant recreational fishing value to the public in both northeast Alabama and northwest Georgia. In addition, the reservoir serves as a source of water supply for the town of Cedar Bluff in Alabama. Alabama Power Company constructed the reservoir and manages hydroelectric operation with a generating capacity of 87,750 kilowatts.

Lake Weiss was formed when Alabama Power impounded the Coosa River in 1961 for the purpose of hydroelectric power generation. Other major tributaries to Lake Weiss include the Chattooga and Little Rivers. Lake Weiss drains approximately 13,657 square kilometers, most of which is located in northwest Georgia. The dam is a gravity concrete and earth-fill type with a maximum height of 26 meters. The reservoir is located in Cherokee County in northeastern Alabama near the Alabama-Georgia state line. (See Figure 1) The headwaters of the reservoir extend into Floyd County, Georgia. The Alabama towns of Centre, Leesburg, and Cedar Bluff are located in the immediate proximity of Lake Weiss, and the City of Rome, Georgia is located approximately 27 river miles upstream from the reservoir's headwaters. The reservoir lies in the Coosa Basin in the valley and ridge physiographic province of Northern Alabama. The reservoir at full pool encompasses over 12,000 hectares of surface area and a volume of almost 38,000 hectare-meters.

Full pool elevation is 172 meters above mean sea level and average depth of the reservoir is 3.1 meters. Drawdown of approximately 2 meters occurs from September until December, and the reservoir is allowed to reach full pool again by May. Average hydraulic retention time in the

reservoir is approximately 18 days. Lake Weiss typically does not become thermally stratified due to its high flushing rate and relatively shallow average depth. Lake Weiss is chemically well mixed, but vertical gradients in dissolved oxygen are present during the spring, summer, and fall growing seasons.

Alabama Department of Environmental Management water-use classifications for Lake Weiss are:

- **Weiss Dam Powerhouse to Spring Creek** – Public Water Supply/Swimming/Fish and Wildlife
- **Spring Creek to state line** – Swimming/Fish and Wildlife

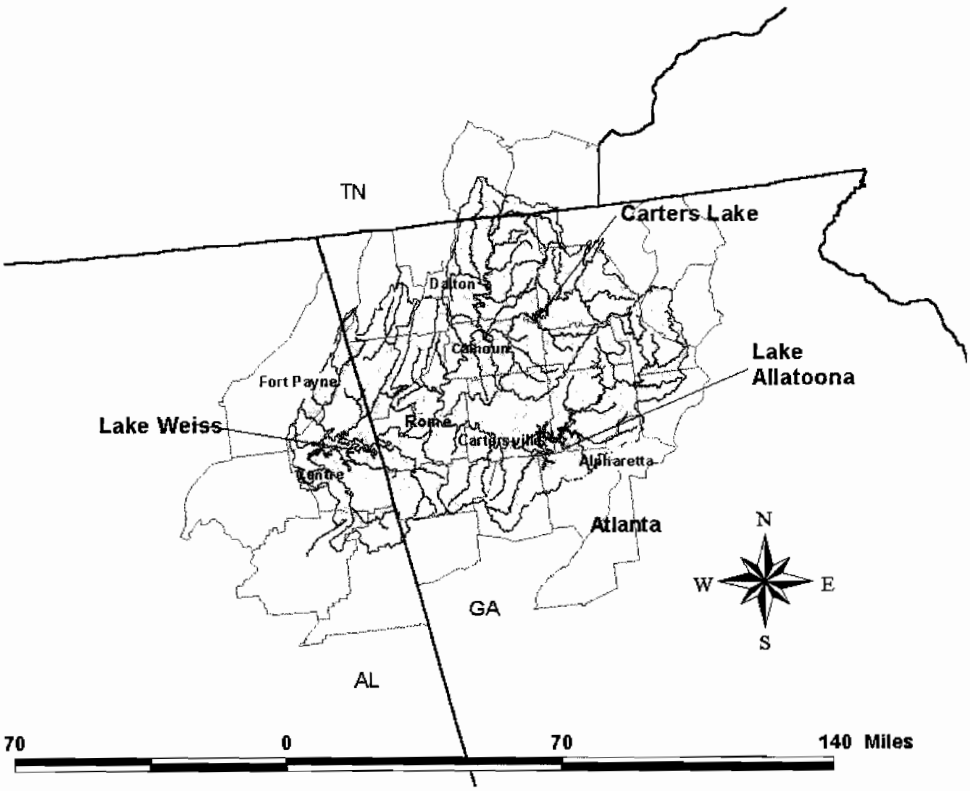

Figure 1: Lake Weiss Location Map

Available Monitoring Data

EPA Region 4 compiled the available monitoring data in the report "Summary of Water Quality Data and Information Developed Pursuant to Lake Weiss TMDL Study" (EPA, 2000). These data included reservoir vertical and longitudinal profiles for nutrients, algae, dissolved oxygen, and temperature. Other available data included meteorological, sediment oxygen demand, and algal growth potential test data and additional tributary monitoring conducted by Alabama Department of Environmental Quality (ADEM), Georgia Environmental Protection Division (GaEPD), and the United States Geologic Survey (USGS).

Figures 2, 3 and 4 indicate the levels of chlorophyll-a in Lake Weiss along with the flow and phosphorus concentrations and loadings to the lake. From 1991 to 2000 there has been a downward trend in the phosphorus loads to the lake.

