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Welcome

Displays are placed around the room. Each display focuses on federally authorized project purposes and particular issues related to the draft Apalachicola, Chattahoochee, and Flint River Basin (ACF) Master Water Control Manual update, draft Environmental Impact Statement (DEIS), and Water Supply Storage Assessment (WSSA).

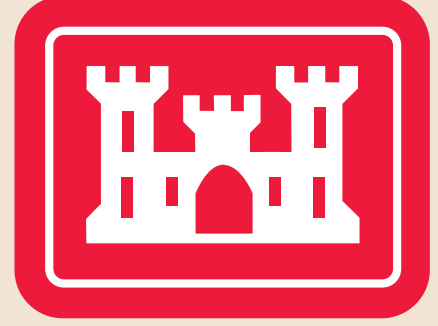
STEP 1: Please sign in at the information table.

STEP 2: Visit the displays to obtain information about the draft ACF Master Water Control Manual update, DEIS, and WSSA in any order you choose.

STEP 3: Provide comments on the draft ACF Master Water Control Manual update and DEIS by one of the following means:

- Submit written comments to comment station.
- Provide verbal comments at court reporter station.
- After this meeting
 - E-mail comments to: acf-wcm@usace.army.mil
 - USPS by letter addressed to: Commander, U.S. Army Corps of Engineers, Mobile District, Attn: PD-EI (ACF-DEIS), P.O. Box 2288, Mobile AL 36628

All comments on the draft ACF Master Water Control Manual update, DEIS, and/or WSSA must be received no later than January 15, 2016.



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Public Meeting Organization

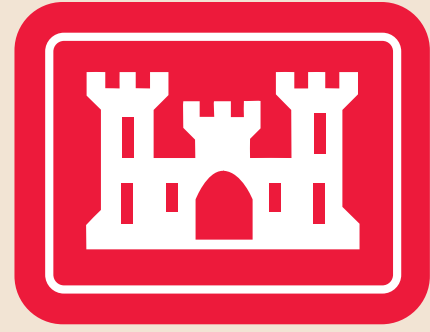
Sign in at Welcome Table

**Visit Display Tables in
Any Order You Choose**

**Ask Questions and Obtain Clarification From
the Experts at Each Display Table**

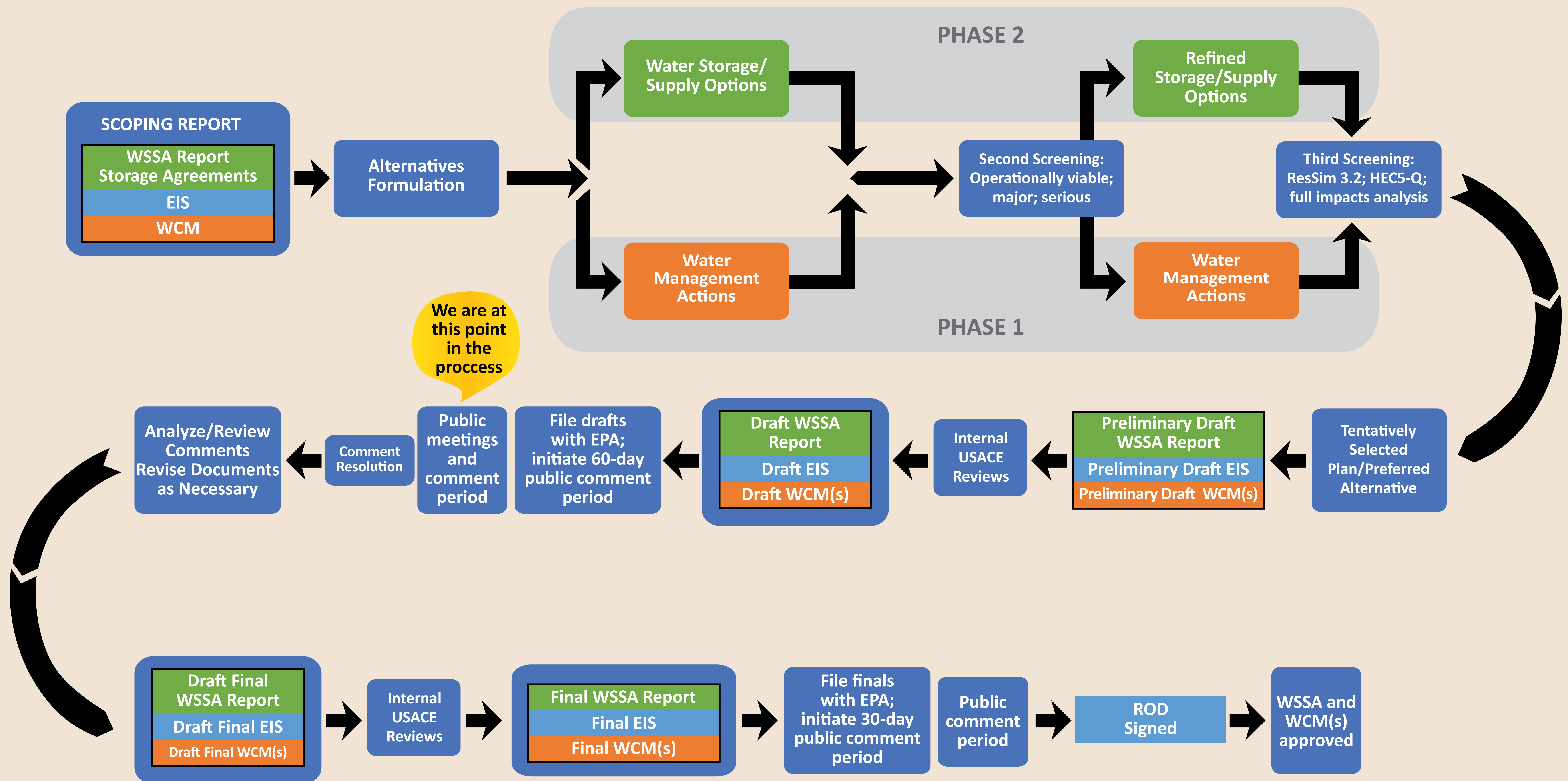
Submit Comments

- **Provide verbal comments at court reporter station.**
- **Submit written comments to comment station.**



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Water Control Manual Update/NEPA Process Flow Chart



EIS = Environmental Impact Statement
EPA = U.S. Environmental Protection Agency
HEC5-Q = Hydrologic Engineering Center Water Quality Model
ResSim = Reservoir Simulation Model

ROD = Record of Decision
USACE = U.S. Army Corps of Engineers
WCM = Water Control Manual
WSSA = Water Supply Storage Assessment



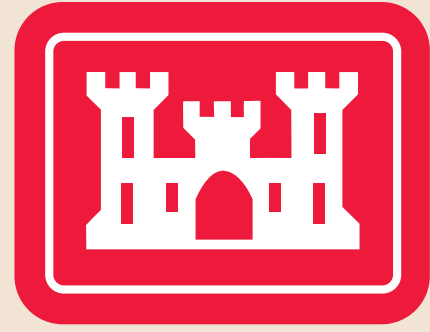
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Purpose and Need

Purpose: The purpose of the Master Water Control Manual update and Water Supply Storage Assessment (WSSA) are to determine how the federal projects in the ACF Basin should be operated for their authorized purposes, in light of current conditions and applicable law, and to assess the extent to which reservoir storage at Lake Lanier may be made available to meet current and future water supply needs for the metropolitan Atlanta area, taking into account the following factors:

- Changes in basin hydrology and consumptive demands over time
- New and rehabilitated structural features
- Emerging environmental issues
- Legal developments
- Georgia's 2013 water supply request

Need: U.S. Army Corps of Engineers (USACE) regulations require updated water control manuals and basinwide drought contingency plans to accomplish the specific congressionally authorized and general statutory project purposes in the basin.



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Apalachicola, Chattahoochee, and Flint River Basin Map