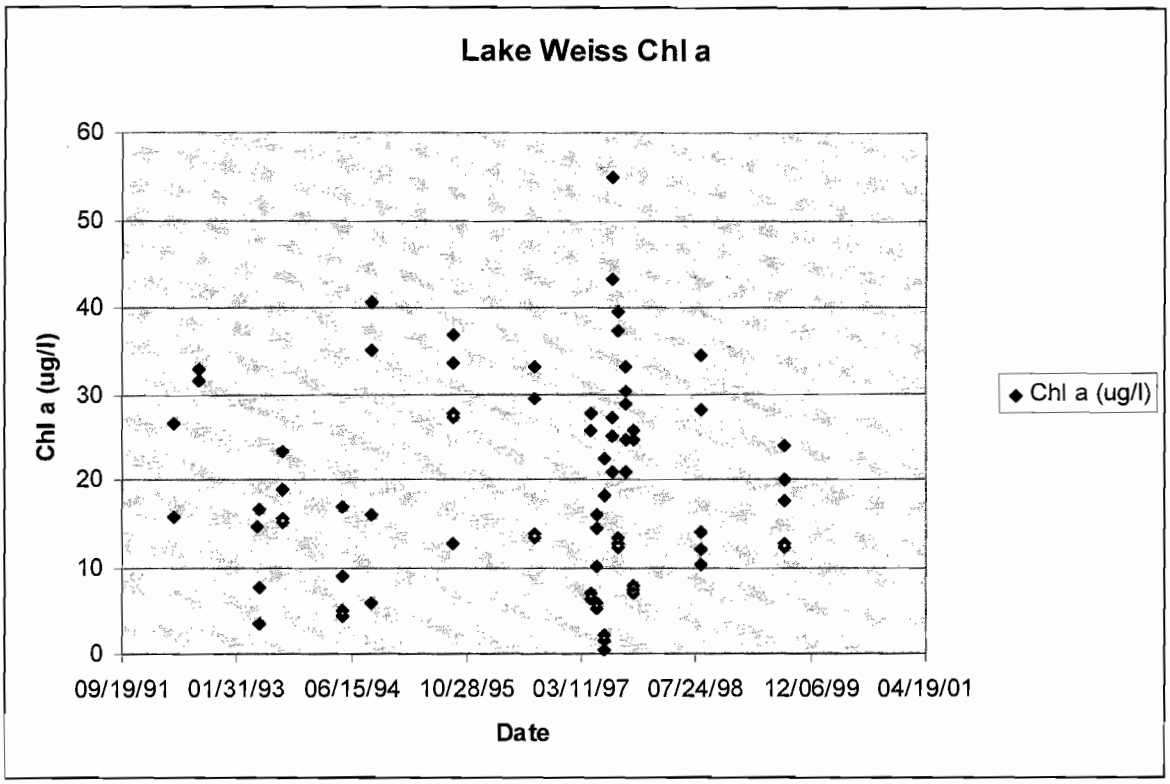

Figure 2: Lake Weiss Lake Wide Chl a Measurements

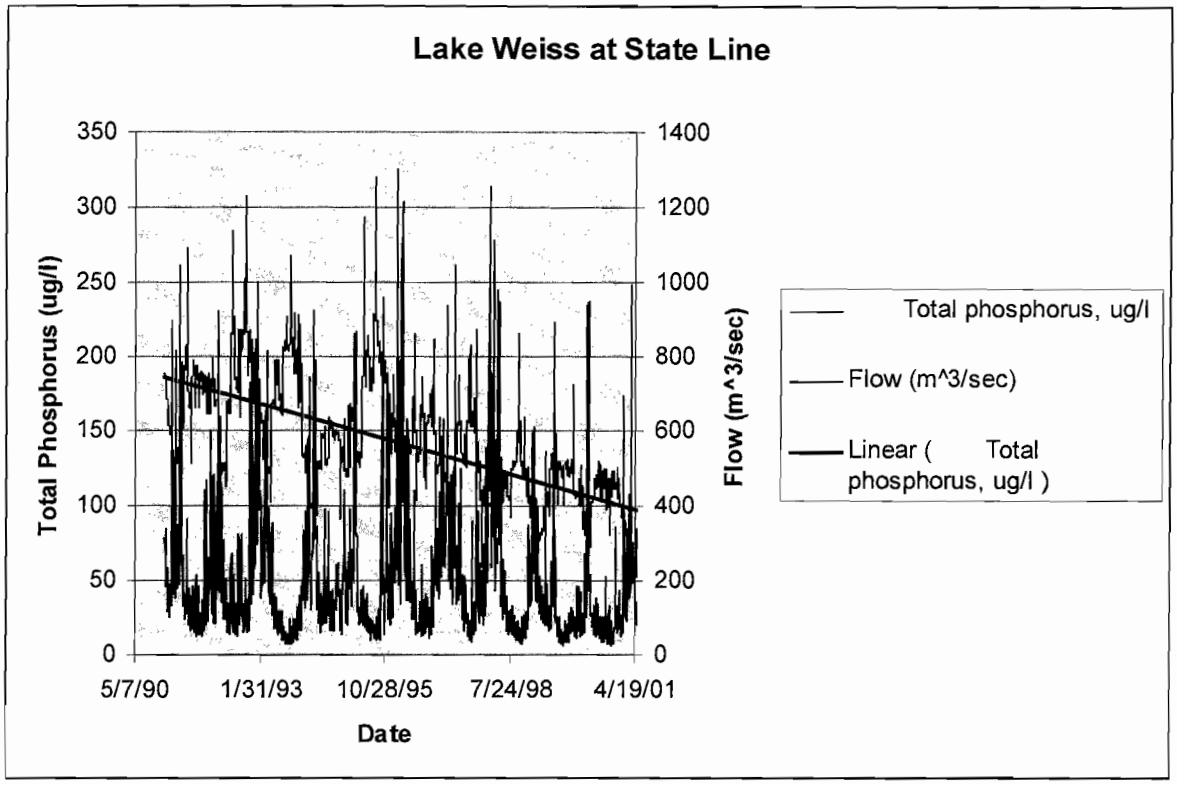

Figure 3: Lake Weiss Coosa River @ State Line Flow and TP

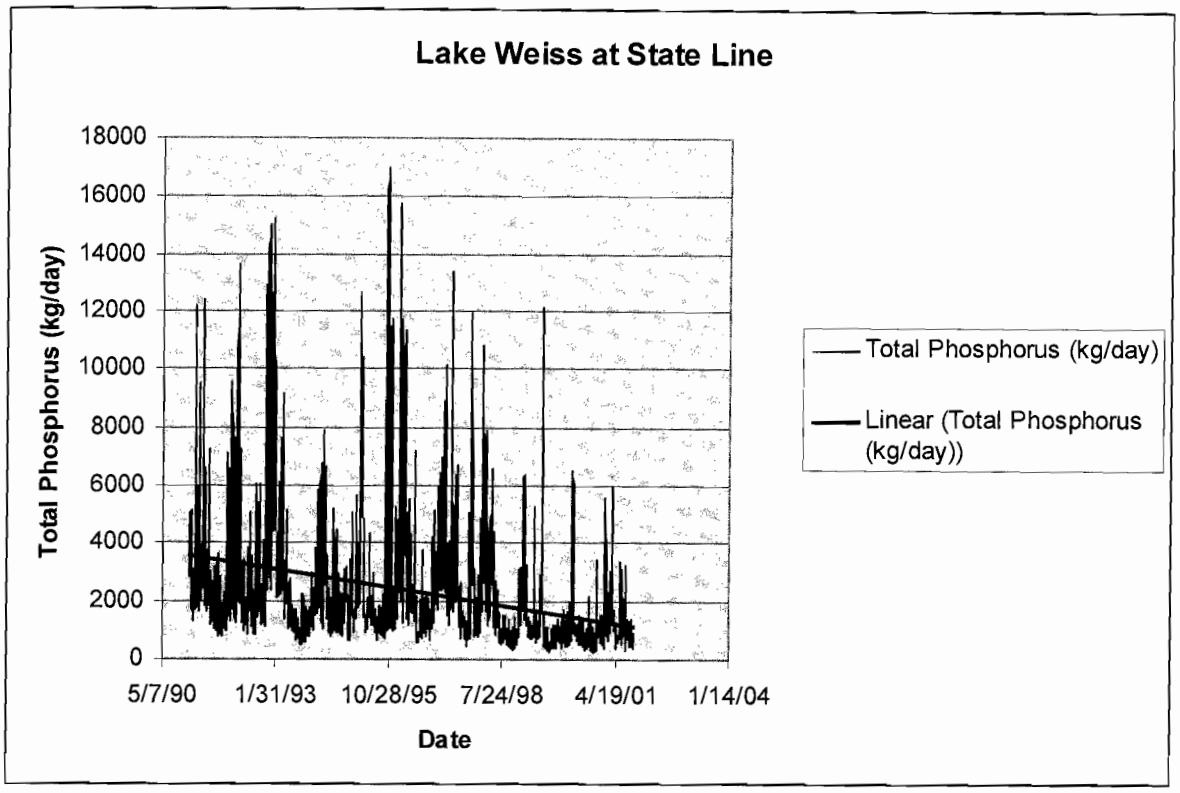

Figure 4: Lake Weiss Coosa River @ State Line TP Loading

Numeric Targets and Sources

Model Development

Weiss Lake was originally modeled with CE-QUAL-W2 by J. E. Edinger Associates, Inc. (JEEAI) in 1986 in support of thermal licensing issues at Plant Hammond on the Coosa River, just upstream of Weiss Lake (Edinger and Buchak, 1987a and 1987b). The Waterways Experiment Station made the definitive water quality application of CE-QUAL-W2 to Weiss Lake (Tilman, et.al., 1999). There have been several updates to the datasets since the WES modeling effort. The model was re-calibrated for 1991 by EPA Region 4 to enhance comparison of predicted and observed algae concentrations and phosphorus concentrations. Details on the model development are contained in the EPA Lake Weiss Calibration Report (EPA 2000). An additional 2002 model study "CE-QUAL-W2 Model Recalibration and Simulations in Support of TMDL Activities for Weiss Lake, Alabama" by J. E. Edinger Associates, Inc. was funded by EPA. The three objectives of the study were:

- Develop boundary conditions and set up Version 3 of CE-QUAL-W2 to run long term simulations for 10 years from 1991 to 2000,
- Calibrate the model using data for all 10 years, and
- Provide assistance in application of the model to (Total Maximum Daily Load) TMDL development.

The study was carried out in close technical collaboration with EPA.

The calendar year 1991 to 2000 model runs were evaluated and used to determine what nutrient loads can be received by the Lake and still meet the numeric target of a 20-ug/l chlorophyll-a value. This target is based on Alabama Water Quality Standards and the Lake Weiss Phase 1 Diagnostic/Feasibility Study for water years 1991 and 1992 (Bayne 1993) and evaluation of chlorophyll-a data collected by Alabama from 1991 through 2000. The target will allow for sufficient productivity in the reservoir to maintain the fisheries, but on the other hand, reduce the risk of nuisance blooms of algae and reduce the hypolimnetic oxygen deficit, thereby improving fish habitat.

Modeling Assumptions

The Lake Weiss modeling assumptions are reported in the 2002 model study "CE-QUAL-W2 Model Recalibration and Simulations in Support of TMDL Activities for Weiss Lake, Alabama" by J. E. Edinger Associates, Inc.