Flood Risk
Management



Water Supply



Hydropower



Fish and Wildlife



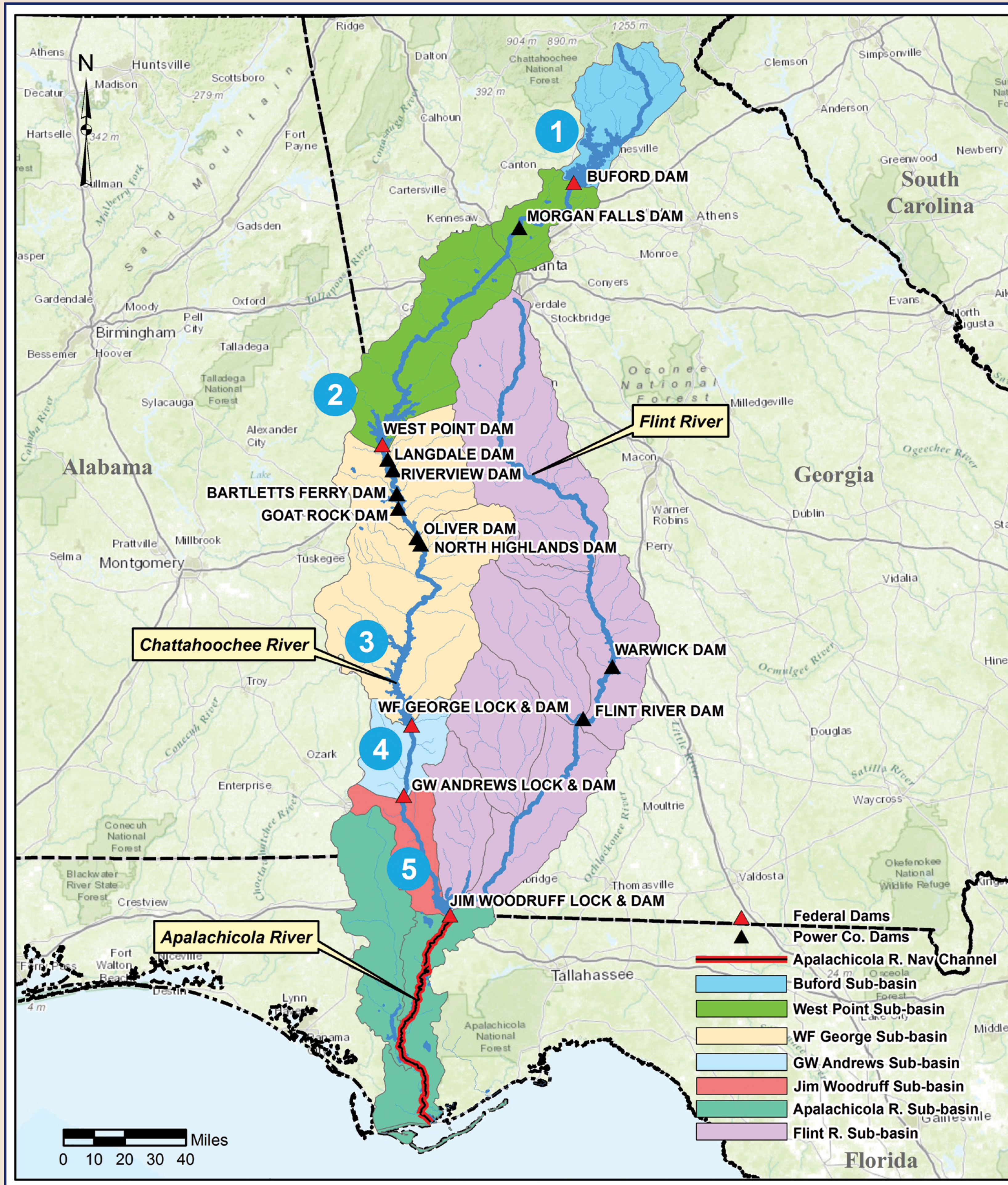
Navigation



Recreation



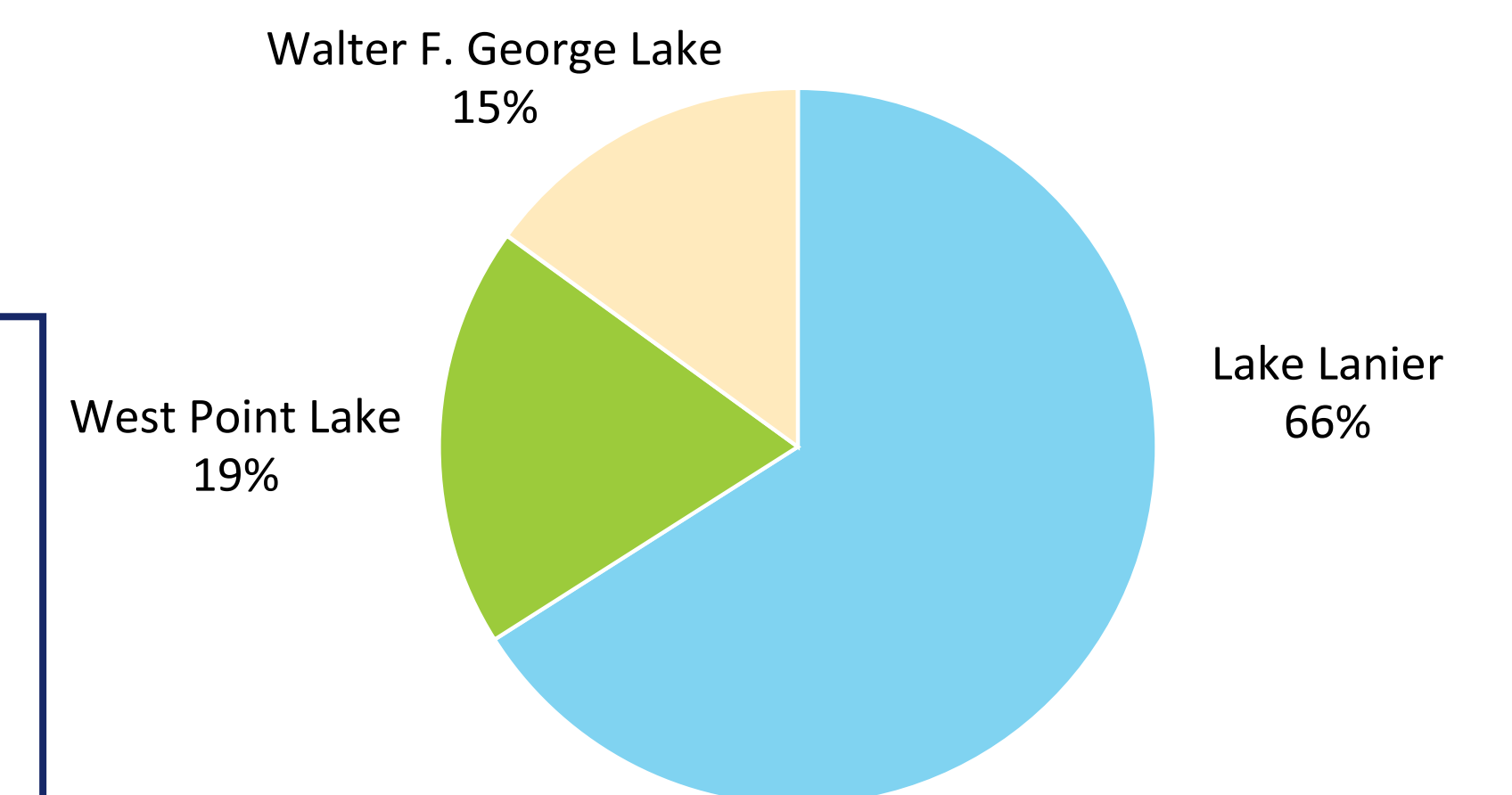
Water Quality



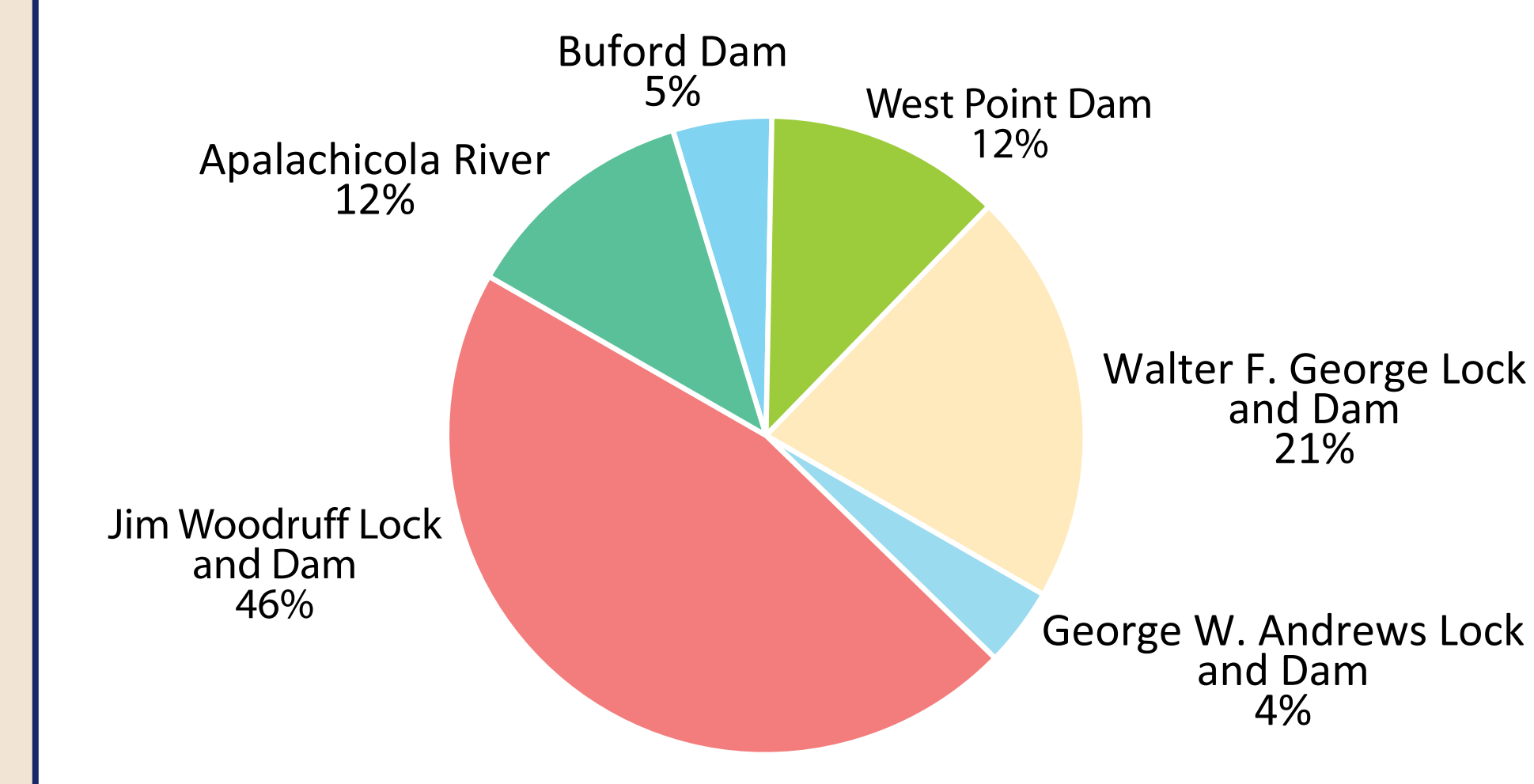
USACE also uses action zones to guide its operation of the reservoirs on the ACF system. The action zones provide guidelines on meeting the project purposes.

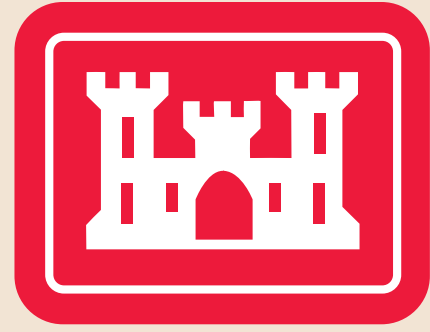
- 1 Buford Dam/Lake Sidney Lanier**
 Fish/Wildlife Recreation Flood Risk Management
 Water Quality Hydroelectric Water Supply
 Navigation Power
- 2 West Point Dam/West Point Lake**
 Fish/Wildlife Navigation Flood Risk Management
 Recreation Hydroelectric Water Quality
 Power
- 3 Walter F. George Lock and Dam/Walter F. George Lake**
 Fish/Wildlife Recreation Hydroelectric Power
 Water Quality Navigation
- 4 George W. Andrews Lock and Dam/Lake George W. Andrews**
 Fish/Wildlife Navigation Recreation
 Water Quality
- 5 Jim Woodruff Lock and Dam/Lake Seminole**
 Fish/Wildlife Recreation Hydroelectric Power
 Water Quality Navigation

Composite Conservation Storage



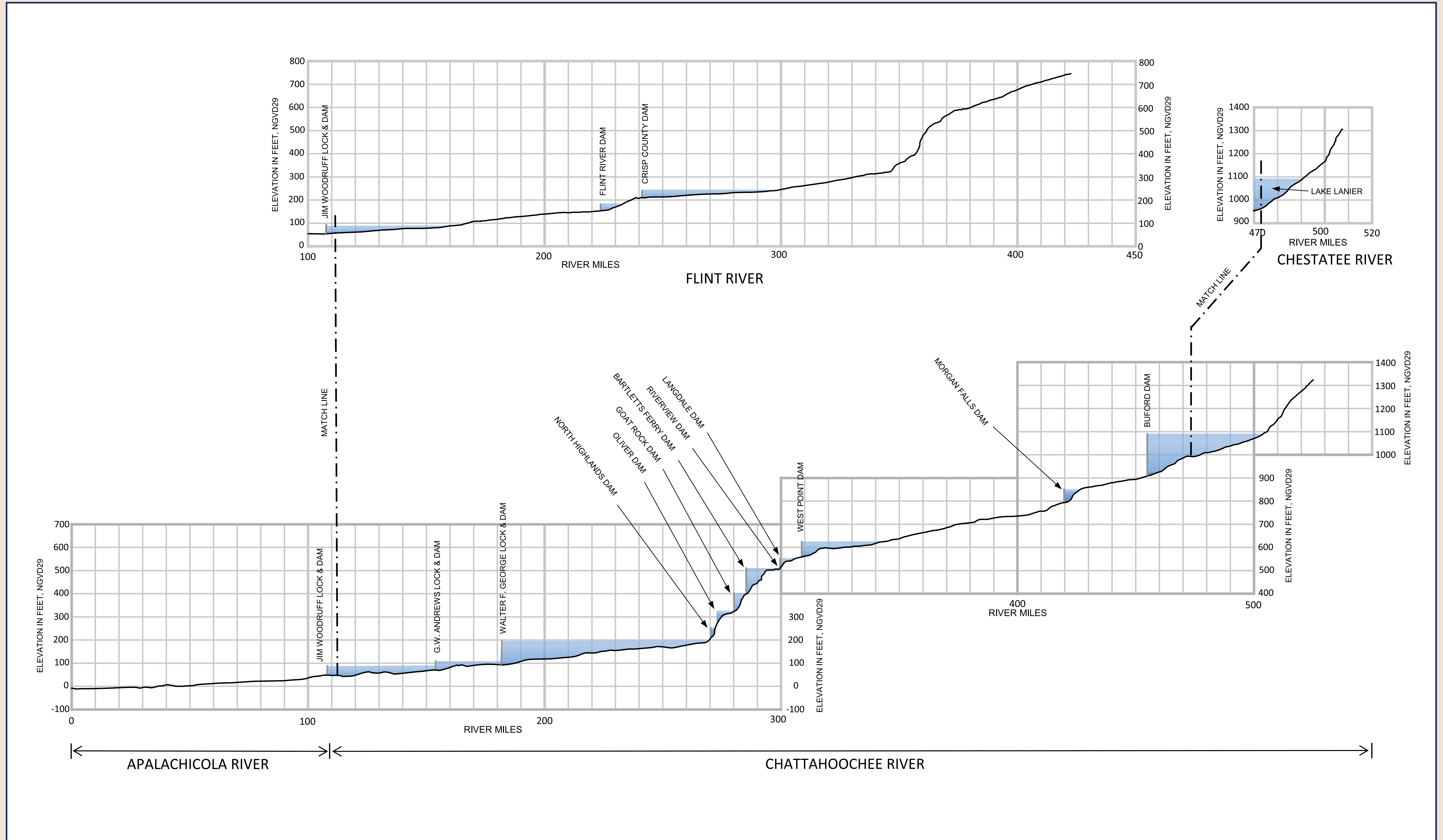
ACF Drainage Basin Area by Project





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Profile of the ACF





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Water Control Manual

The operations at each federal reservoir managed by USACE are described and documented in **water control manuals**. A water control manual defines rules or provides guidance for direction, operation, and management of water storage at an individual project or system of projects.

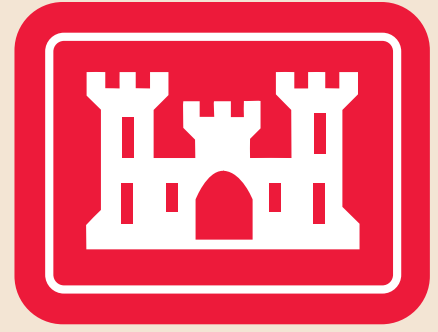
- Water control manuals include:
 - Coordinated regulation schedules for project/system regulation
 - Procedures to collect, analyze, and disseminate data
 - Detailed operating instructions
 - Procedures to ensure project safety
- Operations are designed to achieve all authorized purposes of the project.
- The water control manual defines ‘normal operation’ as well as drought and flood operations and is broad enough to incorporate operational flexibility.
- Temporary deviations from the water control plans might be requested when necessary to alleviate critical or unusual situations without significantly affecting authorized purposes.
- An individual manual for each project is prepared as an appendix to the master manual.



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Summary of Current Operations No Action Alternative

- **Guide Curves:** Current WCM(s)
- **Action Zones:** Operations using existing action zones (1989)
- **Drought Operations:** Current drought operations:
 - Drought operations trigger - Zone 4
 - Drought operations suspension - Zone 1
 - Extreme drought operations
- **Minimum Flows:**
 - Releases from Buford Dam of 600 cubic feet per second (cfs)
 - Peachtree Creek flows of 750 cfs
 - Releases from West Point Dam to meet 670 cfs requirement
- **Hydropower:** Hydropower generation schedule typically 0-4 hrs per day/5 days a week (action zone dependent)
- **Navigation:** No normal navigation operations (lack of dredging and routine maintenance)
- **Fish and Wildlife:**
 - Basin inflow computational method (cumulative net inflow to all projects)
 - Fish spawning and fish passage operations at Jim Woodruff Lock and Dam
 - May 2012 Revised Interim Operation Plan (RIOP) provisions for listed species
- **Federal Water Supply:**
 - Withdrawals from Lake Lanier in 2007 were 20 million gallons per day (mgd) (contractual), 108 mgd (non-contractual)
 - 277 mgd for downstream withdrawal by Metro Atlanta
- **Flood Risk Management:** Storage of flood water per current project operation plan



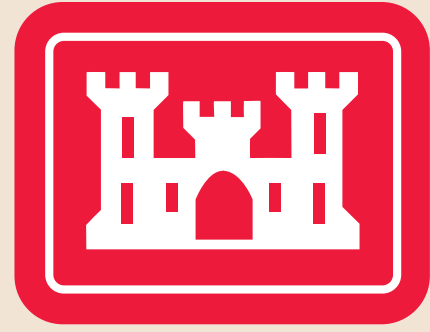
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Water Management Proposed Action Alternative

(WATER MANAGEMENT ALTERNATIVE 7)

- **Guide Curves:** Continue operations using existing guide curves
- **Action Zones:** Revised action zones*
- **Drought Operations:**
 - Revised drought operations trigger - Zone 3*
 - Continue current drought operations suspension - Zone 1
 - Continue current extreme drought operations
- **Minimum Flows:**
 - Continue releases from Buford Dam of 600 cubic feet per second (cfs)
 - Seasonal flow at Peachtree Creek (750 cfs [May–Oct] and 650 cfs [Nov–Apr])*
 - Continue minimum releases from West Point Dam to meet 670 cfs requirement
- **Hydropower:** Modified generation schedule at Buford Dam for drought operations*
- **Navigation:** 4 to 5-month navigation season (when basin hydrologic conditions allow)*
- **Fish and Wildlife:**
 - Continue current basin inflow computational method
 - Continue current fish spawning and fish passage operations at Jim Woodruff Lock and Dam
 - Listed species management:
 - Current minimum flow provisions at Chattahoochee, Florida, USGS gage
 - Current ramping rates
 - Suspension of ramping rates during prolonged low flow*

*Changes from the No Action Alternative are shown in red.

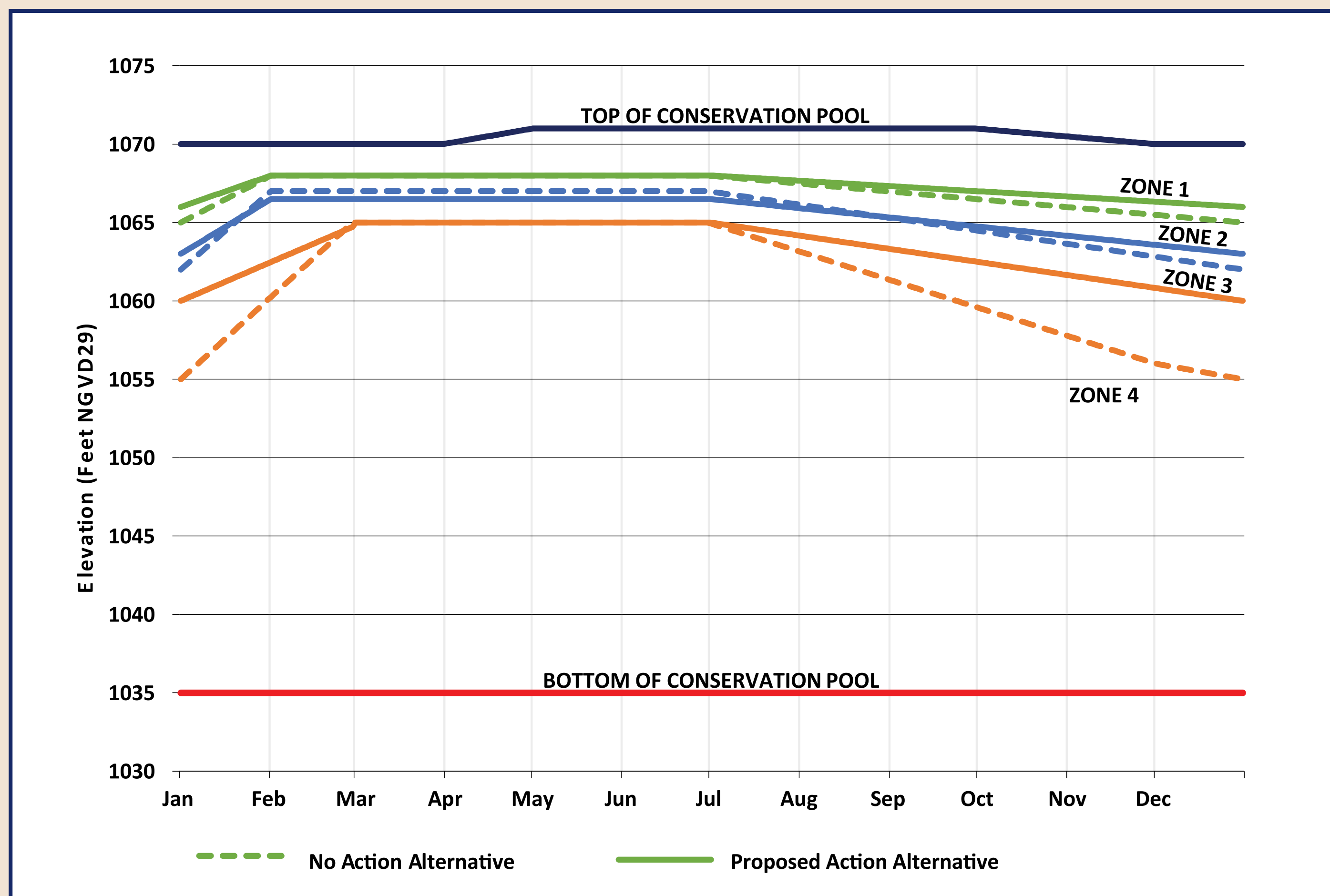


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Proposed Action Alternative (PAA) Revised Action Zones

(SEE DEIS SECTION 5.4.1)

Action zones are partitions of a reservoir's conservation storage, defined in the WCM, to guide operations to meet project purposes under a variety of hydrologic conditions. Each action zone has a set of specific rules or guidelines that govern water management operations when the reservoir pool elevation is within that zone.



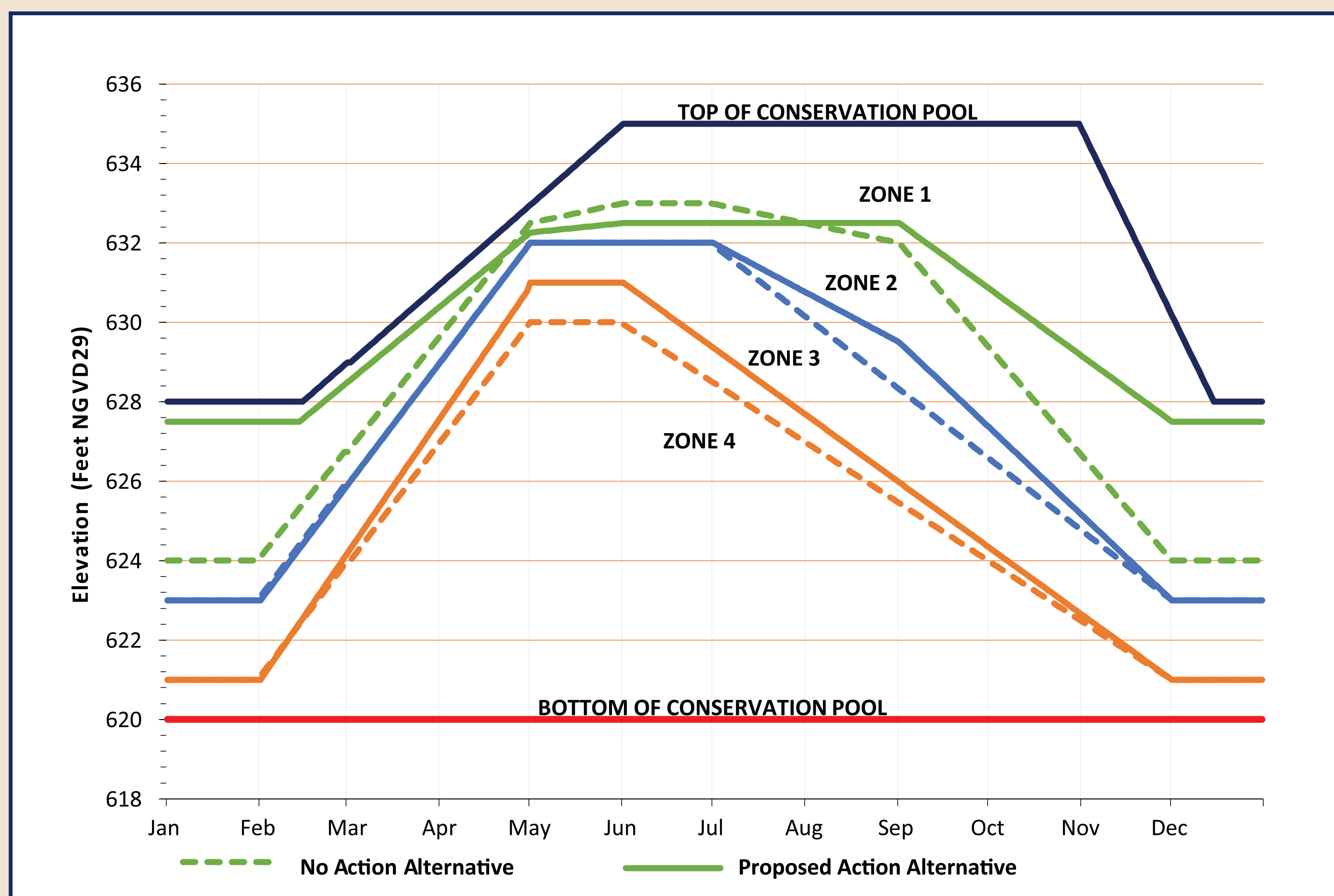
Lake Lanier (Buford Reservoir)

Originally defined for ACF reservoirs in 1989, action zones were refined in the PAA to: eliminate disproportionate impact on reservoirs in the system; achieve a more equitable balance of action zone sizing based on contributing watershed size; and provide a proportionately balanced draw-down among projects when operating in Zone 1 of each reservoir.

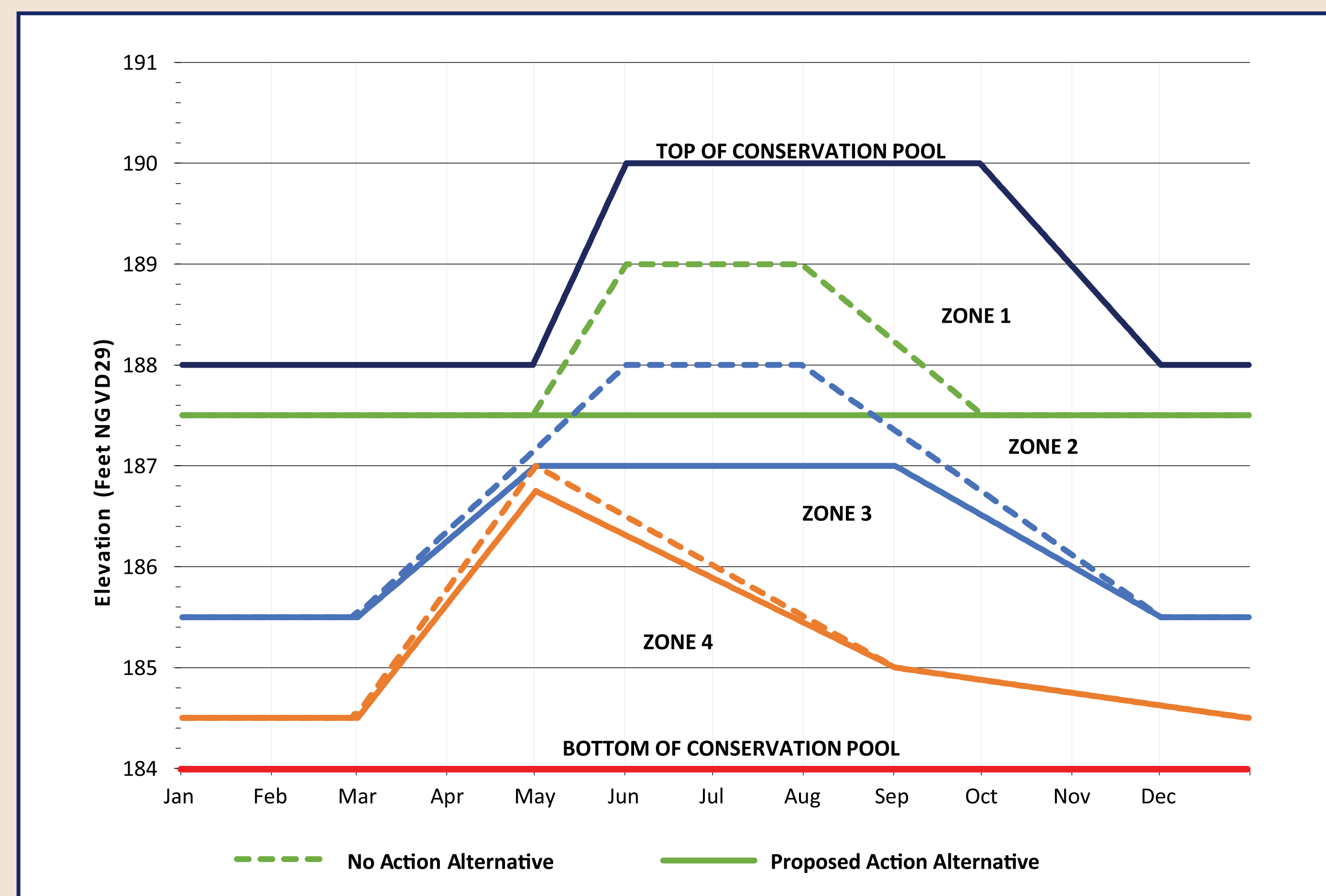
Actions zones were generally revised upward in winter months at Lake Lanier and West Point Lake and downward in summer months at Walter F. George Lake.

With revised action zones, operations would rely more on the lower two storage reservoirs when pool levels are in the upper action zones

and more on Lake Lanier when drought operations are triggered.



West Point Reservoir



Walter F. George Reservoir



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Proposed Action Alternative (PAA) Hydropower Operations

(SEE DEIS SECTION 5.4.4)

The Buford, West Point, and Walter F. George projects are operated as peaking plants:

- Generate power during peak demand periods by increasing discharge a few hours a day to near full capacity of one or more of the project's turbines
- Typically generate 5 days/week (weekdays) at plant capacity

For example, peak hydropower demand at Buford Dam typically occurs:

- October through March (weekdays- 5:00 am to 9:00 am and 3:00 pm to 10:00 pm Central)
- April through September (weekdays- 1:00 pm to 7:00 pm Central)

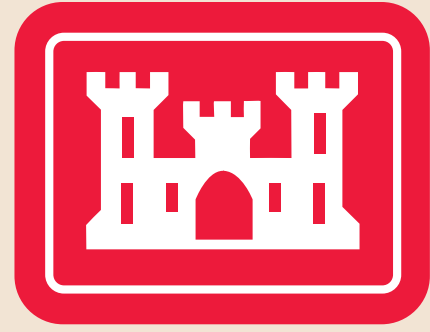
Typical hours represent releases that normally meet water system demands and hydropower demands. During dry periods, generation would be limited to releases for downstream needs (water supply and water quality).

Under the PAA, Buford hydropower generation would be curtailed during drought operations as shown in the table. West Point and Walter F. George hydropower operations would not change under the PAA.

Typical Hours of Peaking Hydroelectric Power Generation by Federal Project

Action Zone	Buford Dam <i>(hours of operation)</i> normal ops/ drought ops	West Point Dam <i>(hours of operation)</i>	Walter F. George Dam <i>(hours of operation)</i>
Zone 1	3/2	4	4
Zone 2	2/1	2	2
Zone 3	2/1	2	2
Zone 4*	0	0	0

*While hydropower would still be generated in Zone 4, it could not be generated on a regular peaking schedule under severe drought conditions



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Proposed Action Alternative (PAA) Drought Operations

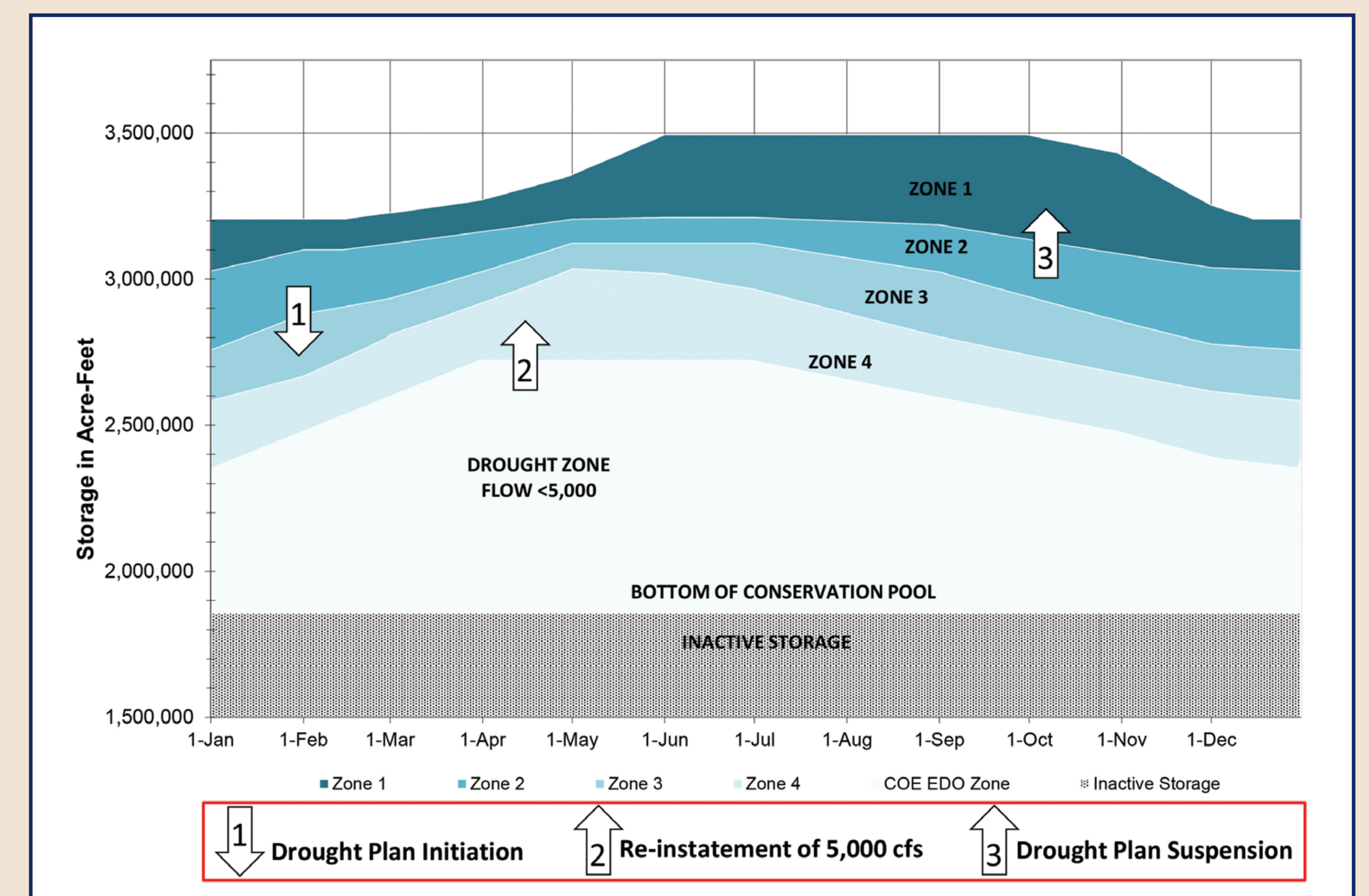
(SEE DEIS SECTION 5.4.2)

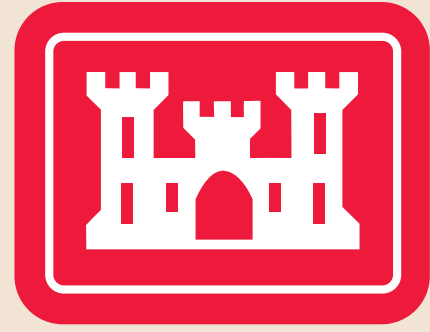
Drought operations are initiated (triggered), managed, and suspended based upon the level of **composite conservation storage** in the ACF Basin.