Total Maximum Daily Load (TMDL)

Critical Condition Determination

Due to Lake Weiss's relatively short retention time, the concept of phosphorus loading is not as important to productivity levels in the reservoir as phosphorus concentrations. High loads associated with high flows tend to flush more rapidly through the reservoir. Sensitivity analyses as well as review of historic data both suggest that Lake Weiss chlorophyll-a levels peak when reservoir

hydraulic retention is relatively long. These conditions occur during average and low flow years when inflows and outflows are less and Alabama Power operates the reservoir to maintain pool volume. Nutrient concentrations in the reservoir are conducive to a very productive reservoir, and light limitations, as well as hydraulic retention are major controls regarding ultimate productivity in the reservoir.

Lake Weiss is a relatively shallow impoundment with a relatively high surface area to volume ratio. Wet years tend to introduce much higher nutrient loads to the reservoir, but in turn, these high loads are driven rapidly through the reservoir with springtime average hydraulic retention on the order of a week to ten days. Wet years also introduce higher suspended solids to the reservoir, further limiting productivity as the higher velocities help to maintain suspended solids concentrations.

Table 1 provides the measured 1991 to 2000 yearly Coosa River average flows, phosphorus concentrations and phosphorus loads, along with the model predicted Lake Weiss Growing Season Average Chlorphyll-a values. There is no single discernable critical condition or critical year to serve as the basis for the Lake Weiss phosphorus TMDL. Therefore, the average growing season Chlorophyll-a for the 10 year period from 1991 through 2000 was used develop the TMDL because it includes low, average and high flow periods which experience algal bloom events. Figures 5 and 6 provide a graphical display of flow and phosphorus load distribution.

Table 1: Years 1991 to 2000 Existing Conditions

Year	Flow m^3/sec	TP ug/l	TP kg/d	Reservoir Wide Growing Season Average Chla (ug/l)
1991	353	175	5289	28
1992	453	174	6723	21
1993	365	168	5292	16
1994	144	144	1804	21
1995	166	142	2090	26
1996	135	146	1664	23
1997	223	120	2308	23
1998	238	107	2205	22
1999	150	103	1321	28
2000	90	103	799	27
10 Year Average	232	138	2949	23
High Flow Year Average	390	172	5768	22
Medium Flow Year Average	184	123	1946	24
Low Flow Year Average	113	124	1232	25