- **Composite Conservation Storage (CCS)** - cumulative daily conservation storage values (by action zone) for USACE reservoirs in the ACF Basin
- **Drought Zone** - roughly equivalent to the value of conservation storage in Lake Lanier Zone 4 plus the composite inactive storage for Lanier, West Point, and Walter F. George projects

Key Drought Operations Features:

- Drought operations initiated when CCS value falls into Zone 3; The first day of each month represents a decision to initiate drought operations
- A temporary waiver from the water control plan might be requested to allow temporary storage above the winter guide curves at the West Point and Walter F. George projects
- Minimum release from Jim Woodruff Lock and Dam (5,000 cfs when the CCS is in Zone 4 and 4,500 cfs when CCS is in the Drought Zone)
- Maximum fall rate below Jim Woodruff Lock and Dam is 0.25 ft/day when transitioning from 5,000 cfs to 4,500 cfs
- All basin inflow above prescribed minimum release levels for endangered species management may be stored if it is capable of being stored
- Other minimum release and maximum fall rate provisions temporarily suspended until composite storage recovers to Zone 1
- Drought operations suspended when CCS value recovers into Zone 1; The first day of each month represents a decision to suspend drought operations
- If CCS has not recovered to Zone 1 by March 1, drought operations are extended to the end of March or until federal reservoirs are filled





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Proposed Action Alternative (PAA) Navigation

(SEE DEIS SECTION 5.4.5)

The PAA would provide for releases to sustain a reliable navigation season when ACF Basin hydrologic conditions are sufficient. In comparison, current operations (No Action Alternative) do not include any specific provisions to routinely provide navigation flows.

- Typical navigation season would be January - May each year
- 16,200 cfs, or greater, at the USGS gage at Blountstown, Florida should provide at least a 7-ft channel depth

Operational conditions necessary to support navigation flows include:

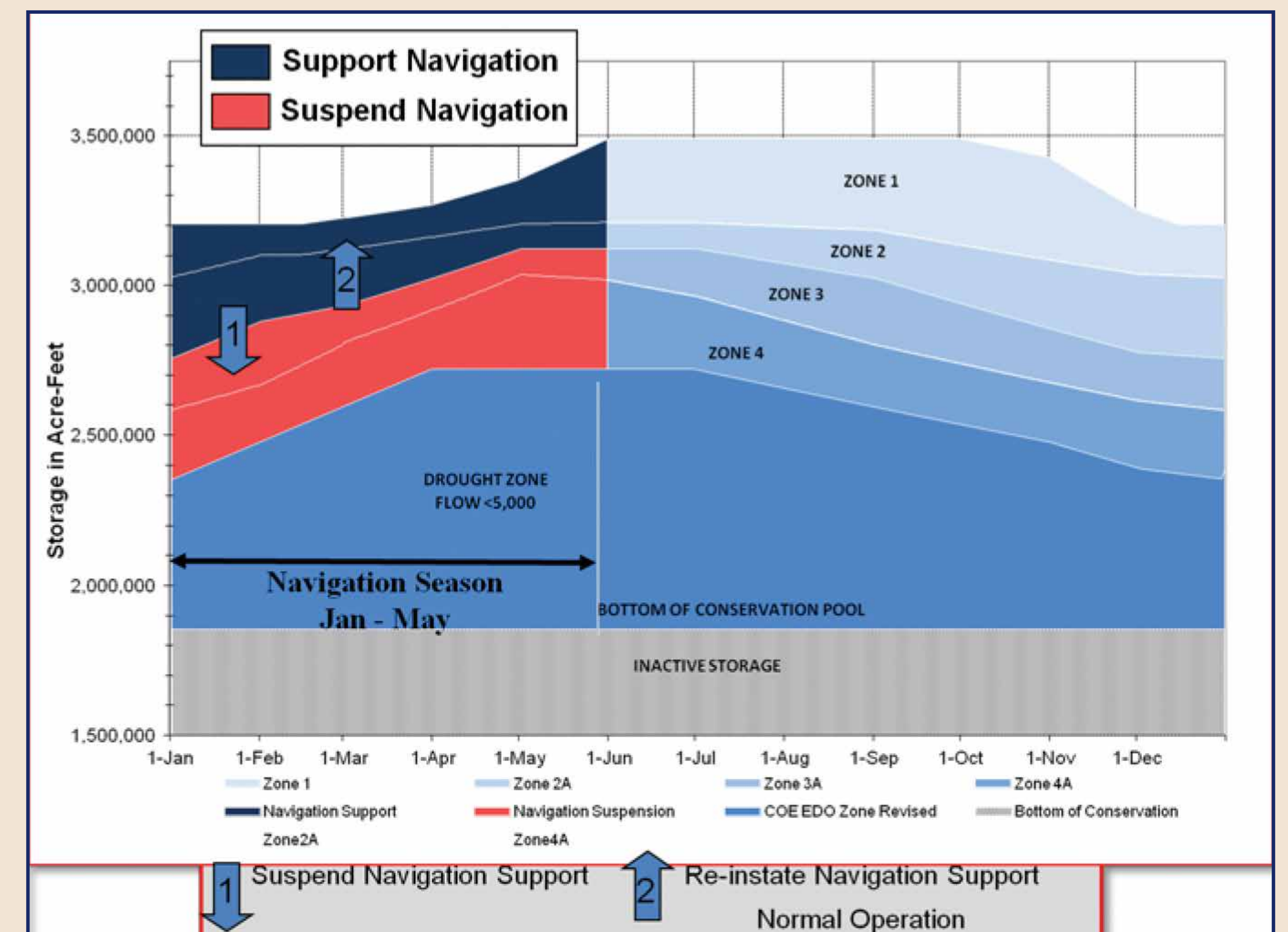
- ACF Basin Composite Conservation Storage (CCS) in Zone 1 or 2
- Channel conditions can ensure safe navigation
- Continuation of the navigation season into and through May depend on current and forecast ACF Basin inflows

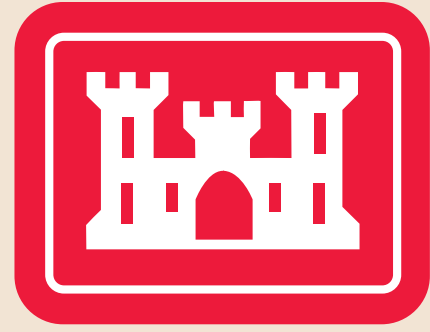
Other navigation release criteria:

- Releases for navigation at Jim Woodruff

Lock and Dam would be suspended when ACF Basin CCS falls below Zone 2 (into Zone 3)

- Navigation releases would resume when CCS recovers into Zone 1 and forecast to remain there for a practicable, continuous period during the navigation season
- Navigation releases are not supported during drought operations
- Navigation releases would adhere to the fall rate schedule for endangered species management below Jim Woodruff Lock and Dam





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Proposed Action Alternative (PAA) Endangered Species Management

(SEE DEIS SECTION 5.4.6)

Federally listed species in the Apalachicola River: mussels - fat threeridge (endangered); purple bankclimber and Chipola slabshell (threatened); Gulf sturgeon (threatened)

Management for these species is a function of two parameters - minimum discharges from Jim Woodruff Lock and Dam and the fall rate of the Apalachicola River downstream of the lock and dam (the rate at which the river profile drops as flows decrease, measured in ft/day). These parameters have been the subject of the Endangered Species Act consultation with USFWS beginning in 2006.

Minimum Discharge

The prescribed minimum discharge from Jim Woodruff Lock and Dam into the Apalachicola River for endangered species management at any time is dependent on three variables:

- Season of the year
- Composite conservation storage zone
- Basin inflow rate at Jim Woodruff Lock and Dam

Maximum Fall Rate

Maximum fall rates (or “down-ramping rates”) have been established for variable increments of discharge from Jim Woodruff Lock and Dam.

- Maximum fall rates range from 1 to 2 ft/day between 20,000 and 30,000 cfs to 0.25 ft/day for flows less than 10,000 cfs.
- Primary purpose is to reduce the risk of stranding listed mussels by dropping the river profile too rapidly as releases decrease.
- Fall rate restrictions are implemented consistent with project safety requirements, flood risk management operations, and equipment capabilities.



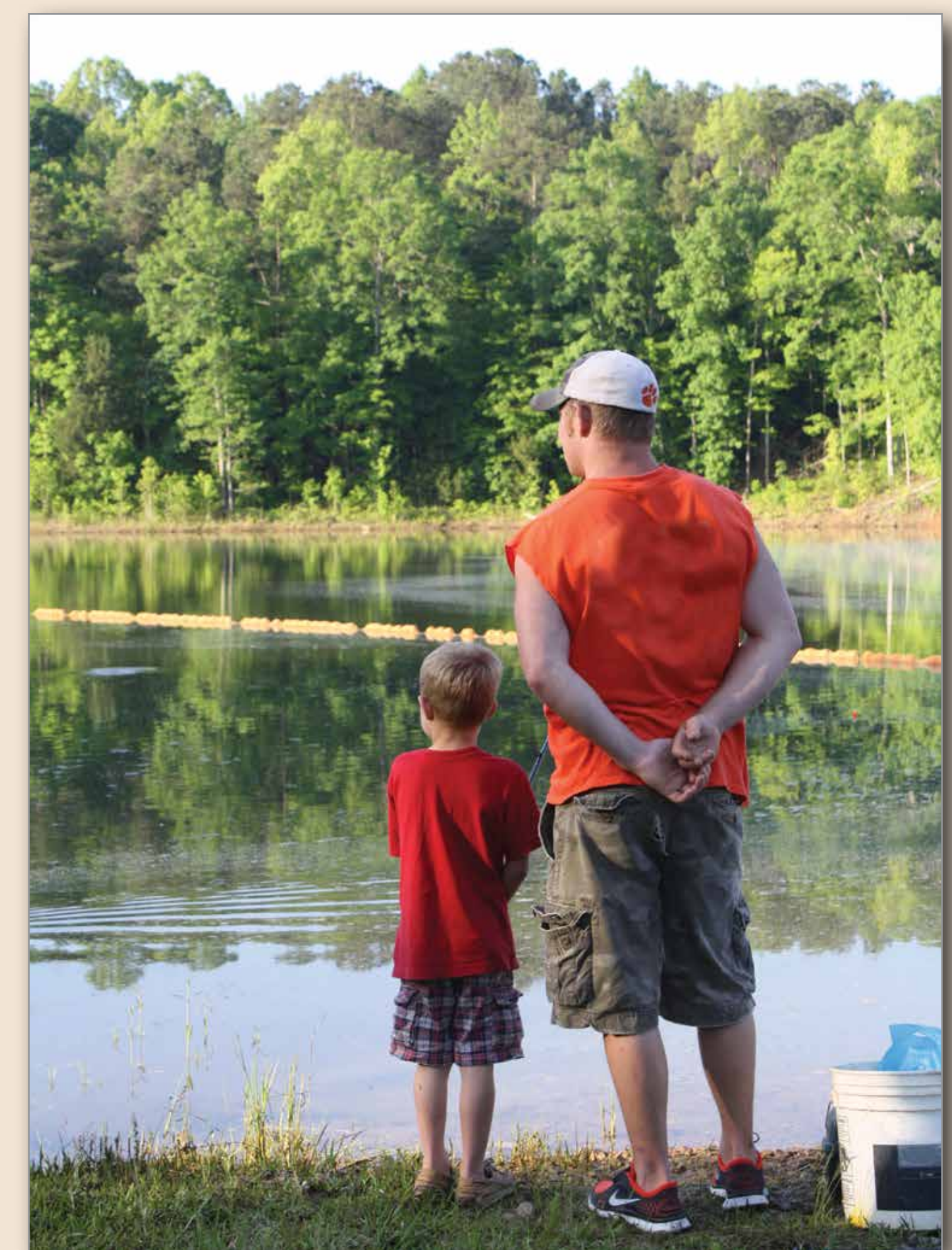


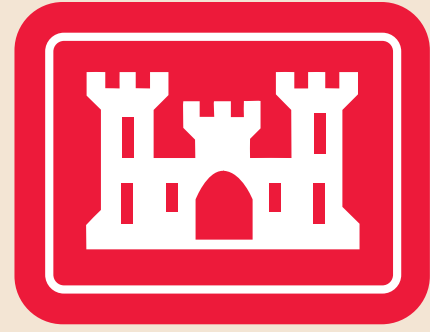
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Water Supply Considerations

(SEE DEIS SECTION 5.1.3)

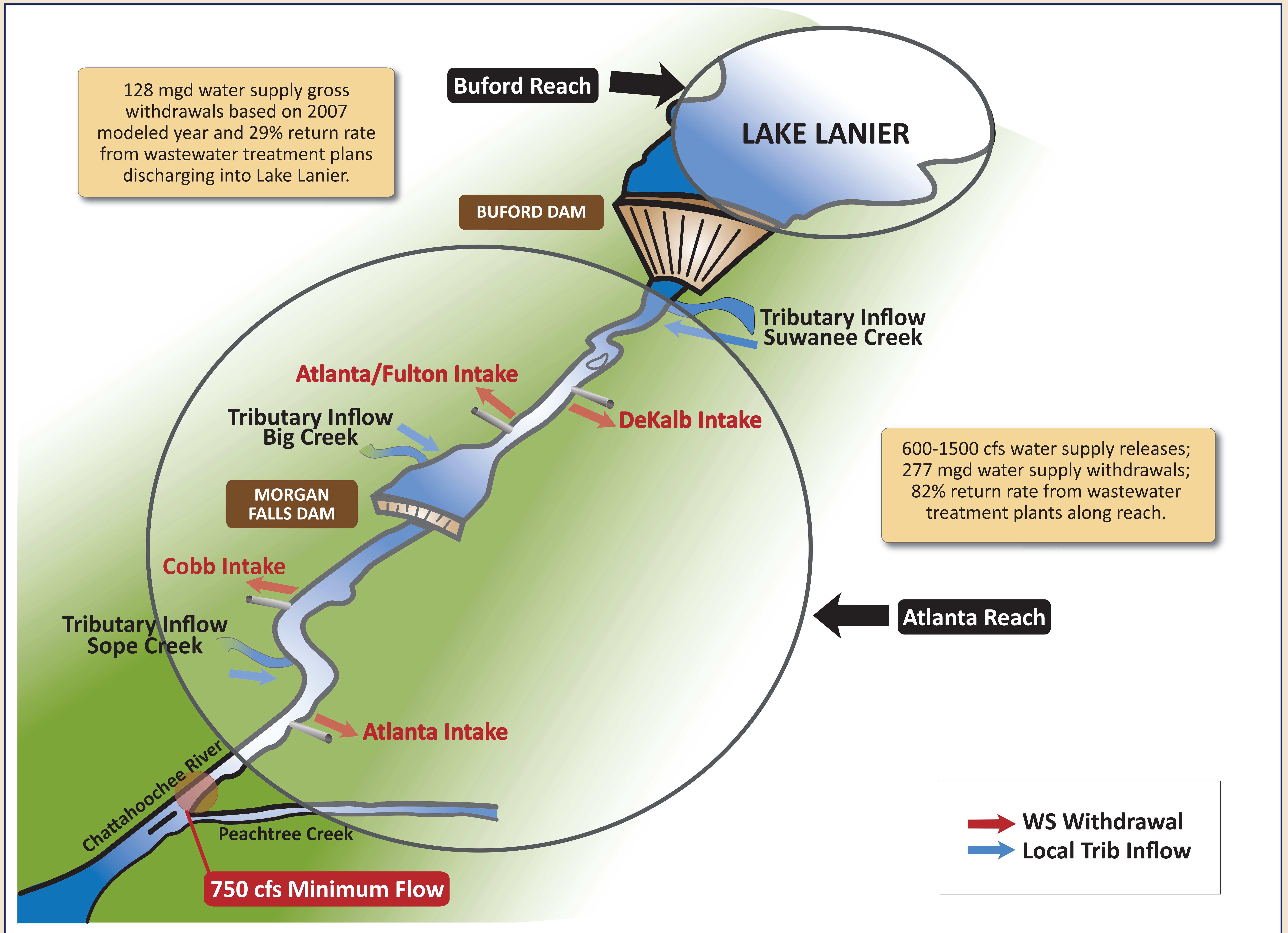
- **What is Municipal & Industrial (M&I) water supply?**
 - Water that is provided for consumption by residential, commercial, institutional and industrial users
- **Who are the M&I water supply users at Lake Lanier?**
 - Residential – includes single and multi-family residential
 - Commercial and Industrial- retail, restaurants, manufacturing plants, agricultural plants (processing plants), etc
 - Institutional – schools, universities, and hospitals
 - Other – public water needs (fire fighting and street cleaning)
- **What is the Water Supply Storage Assessment?**
 - A document that evaluates various water supply measures to reallocate storage at Lake Lanier under the authority of the 1958 Water Supply Act
 - Addresses Georgia's 2013 Water Supply Request
 - Identifies the most likely- least costly water supply alternative compared to reallocation out of the reservoir
 - Provides a tentative recommendation for reallocation in terms of quantity and cost





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Current Water Supply Operations





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Water Supply Measures

(SEE DEIS SECTION 5.1.2 AND 5.1.3)

Water Supply Measures Eliminated from Detailed Consideration*

- Conservation
- Groundwater
- Desalinization and pumping to service areas
- Other existing surface water sources
- Reallocation from Lake Lanier flood storage pool
- Reallocation for Lake Lanier inactive storage

Measures carried forward for detailed evaluation

- Glades Reservoir
- Other new reservoir construction
- Chattahoochee River withdrawals
- Reallocation from Lake Lanier conservation storage
- Reallocation from Lake Lanier conservation storage with Glades Reservoir

* Measures not carried forward for further detailed consideration due to either costly nature, inability to provide adequate dependable water supply, or public health and safety concerns.



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Water Supply Options Considered

(SEE DEIS TABLE 5.1-2)

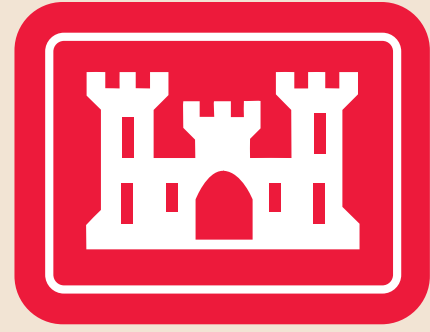
Water Supply Option	Lake Lanier Relocation (mgd)	Lake Lanier Reallocation (mgd)	Lake Lanier Total Withdrawals (mgd)	Lake Lanier Returns (mgd/% returned)	Glades Reservoir Withdrawals (mgd)	Glades Reservoir Returns (mgd/% returned)	River Withdrawals (mgd)	River Returns (mgd/% returned)
A – No Action	20	108	128	37/29%	0	0	277	227/82%
B – Relocation Only	20	0	20	10/50%	0	0	277	227/82%
C – Future Without Project Condition (w/ Glades Pumping)	20	0	20	10/50%	40	20/50%	408	335/82%
D – GA 2013 Request	20	277	297	163 ^a /55%	0	0	408	384/94%
E – GA 2013 Request w/ Glades Pumping	20	237	257	141/55%	40	22/55%	408	384/94%
F – GA 2013, Projected Return Volume for 2035	20	277	297	91/30.6%	0	0	408	335/82%
G – GA 2013 Max Current Treatment Facility Capacity	20	277	297	128/43%	0	0	408	477/117%
H – Projected Return Volume for 2035 w/ Glades Pumping	20	165	185	75/40.4%	40	16/40.4%	408	384/94%

Note:

- ^a 2 mgd would be returned to the Chattahoochee River upstream of Lake Lanier.
- *Lake Lanier Relocation* – Withdrawals by the cities of Buford and Gainesville under existing relocation agreements executed in connection with project construction.
- *Lake Lanier Reallocation* – Potential water supply storage contracts at Lake Lanier under the Water Supply Act of 1958.
- *Returns* – Wastewater that is captured, treated, and returned to the basin by treatment plants (typically characterized as a percent of the withdrawal value).

- Various rates of return were considered in the analysis. The different rates of return range from those currently observed to projected future returns based on a variety of assumptions relating to treatment technology, infrastructure modifications and improvements, and other factors explained in section 5.1.4.1 of the draft EIS.

*Text in red indicates water supply option included in the Proposed Action Alternative.

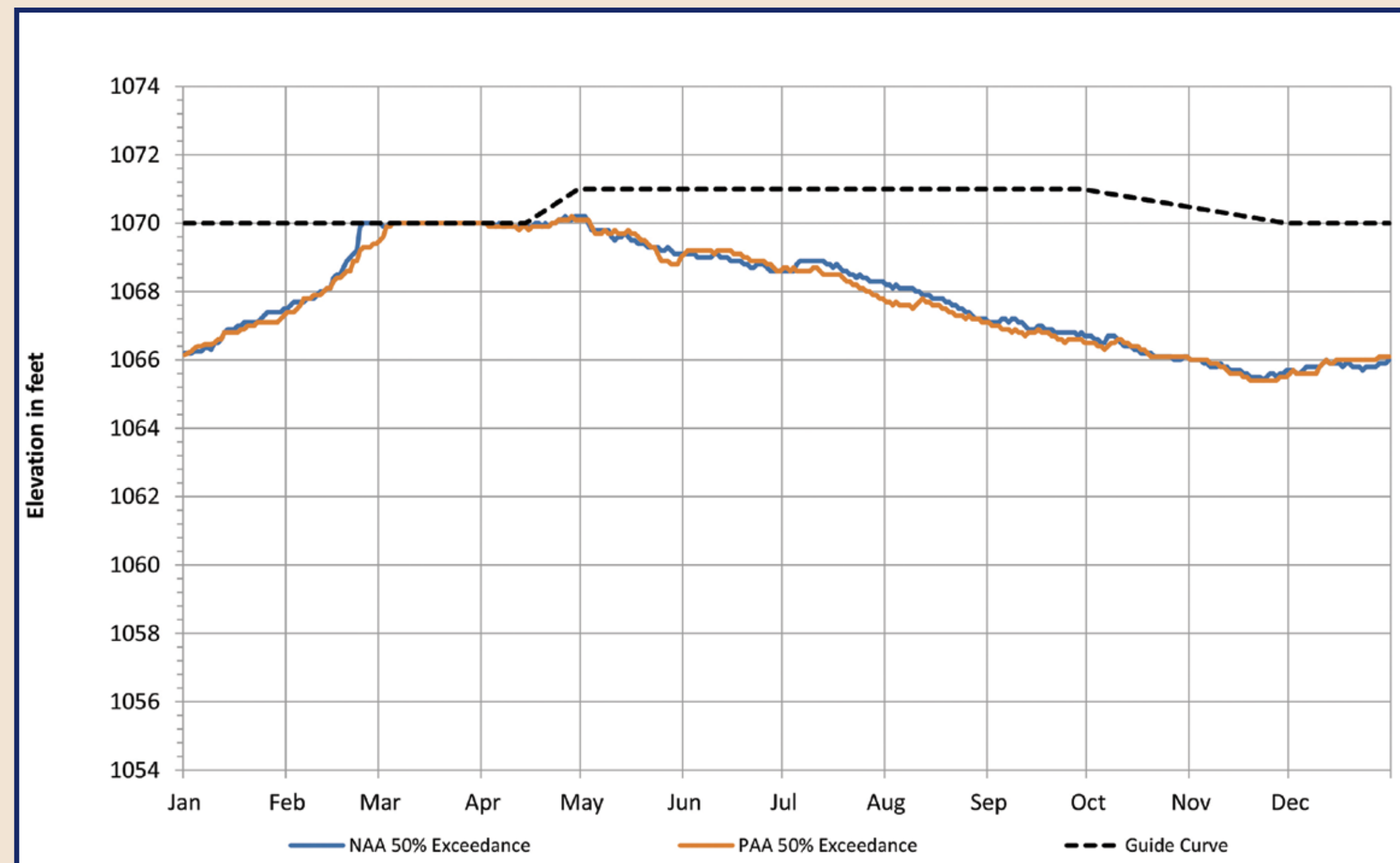


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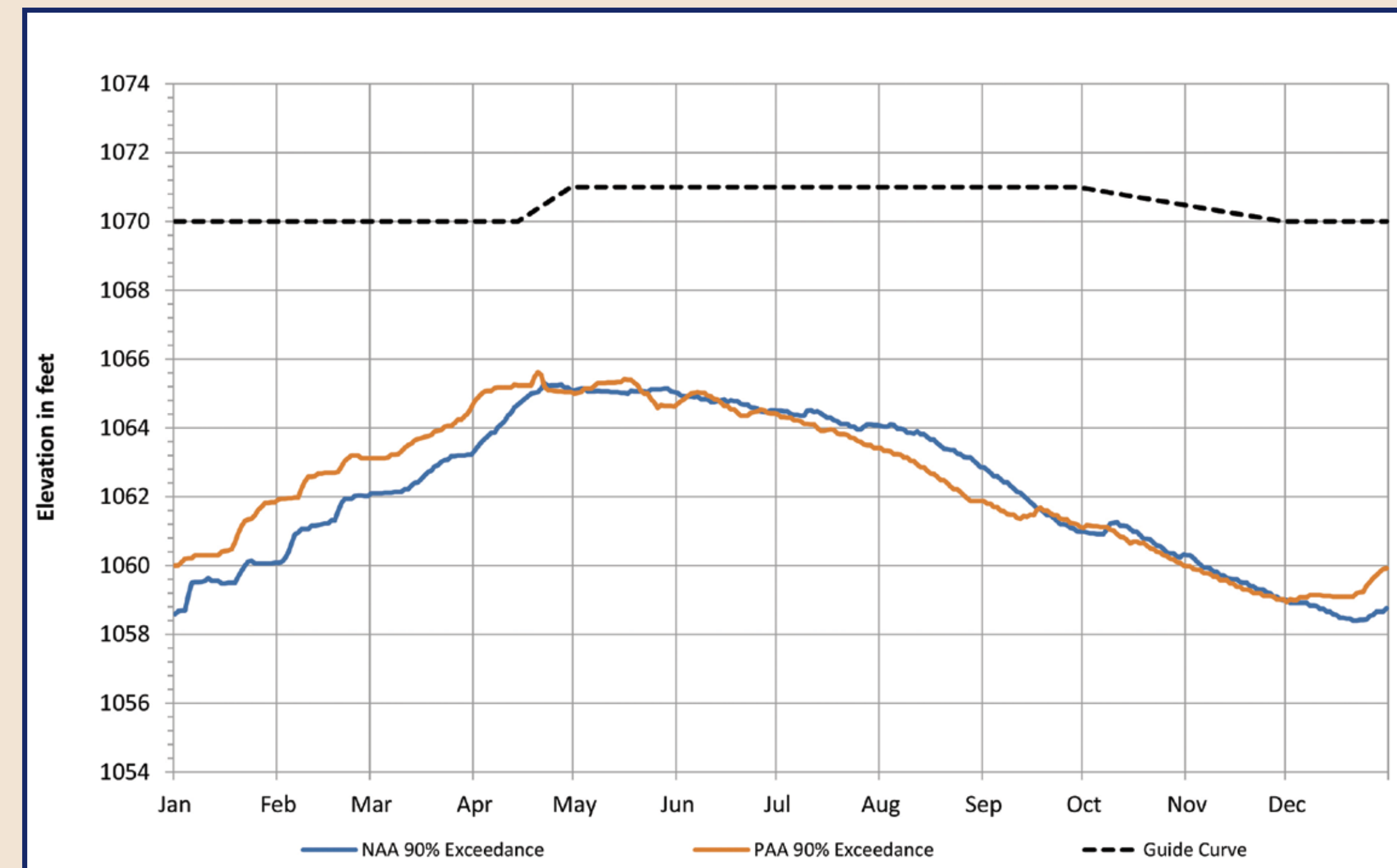
Water Quantity Impacts

Lake Level Conditions in the ACF Basin

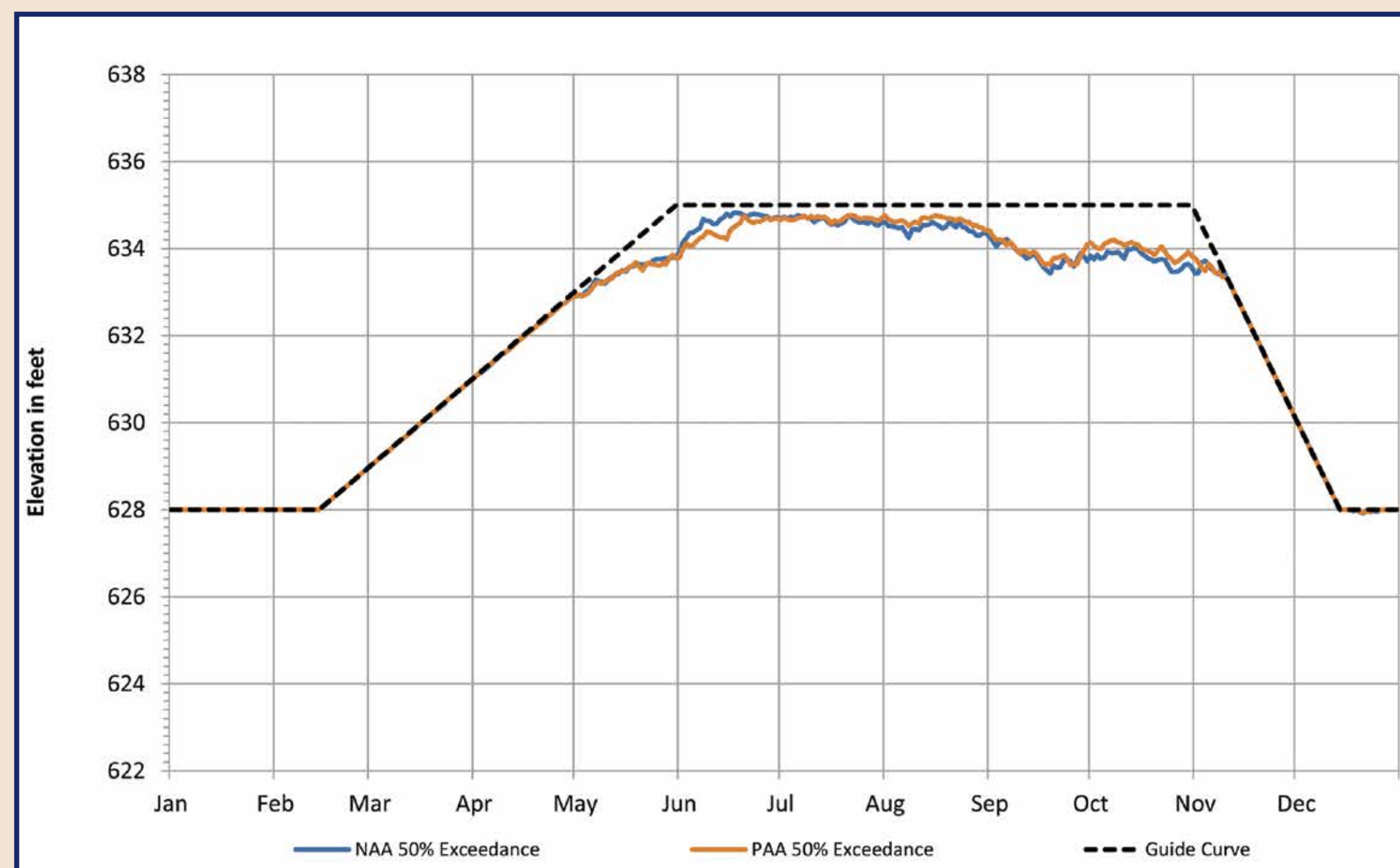
(SEE DEIS SECTION 6.1.1)