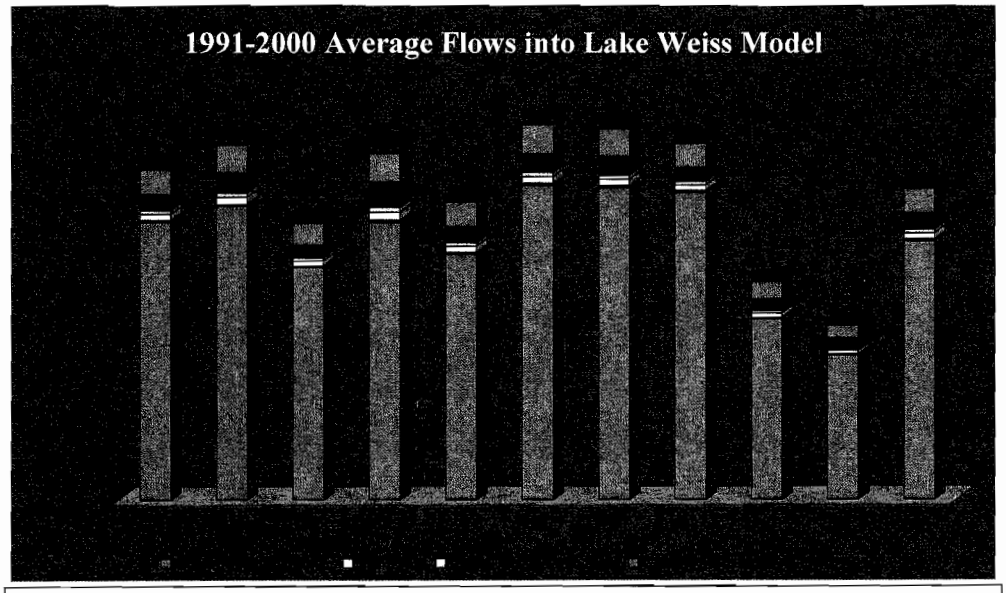

Figure 5: Average Annual Flows into Lake Weiss Model

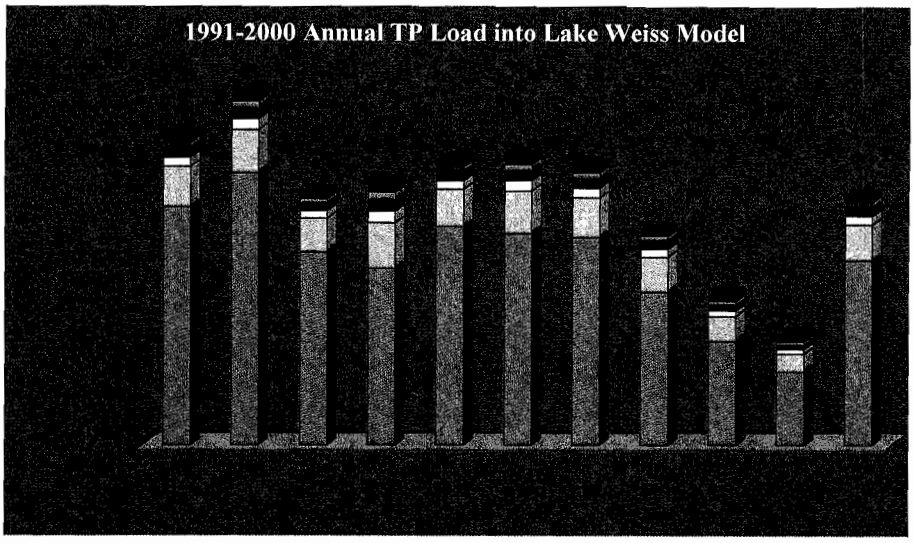

Figure 6: Total Phosphorus Annual Loads into Lake Weiss

Seasonal Variation and Margin of Safety

Seasonal variation and margin of safety were taken in to account by examining and evaluating the lake data for the years 1991 to 2000, a ten year timeframe, which contained low, average and high flow periods. Because of these data, the water quality model was able to simulate the complex interactions of flow rates, phosphorus loads and concentrations, and light penetration to algae productivity. The ten years of data indicated that Lake Weiss algal productivity is better correlated with annual average phosphorus concentration than the short-term mass loading of phosphorus into the Lake.

TMDL Determination

The objective of the Lake Weiss TMDL is to meet the 20 ug/l Chla targets at the two defined monitoring points. The annual seasonal averaged Chla at these monitoring points can be represented by the modeled lake wide growing season average Chla of 20 ug/l chlorophyll-a, based on the 1991 through 2000 historic flow and meteorological conditions. The water quality modeling indicates that algae productivity in Lake Weiss is dependent on the annual average phosphorus concentration observed in the Lake and in the retention time of the Lake. The model indicates that a ten year 70

μg/l phosphorus annual average concentration will effectively control spring and summer algal blooms, while ensuring that there is sufficient nutrients in the Lake to maintain the desired fishery. This annual average phosphorus concentration in conjunction with the annual measured flows can be used to calculate the acceptable annual average phosphorus load for the Lake. A ten year average phosphorus load of 1475 kg/day or an annual average load of 540,000 kg/year is necessary to meet the growing season average 20 μg/l chlorophyll-a target conditions during this ten year period of record. Since this period of record includes severe drought conditions, the use of a multi-year averaging period is considered protective for all but the most extreme conditions. Model simulations were run to determine the impacts of reducing the phosphorus annual average load necessary to meet the chlorophyll-a criterion under the most extreme observed conditions. Such stringent phosphorus load reductions would result in excessive reductions in algal productivity in average flow years, sufficient to jeopardize the Lake Weiss fishery.

The sources of phosphorus in Lake Weiss originate in two states, Alabama and Georgia. This TMDL allocates an aggregate allowable pollutant load, which includes both the point and nonpoint source contributions, to Georgia sources from the Coosa River and Chattooga River at the state line. Therefore, the TMDL for Lake Weiss allocates annual average phosphorus loads for Alabama's nonpoint sources and provides a gross allocation for all phosphorus loads from Georgia. Initial allocations of the TMDL of 540,000 kg/yr phosphorus equal 100,000 kg/yr Load Allocation in Alabama plus 440,000 kg/yr Aggregate Load allocation from Georgia at the state line, see Figure 6. These allocations are based upon the relative existing load contributions from the two states over the 1991-2000 ten-year period of record. These load allocations will be revisited and revised based on the addition monitoring and modeling activities that are occurring in the Coosa Basin.

The past ten years of phosphorus loading data indicate a downward trend as indicated in Figures 3 and 4. However, it is apparent that that additional load reduction from what occurred during the 1991 to 2000 time period are needed to fully achieve the water quality criterion of 20 ug/l chlorophyll-a in Lake Weiss.

Allocation of Responsibility and Recommendations

EPA, ADEM, and Georgia EPD are planning to integrate three TMDL efforts in the Coosa River Basin. The Georgia EPD in cooperation with EPA is conducting a watershed and river modeling project that will be used to modify and link the dissolved oxygen TMDL for the upstream segment of the Coosa River with a revised EPA model for Lake Weiss. This revised model will be compatible with the WASP/EFDC model developed by ADEM for the lower Coosa River Basin reservoirs' TMDLs. Linking all three models in a compatible format will facilitate the development of load allocation scenarios necessary to achieve the water quality standards and ensure all portions of the Coosa River will be protected.

The 2003 ADEM nutrient TMDLs required a 30 percent reduction in total phosphorus from Lake Weiss to meet the water quality standards in the downstream reservoirs. This 30 percent reduction in total phosphorus is consistent with the Lake Weiss TMDL approach of targeting a 70 ppb total phosphorus annual average concentration to ensure the growing season chlorophyll-a average concentrations achieve the 20 ppb water quality criterion. (Current state-line average total phosphorus concentration is 100 ppb, so a 30 percent reduction would achieve the 70 ppb target value.) The three parties are cooperating on developing a monitoring and modeling effort to further refine all three TMDLs.

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APPENDIX
I

Water Quality Section Insert for Letter of Comment in response to COE Public Notice No. FP07-AC01-16

Alabama Power Company recommends additional combined daily releases from storage at Allatoona Lake and Carters Lake in order to minimize adverse water quality impacts to Weiss Lake. On November 1, 2004, the United States Environmental Protection Agency (USEPA) established a Total Maximum Daily Load (TMDL) for nutrients in Lake Weiss. The TMDL process establishes the allowable loadings of pollutants or other quantifiable parameters for a water body, based on the relationship between pollution sources and in-stream water quality conditions, so that states can establish water-quality based controls to reduce pollution from both point and nonpoint source and restore and maintain the quality of their water resources (USEPA, 1991).