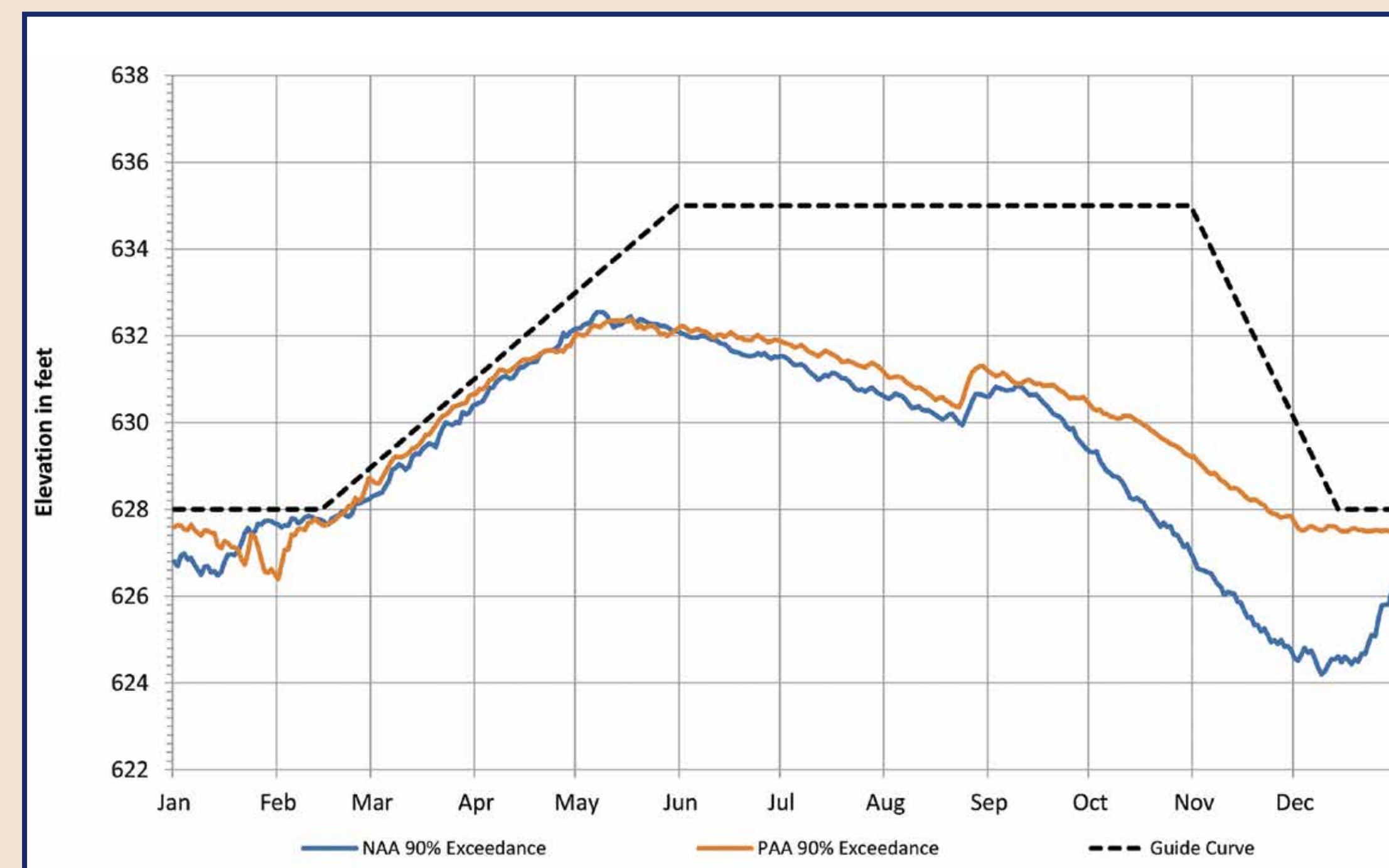
Lake Lanier Elevation - 50% Exceedance



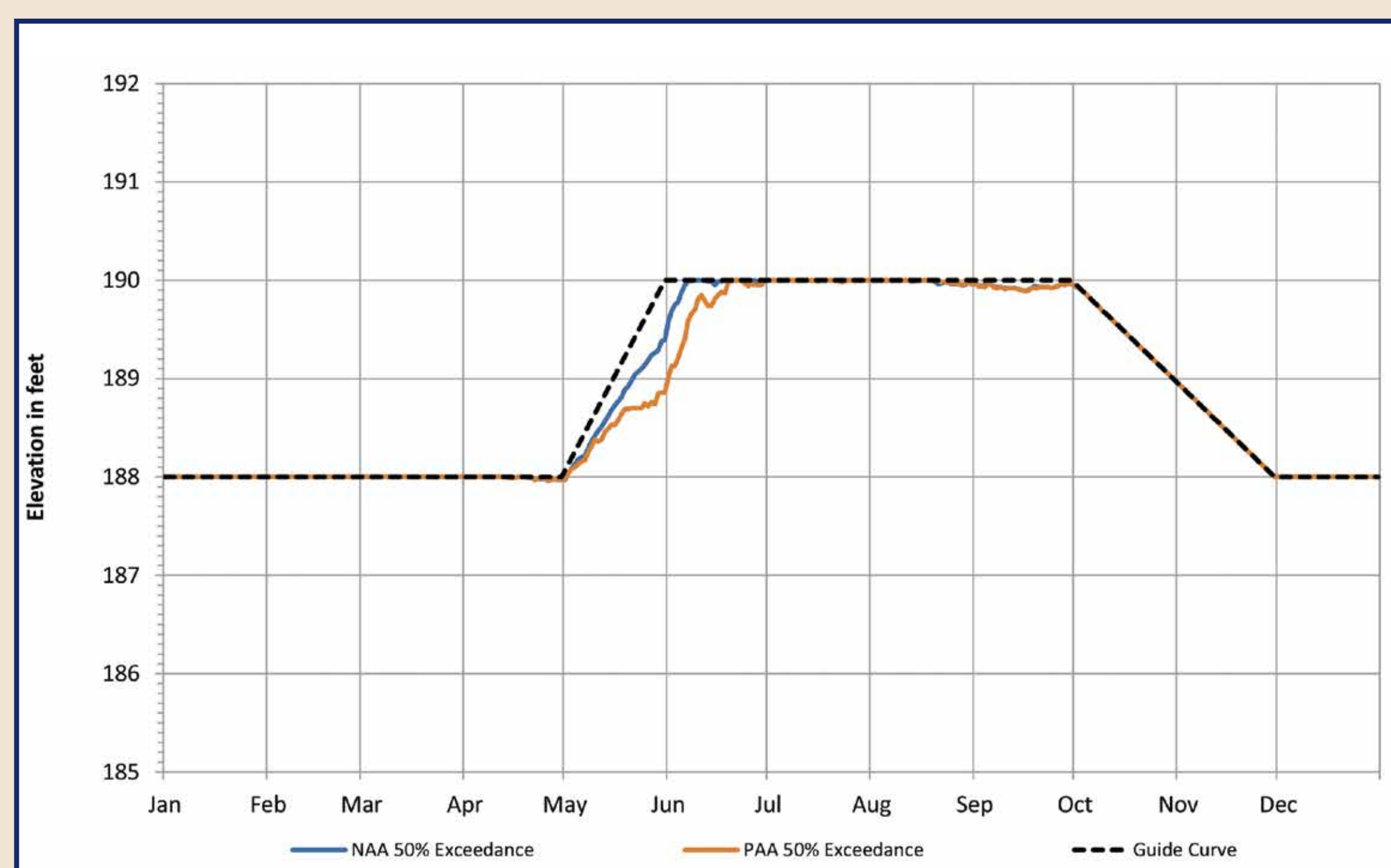
Lake Lanier Elevation - 90% Exceedance



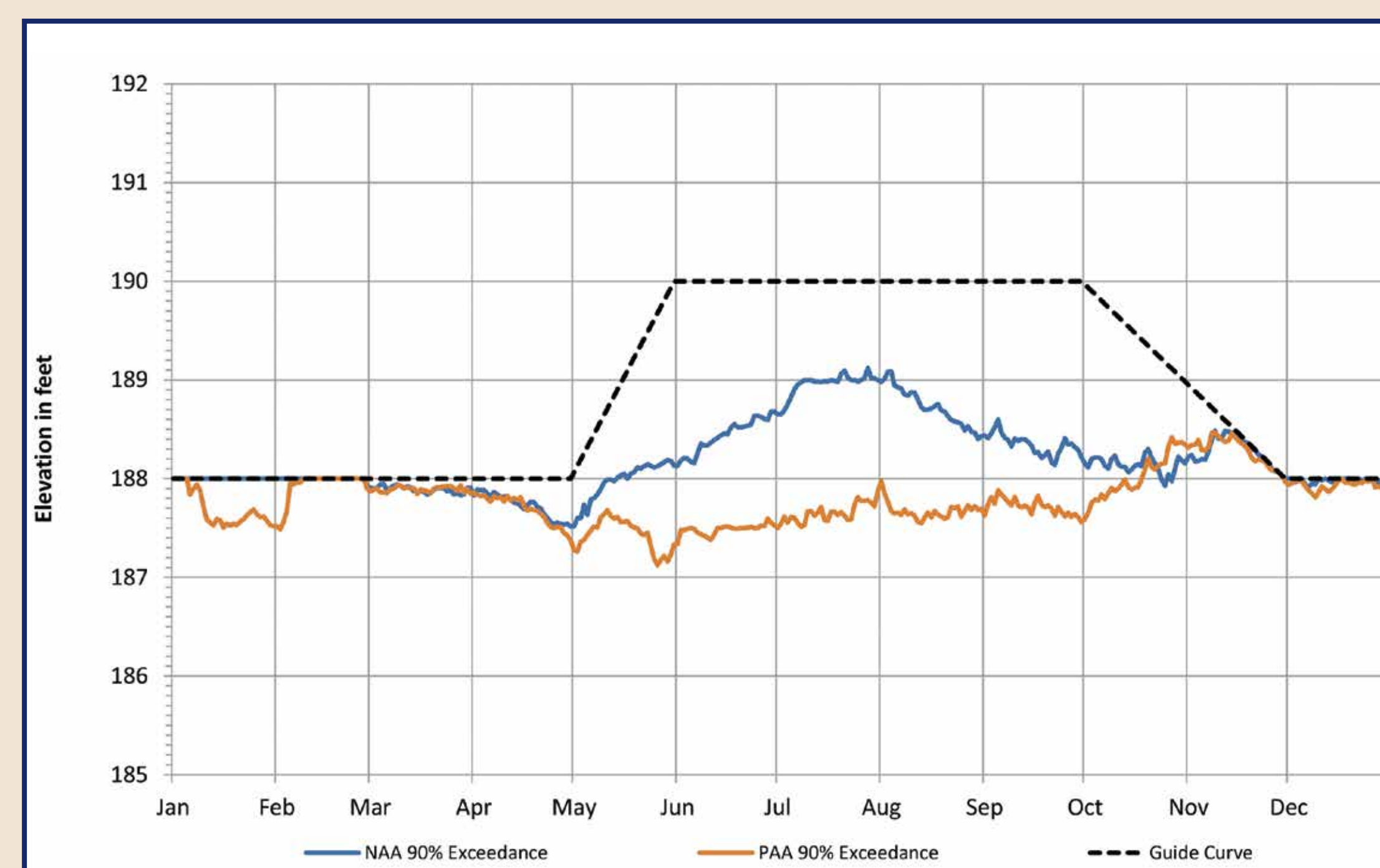
West Point Lake Elevation - 50% Exceedance



West Point Lake Elevation - 90% Exceedance

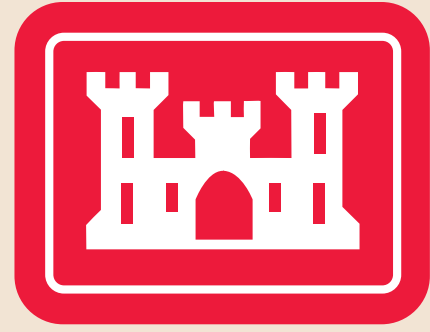


WF George Lake Elevation - 50% Exceedance



WF George Lake Elevation - 90% Exceedance

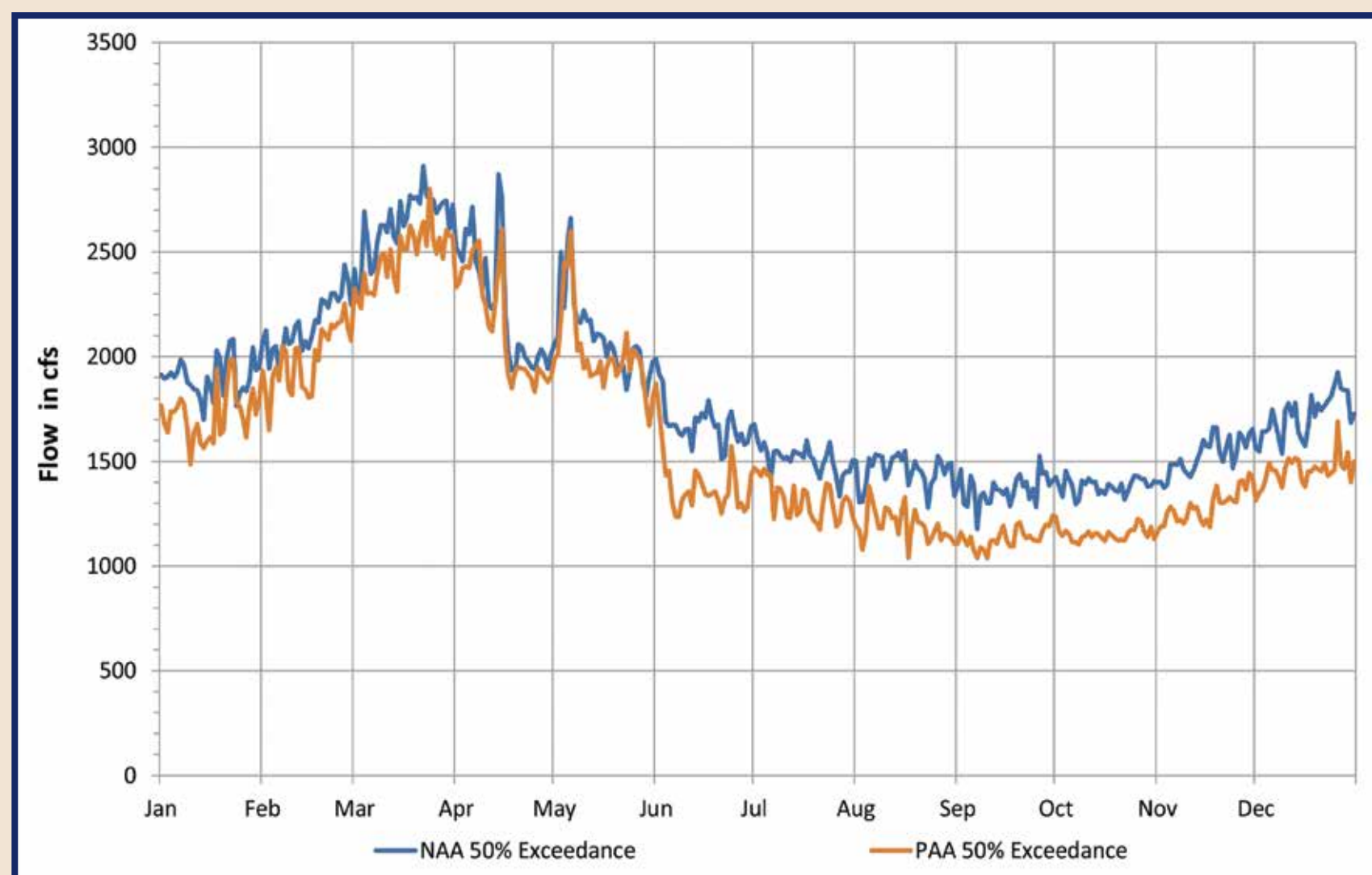
- **Left side graphs:** 50 percent exceedance (or median) values represent “normal” conditions (there are an equal number of daily values above and below the plotted value).
- **Right side graphs:** 90 percent exceedance represents daily elevation values that would be exceeded 90 percent of the time. The 90 percent exceedance level would be characteristic of values that would be experienced during extreme drought conditions.
- Median daily pool levels at **Lake Lanier** would be slightly lower under the Proposed Action Alternative (PAA) most of the time compared to the No Action Alternative (NAA). Under extreme drought conditions, Lake Lanier would be slightly higher most of the time under the PAA compared to the NAA.
- Median daily pool levels at **West Point Lake** would be about the same under the PAA and the NAA. Under extreme drought conditions, the lake levels would be improved under the PAA, most notably between September and January.
- Median daily pool levels at **Walter F. George Lake** would be about the same under the PAA and the NAA. Under extreme drought conditions, the lake levels would be notably lower under the PAA between May and October.