The Weiss TMDL for nutrients was based on water quality modeling of Weiss Lake using the CE-QUAL-WE model. The hydrologic period of record used in the model was from calendar year 1991 to 2000. The model runs were evaluated and used to determine what nutrient loads can be received by the Lake and still meet the numeric target of a 20 microgram per liter chlorophyll-a value. Model sensitivity analysis as well as review of historic data both suggests that Lake Weiss chlorophyll-a levels peak when reservoir hydraulic retention is relatively long. Nutrient concentrations in the reservoir are conducive to a very productive reservoir, and light limitations, as well as hydraulic retention are major controls regarding ultimate productivity in the reservoir [(1)]. The water quality modeling also indicated that algae productivity in Lake Weiss is dependent on the annual average phosphorus concentration observed in the Lake and in the retention time of the Lake. The modeling results for high, medium, and low flow years contained in the TMDL are as follows:

Table 1. Years 1991 to 2000 Existing Conditions

	Flow (cfs)	**Total Phosphorus** (Micrograms/liter)	**Total Phosphorus** (Micrograms/liter)	**Reservoir Wide Growing Season** Average Chla (Micrograms/liter)
High Flow Year Average	13,770.9 (390 m^3/sec)	172	5768	22
Medium Flow Year Average	6497 (184 m^3/sec)	123	1946	24
Low Flow Year Average	3990 (113 m^3/sec)	124	1232	25

As can be seen from these results and the modeling simulations, the water quality conditions deteriorate as inflows decrease and Lake Retention times increase. For comparison purposes Table 2 compares current inflows measured at Weiss Dam into

Lake Weiss and reservoir retention times year to date (January 1 through May 31) with the inflows and retention times associated with the period of record (January 1 through May 31) used in the TMDL modeling.

Table 2. Comparison of Years 1991 – 2000 to 2007

Flow Year	Flow (cfs)	Retention Time (days)
1991	13734	9
1992	10779	12
1993	14720	8
1994	14317	9
1995	11069	12
1996	17040	8
1997	15453	8
1998	19401	7
1999	9610	13
2000	7236	18
2007	4324	31

As indicated from the information in Table 2, the retention time of Weiss Lake so far this year is approximately twice as long as the worst case conditions used in the TMDL modeling. This high retention time will likely result in very high algal growth and deterioration of water quality in the reservoir unless inflows are increased. Moreover, this deterioration will likely be exacerbated this year because nutrients (e.g. Phosphorus) entering the reservoir during the spring (March – May) is normally moved through the reservoir rather quickly as shown in Table 3. However, this year instead of moving through the reservoir in 1-2 weeks, the retention time increased almost three fold to 46 days.

Table 2. Comparison of spring (March-May) Years 1991 – 2000 to 2007

Flow Year	Retention Time (days)
1991	9
1992	15
1993	11
1994	9
1995	16
1996	10
1997	9
1998	8
1999	20
2000	16
2007	46

This coupled with the fact that water quality monitoring by Alabama Power Company in Weiss Lake on May 30, 2007 indicated average Total Phosphorus concentrations in the

Coosa River at the state line of 133 micrograms per liter which are considerably above the trend of average total phosphorus concentrations at the state line during low flow periods used in the TMDL modeling indicates without increased inflows in Weiss Lake extremely high eutrophication is likely in Weiss Lake this year which may lead to significant fish kills. This conclusion is also supported by the elevated chlorophyll-a concentration of samples collected at the state line on May 30, 2007 which averaged 33.87 mg/m^3 and is significantly higher than the TMDL target lake wide long term average chlorophyll-a concentration of 20 mg/m^3.

Footnote:

1. Total Maximum Daily Load (TMDL) Development For Nutrient Enrichment in Lake Weiss (HUC03150105) Cherokee County, Coosa River Basin, Alabama, November 1, 2004.

1991 Using Avg Flow & Elev	
Average Flow	9030
Average Elevation	562
Volume	125478
Retention Time	14 days

1992 Using Avg Flow & Elev	
Average Flow	10058
Average Elevation	562.09
Volume	127347
Retention Time	13 days

1993 Using Avg Flow & Elev	
Average Flow	8009
Average Elevation	561.90
Volume	124815
Retention Time	16 days

1994 Using Avg Flow & Elev	
Average Flow	10173
Average Elevation	562.01
Volume	126277
Retention Time	12 days

1995 Using Avg Flow & Elev	
Average Flow	8728
Average Elevation	562.00
Volume	126143
Retention Time	14 days

1996 Using Avg Flow & Elev	
Average Flow	10325
Average Elevation	562.35
Volume	130864
Retention Time	13 days

1997 Using Avg Flow & Elev	
Average Flow	10609
Average Elevation	561.88
Volume	124550
Retention Time	12 days

1998 Using Avg Flow & Elev	
Average Flow	10379
Average Elevation	561.94
Volume	125345
Retention Time	12 days

1999 Using Avg Flow & Elev	
Average Flow	6288
Average Elevation	561.54
Volume	120105
Retention Time	19 days

2000 Using Avg Flow & Elev	
Average Flow	4648
Average Elevation	561.20
Volume	115762
Retention Time	25 days

(3)

1991 Using Avg Flow & Elev	
Average Flow	14788
Average Elevation	563.02
Volume	140206
Retention Time	9 days

1992 Using Avg Flow & Elev	
Average Flow	9257
Average Elevation	563.10
Volume	141348
Retention Time	15 days

1993 Using Avg Flow & Elev	
Average Flow	12358
Average Elevation	562.72
Volume	135973
Retention Time	11 days

1994 Using Avg Flow & Elev	
Average Flow	15329
Average Elevation	563.13
Volume	141778
Retention Time	9 days

1995 Using Avg Flow & Elev	
Average Flow	9017
Average Elevation	563.01
Volume	140063
Retention Time	16 days

1996 Using Avg Flow & Elev	
Average Flow	14561
Average Elevation	563.67
Volume	149657
Retention Time	10 days

1997 Using Avg Flow & Elev	
Average Flow	15722
Average Elevation	563.50
Volume	147148
Retention Time	9 days

1998 Using Avg Flow & Elev	
Average Flow	17831
Average Elevation	563.17
Volume	142353
Retention Time	8 days

1999 Using Avg Flow & Elev	
Average Flow	6957
Average Elevation	563.05
Volume	140633
Retention Time	20 days

2000 Using Avg Flow & Elev	
Average Flow	8805
Average Elevation	563.13
Volume	141778
Retention Time	16 days

2007 Using Avg Flow & Elev	
Average Flow	3062
Average Elevation	563.13
Volume	141778
Retention Time	46 days

Mif

(2)

Pesado

1991 Using Avg Flow & Elev	
Average Flow	13275
Average Elevation	561.67
Volume	121793
Retention Time	9 days

1992 Using Avg Flow & Elev	
Average Flow	10299
Average Elevation	561.62
Volume	121142
Retention Time	12 days

1993 Using Avg Flow & Elev	
Average Flow	14599
Average Elevation	561.83
Volume	123890
Retention Time	8 days

1994 Using Avg Flow & Elev	
Average Flow	13922
Average Elevation	561.87
Volume	124418
Retention Time	9 days

1995 Using Avg Flow & Elev	
Average Flow	10533
Average Elevation	561.76
Volume	122970
Retention Time	12 days

1996 Using Avg Flow & Elev	
Average Flow	16602
Average Elevation	562.74
Volume	136252
Retention Time	8 days

1997 Using Avg Flow & Elev	
Average Flow	14905
Average Elevation	561.87
Volume	124418
Retention Time	8 days

1998 Using Avg Flow & Elev	
Average Flow	18938
Average Elevation	562.05
Volume	126811
Retention Time	7 days

1999 Using Avg Flow & Elev	
Average Flow	9228
Average Elevation	561.63
Volume	121272
Retention Time	13 days

2000 Using Avg Flow & Elev	
Average Flow	6862
Average Elevation	561.77
Volume	123101
Retention Time	18 days

2007 Using Avg Flow & Elev	
Average Flow	3918
Average Elevation	561.54
Volume	120105
Retention Time	31 days

4

5

Year	Average Inflow (Jan 1 - May 31)
1991	13734
1992	10779
1993	14720
1994	14317
1995	11069
1996	17040
1997	15453
1998	19401
1999	9610
2000	7236
2007	4324

Flow in the Coosa River at the Alabama - Georgia state line on May 30, 2007.

General Test Laboratory
P.O. Box 2641
Birmingham, Alabama 35291
(205) 664 - 6081

ALABAMA POWER
A SOUTHERN COMPANY

CERTIFICATE OF ANALYSIS

To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1225

Laboratory ID Number: AL16002

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Metals, Cyanide, Total Phenols							
Aluminum, Total	FKK	5/31/2007	EPA 200.7		0.002	0.289	mg/l
Antimony, Total	FKK	5/31/2007	EPA 200.7		0.003	0.038	mg/l
Arsenic, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Barium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.085	mg/l
Beryllium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Boron, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Cadmium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Calcium, Total	FKK	5/31/2007	EPA 200.7		0.002	19.1	mg/l
Chromium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Cobalt, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Copper, Total	FKK	5/31/2007	EPA 200.7		0.001	0.003	mg/l
Iron, Total	FKK	5/31/2007	EPA 200.7		0.002	0.222	mg/l
Lead, Total	FKK	5/31/2007	EPA 200.7		0.002	0.002	mg/l
Magnesium, Total	FKK	5/31/2007	EPA 200.7		0.002	5.87	mg/l
Manganese, Total	FKK	5/31/2007	EPA 200.7		0.001	0.067	mg/l
Molybdenum, Total	FKK	5/31/2007	EPA 200.7		0.01	Not Detected	mg/l
Nickel, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Potassium, Total	FKK	5/31/2007	EPA 200.7		0.001	2.42	mg/l
Selenium, Total	FKK	5/31/2007	EPA 200.7		0.005	Not Detected	mg/l
Silicon, Total	FKK	5/31/2007	EPA 200.7		0.002	2.32	mg/l
Silver, Total	FKK	5/31/2007	EPA 200.7		0.001	0.023	mg/l
Sodium, Total	FKK	5/31/2007	EPA 200.7		0.001	16.1	mg/l
Strontium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.075	mg/l
Thallium, Total	FKK	5/31/2007	EPA 200.7		0.002	Not Detected	mg/l
Tin, Total	FKK	5/31/2007	EPA 200.7		0.002	0.002	mg/l
Titanium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.009	mg/l
Vanadium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.005	mg/l
Zinc - Total	FKK	5/31/2007	EPA 200.7		0.001	0.024	mg/l

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

cc:

Quality Control _____ **Supervision** _____ **Date:** 01-Jun-07

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ALABAMA POWER
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To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1225

Laboratory ID Number: AL16002

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
General Characteristics							
Dissolved Oxygen	JRW	5/30/2007	Field Test		1.0	8.42	mg/l
Hydroxide Alkalinity as CaCO3	BRB	5/31/2007	SM 4500		0.1	0.1	mg CaCO3/L
Conductivity	JRW	5/30/2007	EPA 120.1		0.	222	umhos/cm
Conductivity	BRB	5/31/2007	SM2510B		0.1	194	umhos/cm
Solids, Total	HRG	6/1/2007	EPA 160.3		1.	128.	mg/l
Bicarbonate Alkalinity, as CaCO3	BRB	5/31/2007	SM 4500		0.1	58.0	mg/l-CaCO3
Carbonate Alkalinity,as CaCO3	BRB	5/31/2007	SM 4500		0.1	1.2	mg/l-CaCO3
Turbidity	BRB	5/31/2007	EPA 180.1		0.30	4.2	NTU
Alkalinity, Total as CaCO3	BRB	5/31/2007	SM2320B		0.1	59.3	mg/l-CaCO3
Hardness, Total, (as CACO3)	FKK	5/31/2007	SM 2340 B			71.9	mg/l
Field pH	JRW	5/30/2007	EPA 150.1		0.00	7.82	SU
pH	BRB	5/31/2007	EPA 150.1		0.00	8.33	SU
Carbon Dioxide, Total	BRB	5/31/2007	SM 4500		0.1	52.1	mg CO2/L
Fluoride, Total	KRC	6/1/2007	EPA 300.0		0.010	0.070	mg/l
Phosphate - Ortho	HRG	5/31/2007	EPA 365.2		0.01	0.12	mg/l as P
Carbon Dioxide, Free	BRB	5/31/2007	SM 4500		0.1	0.5	mg CO2/L
Total Organic Carbon	KRC	6/1/2007	EPA 415.1		0.30	2.42	mg/l
Solids - Suspended	HRG	5/31/2007	EPA 160.2		1.	7.	mg/l
Nitrogen, Ammonia	KRC	6/1/2007	EPA 350.1		0.01	0.06	mg/l as N
Chloride	KRC	6/1/2007	EPA 300.0		0.03	8.65	mg/l
Field Temperature	JRW	5/30/2007	Field Data		0.	28.8	Deg. C.
Bromide	KRC	6/1/2007	EPA 300.0		0.010	0.050	mg/l
Nitrogen, Nitrate/Nitrite	KRC	5/31/2007	353.2		0.01	0.25	mg/l as N
Phosphorus, Total	HRG	5/31/2007	EPA 365.2		0.01	0.14	mg/l as P
Sulfate	KRC	6/1/2007	EPA 300.0		0.03	~~23.78~~	mg/l
Nitrogen, Total Kjeldahl	KRC	6/1/2007	EPA 351.2		0.01	0.53	mg/l as N
Miscellaneous							
Chlorophyll A,Spectro, Uncorrect	BRB	6/1/2007	SM 10200H			45.4	mg/M3

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

mg/m3 ? = mg/l
10^{-3} mg / l

cc:

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Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1225

Laboratory ID Number: AL16002

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Miscellaneous							
Chlorophyll A, Spectro, Correctd	BRB	6/1/2007	SM 10200H			32.4	mg/M3
Pigment Ratio	BRB	6/1/2007	SM 10200H			1.6	SU

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

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Quality Control _____ **Supervision** _____ **Date:** 01-Jun-07