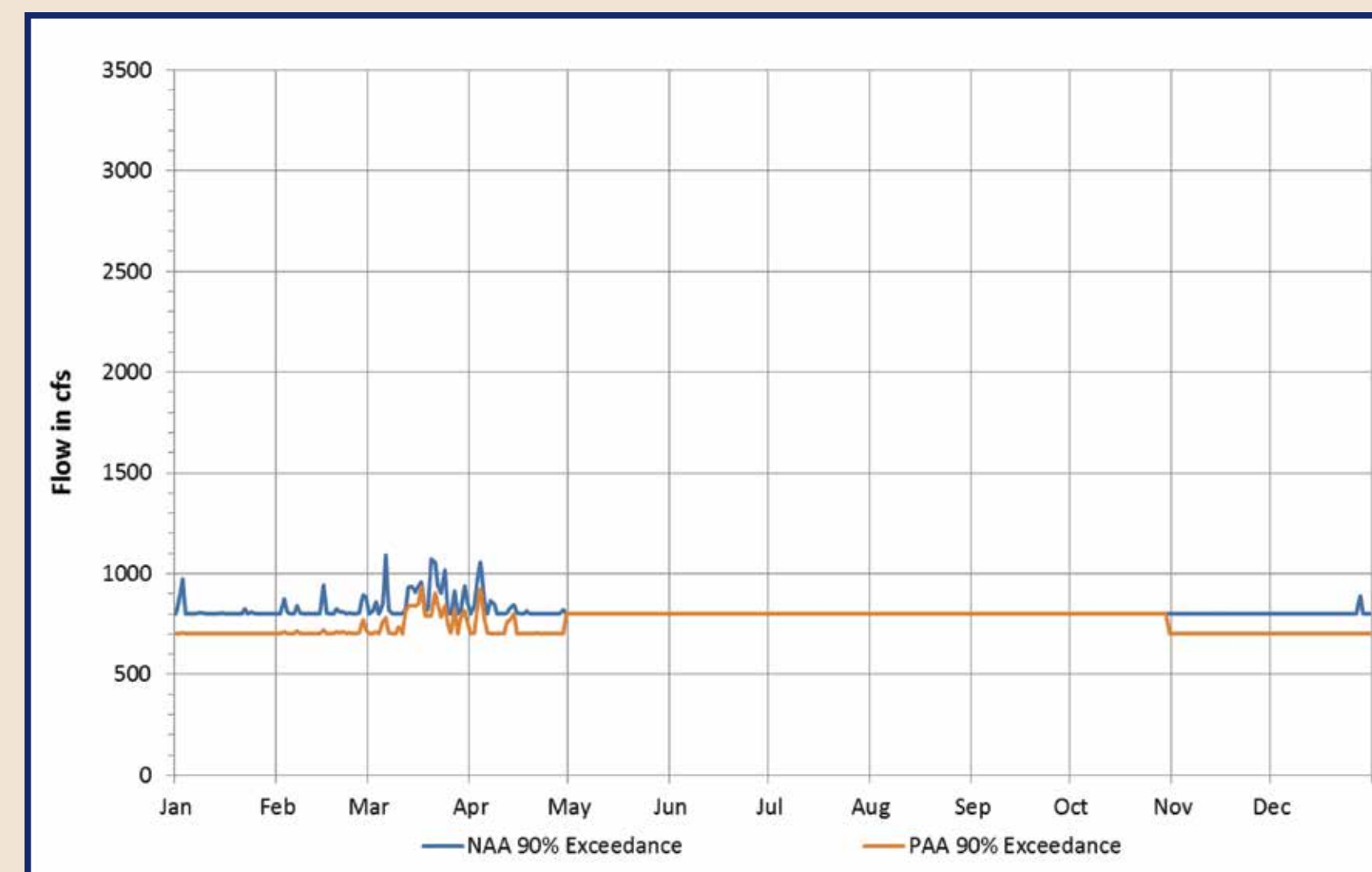
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Water Quantity Impacts Flow Conditions at Selected Locations in the ACF Basin

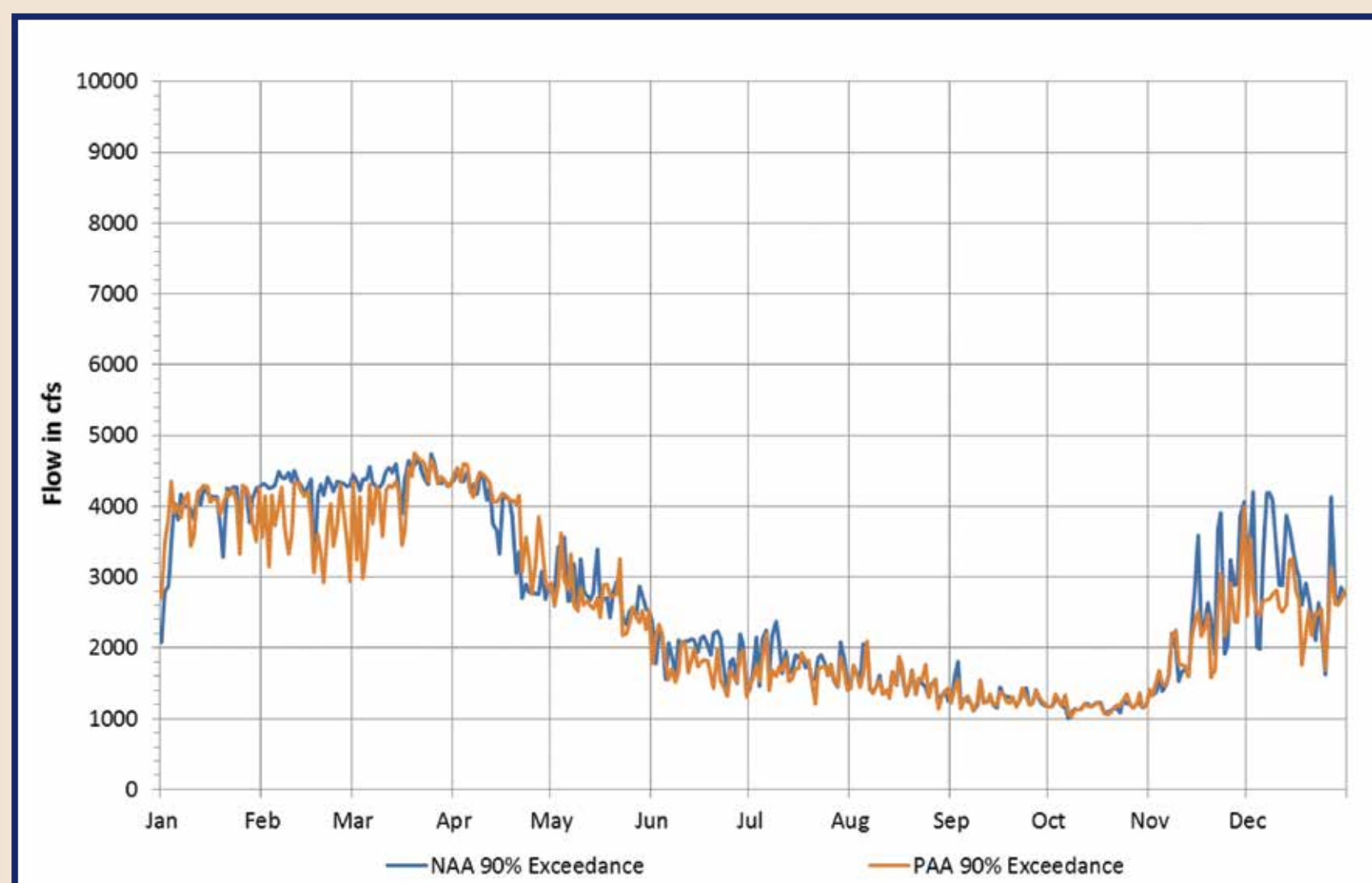
(SEE DEIS SECTION 6.1.2)



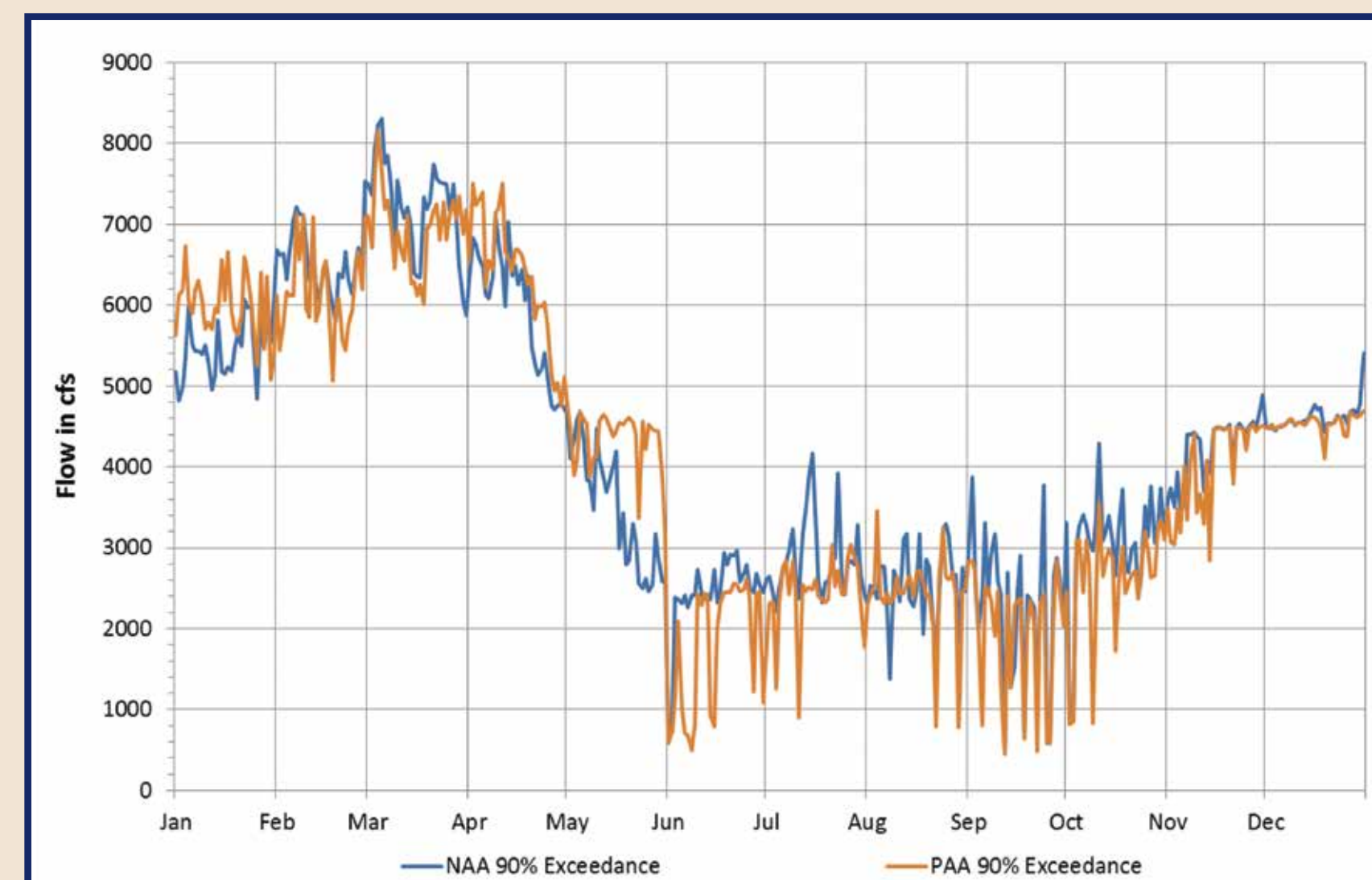
Chattahoochee River at Peachtree
Creek (Atlanta) - 50% Exceedance



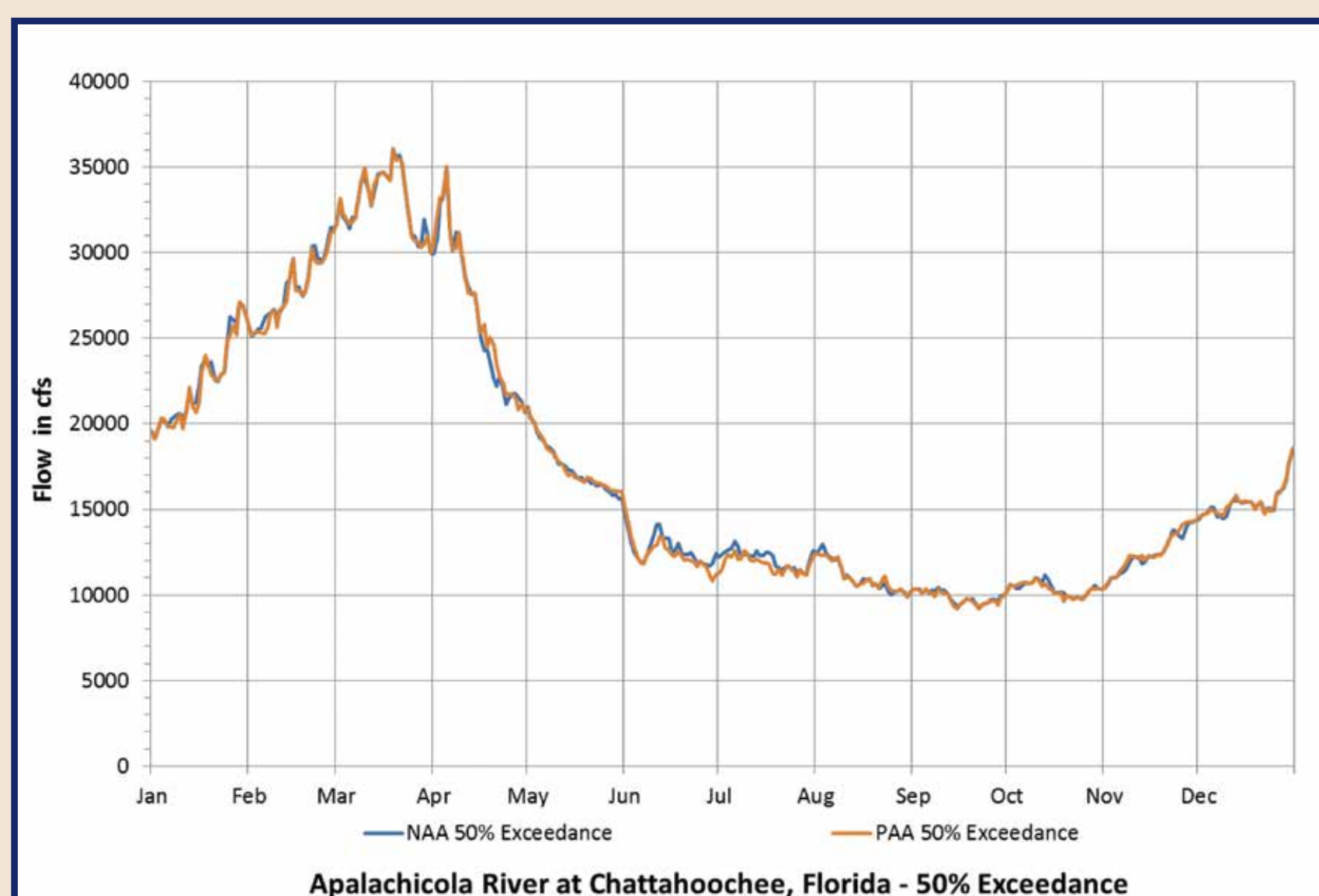
Chattahoochee River at Peachtree
Creek (Atlanta) - 90% Exceedance