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A SOUTHERN COMPANY

CERTIFICATE OF ANALYSIS

To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1230

Laboratory ID Number: AL16003

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Metals, Cyanide, Total Phenols							
Aluminum, Total	FKK	5/31/2007	EPA 200.7		0.002	0.290	mg/l
Antimony, Total	FKK	5/31/2007	EPA 200.7		0.003	0.024	mg/l
Arsenic, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Barium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.086	mg/l
Beryllium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Boron, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Cadmium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Calcium, Total	FKK	5/31/2007	EPA 200.7		0.002	19.2	mg/l
Chromium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.001	mg/l
Cobalt, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Copper, Total	FKK	5/31/2007	EPA 200.7		0.001	0.004	mg/l
Iron, Total	FKK	5/31/2007	EPA 200.7		0.002	0.249	mg/l
Lead, Total	FKK	5/31/2007	EPA 200.7		0.002	Not Detected	mg/l
Magnesium, Total	FKK	5/31/2007	EPA 200.7		0.002	5.93	mg/l
Manganese, Total	FKK	5/31/2007	EPA 200.7		0.001	0.069	mg/l
Molybdenum, Total	FKK	5/31/2007	EPA 200.7		0.01	Not Detected	mg/l
Nickel, Total	FKK	5/31/2007	EPA 200.7		0.001	0.001	mg/l
Potassium, Total	FKK	5/31/2007	EPA 200.7		0.001	2.61	mg/l
Selenium, Total	FKK	5/31/2007	EPA 200.7		0.005	Not Detected	mg/l
Silicon, Total	FKK	5/31/2007	EPA 200.7		0.002	2.41	mg/l
Silver, Total	FKK	5/31/2007	EPA 200.7		0.001	0.010	mg/l
Sodium, Total	FKK	5/31/2007	EPA 200.7		0.001	16.3	mg/l
Strontium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.075	mg/l
Thallium, Total	FKK	5/31/2007	EPA 200.7		0.002	Not Detected	mg/l
Tin, Total	FKK	5/31/2007	EPA 200.7		0.002	0.002	mg/l
Titanium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.011	mg/l
Vanadium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.005	mg/l
Zinc - Total	FKK	5/31/2007	EPA 200.7		0.001	0.030	mg/l

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

cc:

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ALABAMA POWER
A SOUTHERN COMPANY

CERTIFICATE OF ANALYSIS

To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1230

Laboratory ID Number: AL16003

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
General Characteristics							
Dissolved Oxygen	JRW	5/30/2007	Field Test		1.0	8.42	mg/l
Hydroxide Alkalinity as CaCO3	BRB	5/31/2007	SM 4500		0.1	0.1	mg CaCO3/L
Conductivity	BRB	5/31/2007	SM2510B		0.1	192	umhos/cm
Conductivity	JRW	5/30/2007	EPA 120.1		0.	222	umhos/cm
Solids, Total	HRG	6/1/2007	EPA 160.3		1.	142.	mg/l
Bicarbonate Alkalinity, as CaCO3	BRB	5/31/2007	SM 4500		0.1	58.0	mg/l-CaCO3
Carbonate Alkalinity,as CaCO3	BRB	5/31/2007	SM 4500		0.1	1.1	mg/l-CaCO3
Turbidity	BRB	5/31/2007	EPA 180.1		0.30	4.4	NTU
Alkalinity, Total as CaCO3	BRB	5/31/2007	SM2320B		0.1	59.2	mg/l-CaCO3
Hardness, Total, (as CACO3)	FKK	5/31/2007	SM 2340 B			72.4	mg/l
Field pH	JRW	5/30/2007	EPA 150.1		0.00	7.82	SU
pH	BRB	5/31/2007	EPA 150.1		0.00	8.30	SU
Carbon Dioxide, Total	BRB	5/31/2007	SM 4500		0.1	52.1	mg CO2/L
Fluoride, Total	KRC	6/1/2007	EPA 300.0		0.010	0.070	mg/l
Phosphate - Ortho	HRG	5/31/2007	EPA 365.2		0.01	0.12	mg/l as P
Carbon Dioxide, Free	BRB	5/31/2007	SM 4500		0.1	0.6	mg CO2/L
Total Organic Carbon	KRC	6/1/2007	EPA 415.1		0.30	2.60	mg/l
Solids - Suspended	HRG	5/31/2007	EPA 160.2		1.	6.	mg/l
Nitrogen, Ammonia	KRC	6/1/2007	EPA 350.1		0.01	0.05	mg/l as N
Chloride	KRC	6/1/2007	EPA 300.0		0.03	8.69	mg/l
Field Temperature	JRW	5/30/2007	Field Data		0.	28.8	Deg. C.
Bromide	KRC	6/1/2007	EPA 300.0		0.010	0.050	mg/l
Nitrogen, Nitrate/Nitrite	KRC	5/31/2007	353.2		0.01	0.25	mg/l as N
Phosphorus, Total	HRG	5/31/2007	EPA 365.2		0.01	0.13	mg/l as P
Sulfate	KRC	6/1/2007	EPA 300.0		0.03	23.62	mg/l
Nitrogen, Total Kjeldahl	KRC	6/1/2007	EPA 351.2		0.01	0.58	mg/l as N
Miscellaneous							
Chlorophyll A,Spectro, Uncorrect	BRB	6/1/2007	SM 10200H			45.6	mg/M3

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

cc:

Quality Control _____ **Supervision** _____ **Date:** 01-Jun-07

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ALABAMA POWER
A SOUTHERN COMPANY

CERTIFICATE OF ANALYSIS

To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1230

Laboratory ID Number: AL16003

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Miscellaneous							
Chlorophyll A, Spectro, Correctd	BRB	6/1/2007	SM 10200H			33.4	mg/M3
Pigment Ratio	BRB	6/1/2007	SM 10200H			1.6	SU

This Certificate is for the physical and/or chemical characteristics of the sample as submitted.

Comments:

cc:

Quality Control _____ **Supervision** _____ **Date:** 01-Jun-07

smk/NC

General Test Laboratory
P.O. Box 2641
Birmingham, Alabama 35291
(205) 664 - 6081

ALABAMA POWER
A SOUTHERN COMPANY

CERTIFICATE OF ANALYSIS

To: Mr. Bill Garrett
Mr. John Ponstein

Customer Account : CORM29
Sample Date : 30-May-07
Customer ID : COOSAALGA
Delivery Date : 30-May-07

Description: Coosa River Mile 29
Coosa river AL/GA 1235

Laboratory ID Number: AL16004

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Metals, Cyanide, Total Phenols							
Aluminum, Total	FKK	5/31/2007	EPA 200.7		0.002	0.267	mg/l
Antimony, Total	FKK	5/31/2007	EPA 200.7		0.003	0.020	mg/l
Arsenic, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Barium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.086	mg/l
Beryllium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Boron, Total	FKK	5/31/2007	EPA 200.7		0.004	Not Detected	mg/l
Cadmium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Calcium, Total	FKK	5/31/2007	EPA 200.7		0.002	19.4	mg/l
Chromium, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Cobalt, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Copper, Total	FKK	5/31/2007	EPA 200.7		0.001	0.002	mg/l
Iron, Total	FKK	5/31/2007	EPA 200.7		0.002	0.235	mg/l
Lead, Total	FKK	5/31/2007	EPA 200.7		0.002	Not Detected	mg/l
Magnesium, Total	FKK	5/31/2007	EPA 200.7		0.002	5.98	mg/l
Manganese, Total	FKK	5/31/2007	EPA 200.7		0.001	0.067	mg/l
Molybdenum, Total	FKK	5/31/2007	EPA 200.7		0.01	Not Detected	mg/l
Nickel, Total	FKK	5/31/2007	EPA 200.7		0.001	Not Detected	mg/l
Potassium, Total	FKK	5/31/2007	EPA 200.7		0.001	2.50	mg/l
Selenium, Total	FKK	5/31/2007	EPA 200.7		0.005	Not Detected	mg/l
Silicon, Total	FKK	5/31/2007	EPA 200.7		0.002	2.39	mg/l
Silver, Total	FKK	5/31/2007	EPA 200.7		0.001	0.006	mg/l
Sodium, Total	FKK	5/31/2007	EPA 200.7		0.001	16.6	mg/l
Strontium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.076	mg/l
Thallium, Total	FKK	5/31/2007	EPA 200.7		0.002	Not Detected	mg/l
Tin, Total	FKK	5/31/2007	EPA 200.7		0.002	0.003	mg/l
Titanium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.010	mg/l
Vanadium, Total	FKK	5/31/2007	EPA 200.7		0.001	0.005	mg/l
Zinc - Total	FKK	5/31/2007	EPA 200.7		0.001	0.026	mg/l

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Coosa river AL/GA 1235

Laboratory ID Number: AL16004

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
General Characteristics							
Dissolved Oxygen	JRW	5/30/2007	Field Test		1.0	8.42	mg/l
Hydroxide Alkalinity as CaCO3	BRB	5/31/2007	SM 4500		0.1	0.1	mg CaCO3/L
Conductivity	BRB	5/31/2007	SM2510B		0.1	197	umhos/cm
Conductivity	JRW	5/30/2007	EPA 120.1		0.	222	umhos/cm
Solids, Total	HRG	6/1/2007	EPA 160.3		1.	143.	mg/l
Bicarbonate Alkalinity, as CaCO3	BRB	5/31/2007	SM 4500		0.1	65.5	mg/l-CaCO3
Carbonate Alkalinity,as CaCO3	BRB	5/31/2007	SM 4500		0.1	1.3	mg/l-CaCO3
Turbidity	BRB	5/31/2007	EPA 180.1		0.30	4.0	NTU
Alkalinity, Total as CaCO3	BRB	5/31/2007	SM2320B		0.1	67.0	mg/l-CaCO3
Hardness, Total, (as CACO3)	FKK	5/31/2007	SM 2340 B			73.1	mg/l
Field pH	JRW	5/30/2007	EPA 150.1		0.00	7.82	SU
pH	BRB	5/31/2007	EPA 150.1		0.00	8.34	SU
Carbon Dioxide, Total	BRB	5/31/2007	SM 4500		0.1	58.8	mg CO2/L
Fluoride, Total	KRC	6/1/2007	EPA 300.0		0.010	0.070	mg/l
Phosphate - Ortho	HRG	5/31/2007	EPA 365.2		0.01	0.12	mg/l as P
Carbon Dioxide, Free	BRB	5/31/2007	SM 4500		0.1	0.6	mg CO2/L
Total Organic Carbon	KRC	6/1/2007	EPA 415.1		0.30	2.68	mg/l
Solids - Suspended	HRG	5/31/2007	EPA 160.2		1.	9.	mg/l
Nitrogen, Ammonia	KRC	6/1/2007	EPA 350.1		0.01	0.05	mg/l as N
Chloride	KRC	6/1/2007	EPA 300.0		0.03	8.77	mg/l
Field Temperature	JRW	5/30/2007	Field Data		0.	28.8	Deg. C.
Bromide	KRC	6/1/2007	EPA 300.0		0.010	0.050	mg/l
Nitrogen, Nitrate/Nitrite	KRC	5/31/2007	353.2		0.01	0.24	mg/l as N
Phosphorus, Total	HRG	5/31/2007	EPA 365.2		0.01	0.13	mg/l as P
Sulfate	KRC	6/1/2007	EPA 300.0		0.03	23.66	mg/l
Nitrogen, Total Kjeldahl	KRC	6/1/2007	EPA 351.2		0.01	0.68	mg/l as N
Miscellaneous							
Chlorophyll A,Spectro, Uncorrect	BRB	6/1/2007	SM 10200H			40.7	mg/M3

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Comments:

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Description: Coosa River Mile 29
Coosa river AL/GA 1235

Laboratory ID Number: AL16004

Name	Analyst	Test Date	Reference	Vio Spec	MDL	Results	Units
Miscellaneous							
Chlorophyll A, Spectro, Correctd	BRB	6/1/2007	SM 10200H			29.8	mg/M3
Pigment Ratio	BRB	6/1/2007	SM 10200H			1.6	SU

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Comments:

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Quality Control _____ **Supervision** _____ **Date:** 01-Jun-07

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Dissolved oxygen / temperature profile*

Location: Coosa River near AL / GA state line (~RM 29.0)

GPS Coordinates: N 34.19939^0, W 85.44420^0

May 30, 2007 @ 12:30 CST

Depth (ft)	Dissolved Oxygen (mg/l)	Temperature (^{0}C)
0	9.07	29.1
1	9.09	29.0
3	8.79	28.8
5	8.42	28.7
10	7.55	28.6
15	3.73	27.1
20	0.70	25.0
25	0.25	24.5

* Maximum river depth = 28 feet

3 Samples

5'

Water Quality

Sumner, Lewis C SAM

From: Jim Gibson [gibson.jim@comcast.net]
Sent: Thursday, June 14, 2007 8:43 PM
To: Sumner, Lewis C SAM
Cc: rpapaleoni@premier-management.biz
Subject: APC Reduced Flows

Dear Mr. Sumner,
I am writing you in response to the request by the Alabama Power Company to increase the flow of water from the Alabama River, thereby lowering the water level of Lake Allatoona below what has been mandated by current law. Rather than composing a diatribe of the many reasons I do not want this proposal to be accepted, I will leave you with the following short message:

Like the vast majority of land owners surrounding the lake, my dock resides in relatively shallow water at full pool. At 835 feet above MSL, the dock is virtually unusable for most activities and my property should not be considered "waterfront". If this proposal is accepted, I plan to contest the recent property tax increases leveled by Cherokee County based on this action. More important than money, plans that my family and their families across the country made months ago to visit me this summer will be ruined, just so a public company can maintain profits. Electricity is a commodity and Gov Perdue already gave up too much water with the current legislation.

Thank you for your attention.

Sincerely,
Jim & Rene Gibson
413 Cottonwood Dr
Woodstock, GA 30189
H: 770.516.6039