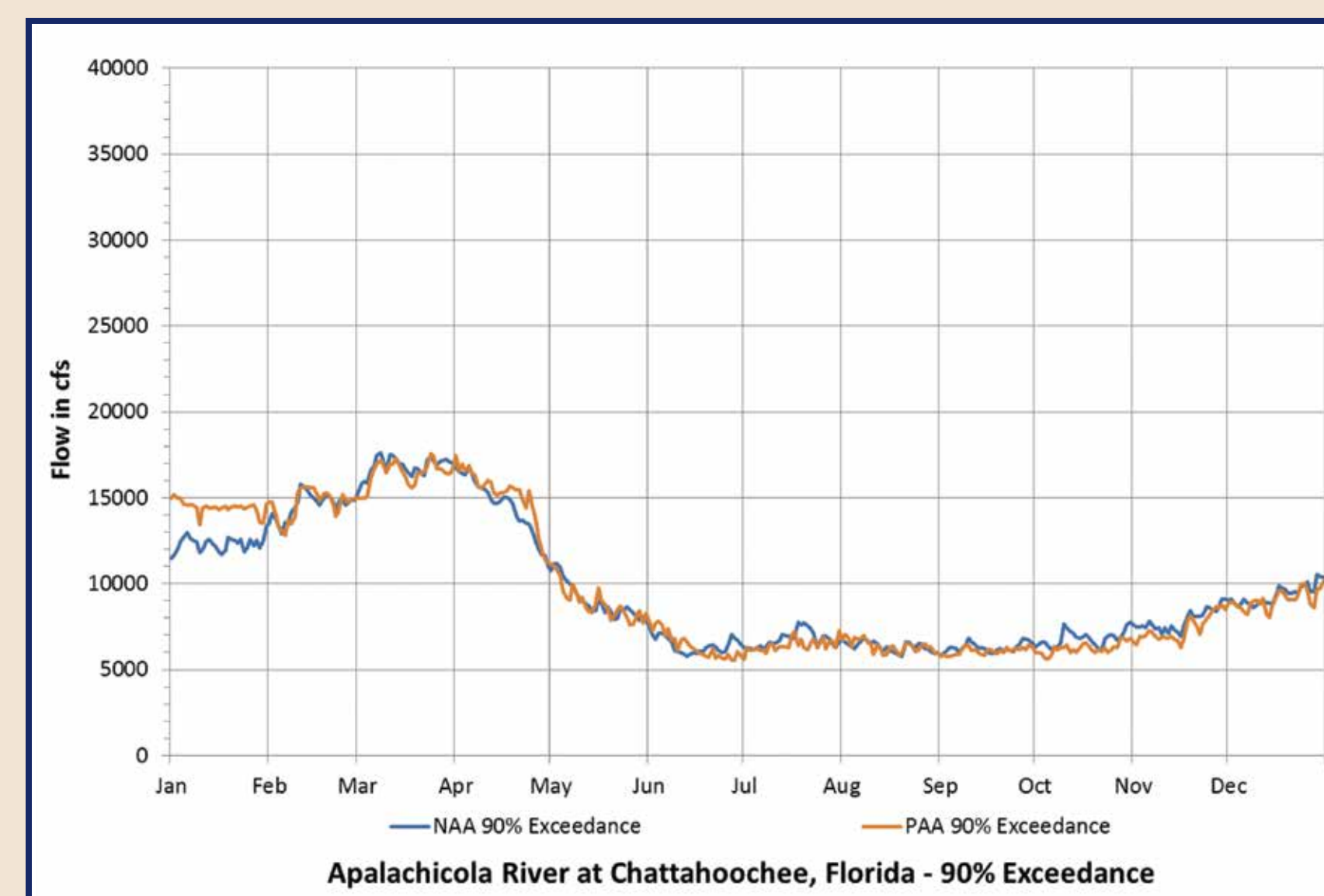
Chattahoochee River at Columbus,
Georgia - 90% Exceedance



Chattahoochee River - George W. Andrews
L&D Discharge - 90% Exceedance



Apalachicola River at Chattahoochee,
Florida - 50% Exceedance



Apalachicola River at Chattahoochee,
Florida - 90% Exceedance

Chattahoochee River at Peachtree Creek

- Flows at the median (50% exceeded) (far left) and 90% exceeded (left) levels would be slightly lower under the Proposed Action Alternative (PAA) compared to the No Action Alternative (NAA). 90% exceeded represents extreme drought conditions.
- Optimum daily flows for activities in the Chattahoochee River National Recreation Area are between 1,000 and 1,200 cfs. The PAA would exceed 1,000 cfs on 68% of days over the period of record compared to 73% for the NAA.
- Continuous minimum flow values at Peachtree Creek would be met at all times.

Chattahoochee River at Columbus, Georgia

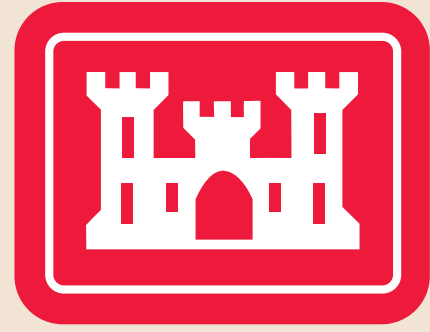
- Daily flows for the NAA and PAA would be similar, with slight seasonal differences. 90% exceeded daily flows are shown at far left.
- Daily flows for the PAA would equal or exceed 1,350 cfs (FERC minimum flow target) on 94% of days (95% for the NAA).

Chattahoochee River below George W. Andrews Lock and Dam (L&D)

- Daily flows for the NAA and PAA would be similar, with slight seasonal differences. 90% exceeded daily flows are shown at left.
- Daily flows for the PAA would equal or exceed 2,000 cfs (Plant Farley flow need per Southern Nuclear, Inc.) on 95% of days (96% for the NAA).

Apalachicola River at Chattahoochee, Florida (below Jim Woodruff L&D)

- Daily flows for the NAA and PAA at both median (far left) and 90% exceeded (left) levels would be nearly the same.
- Daily flows for the NAA and PAA would exceed 5,000 cfs about 97% of the days over the period of record and at 5,000 cfs about 3% of the time.



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Water Quality and Biological Impacts

(SEE DEIS SECTION 6.1.2 AND SECTION 6.4)

Water Quality

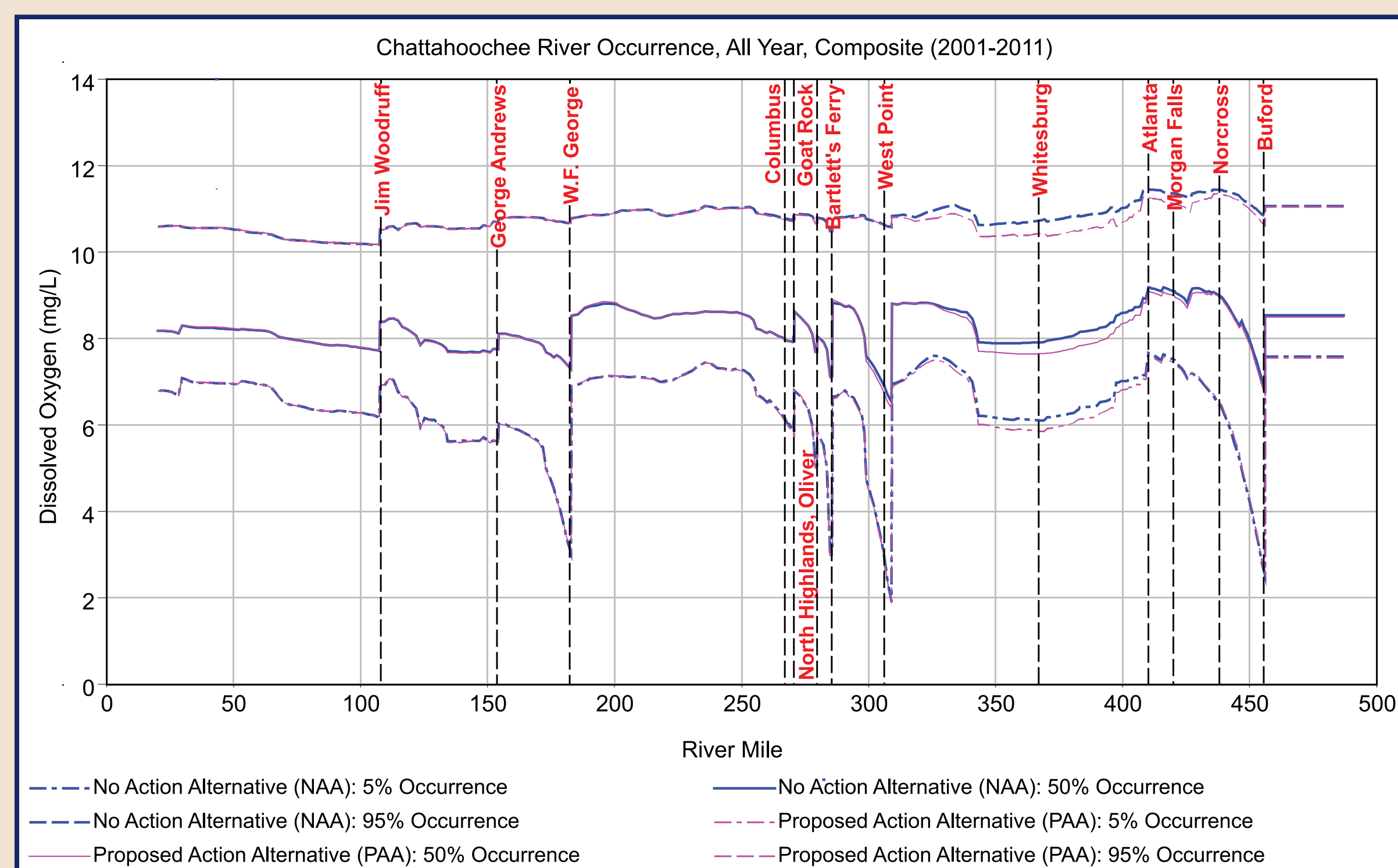
Water Temperature: No changes

Oxygen Demand: Any changes from Buford Dam to West Point Lake would be a result of increased wastewater returns due to increased water use.

Phosphorus: Any increase in median concentrations of total phosphorus would be a result of increased wastewater returns due to increased water use. Higher flows may result in higher annual phosphorus loading into West Point Lake and Walter F. George Lake that would be greater than standards.

Nitrogen: Changes would be expected to be similar to phosphorus.

Chlorophyll *a*: Negligible change



Biological Resources

Vegetation and Wildlife: No change

Fish and Aquatic Resources - Riverine: Slightly reduced flows and increased loading from wastewater returns in Metro Atlanta would be expected to effect riverine fisheries downstream of Buford Dam to Walter F. George Lake. Changes to operations downstream of Walter F. George Lock and Dam into the Apalachicola River would have negligible effects on aquatic resources.

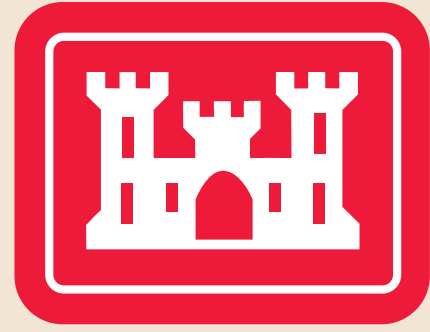
Fish and Aquatic Resources – Reservoir and Estuary: No changes

Protected Species – Gulf sturgeon: No changes

Protected Species – Mussels: The Proposed Action Alternative results in an increase in the number of years and number of consecutive days per year when Apalachicola River flows are less than 10,000 cfs which could adversely affect listed mussel species. The USACE will consult with the U.S. Fish and Wildlife Service under the auspices of Section 7 of the Endangered Species Act.

Protected Species – Shoal bass: Beneficial

Management Facilities: No changes



Cultural Resource Impacts

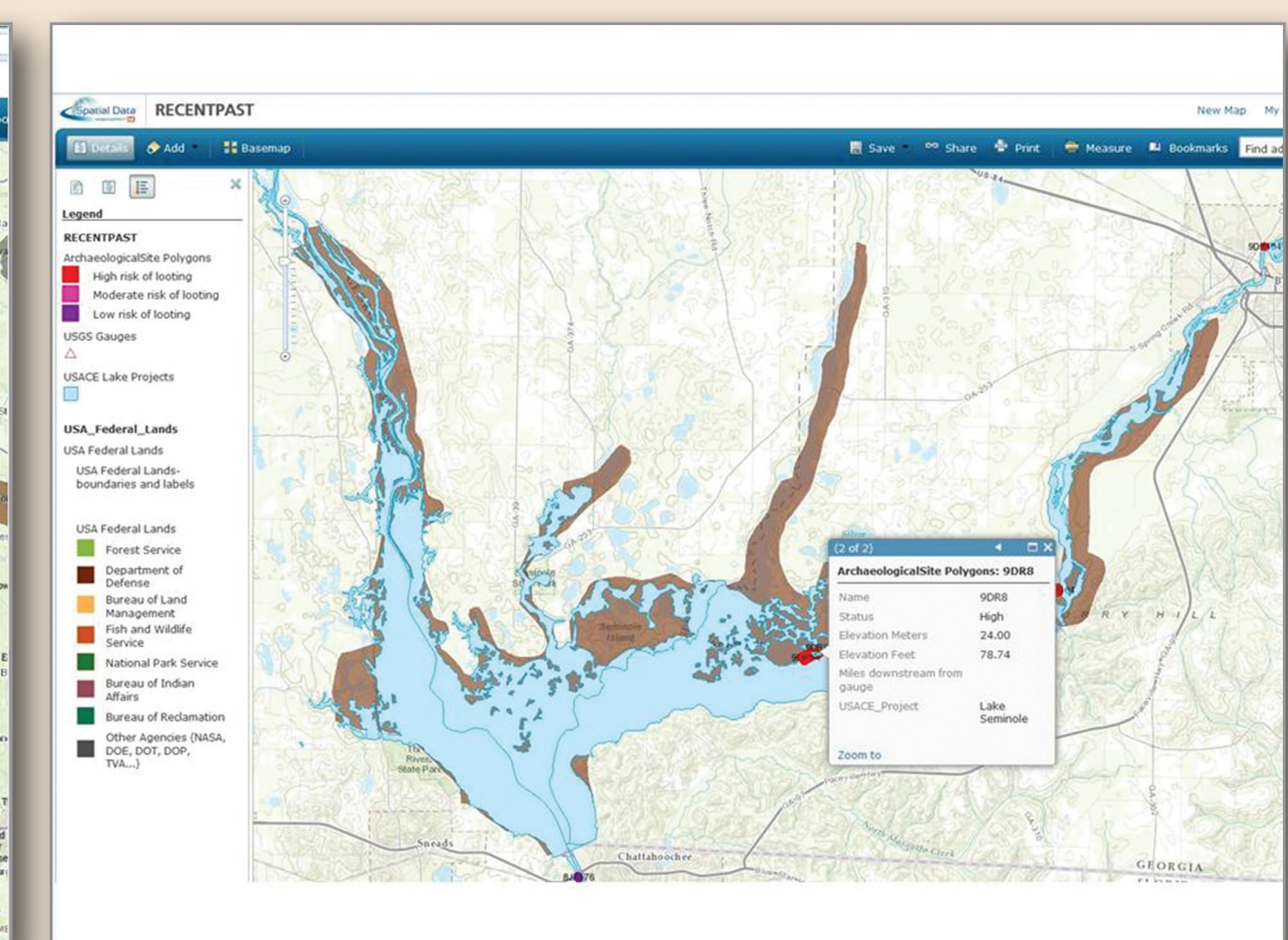
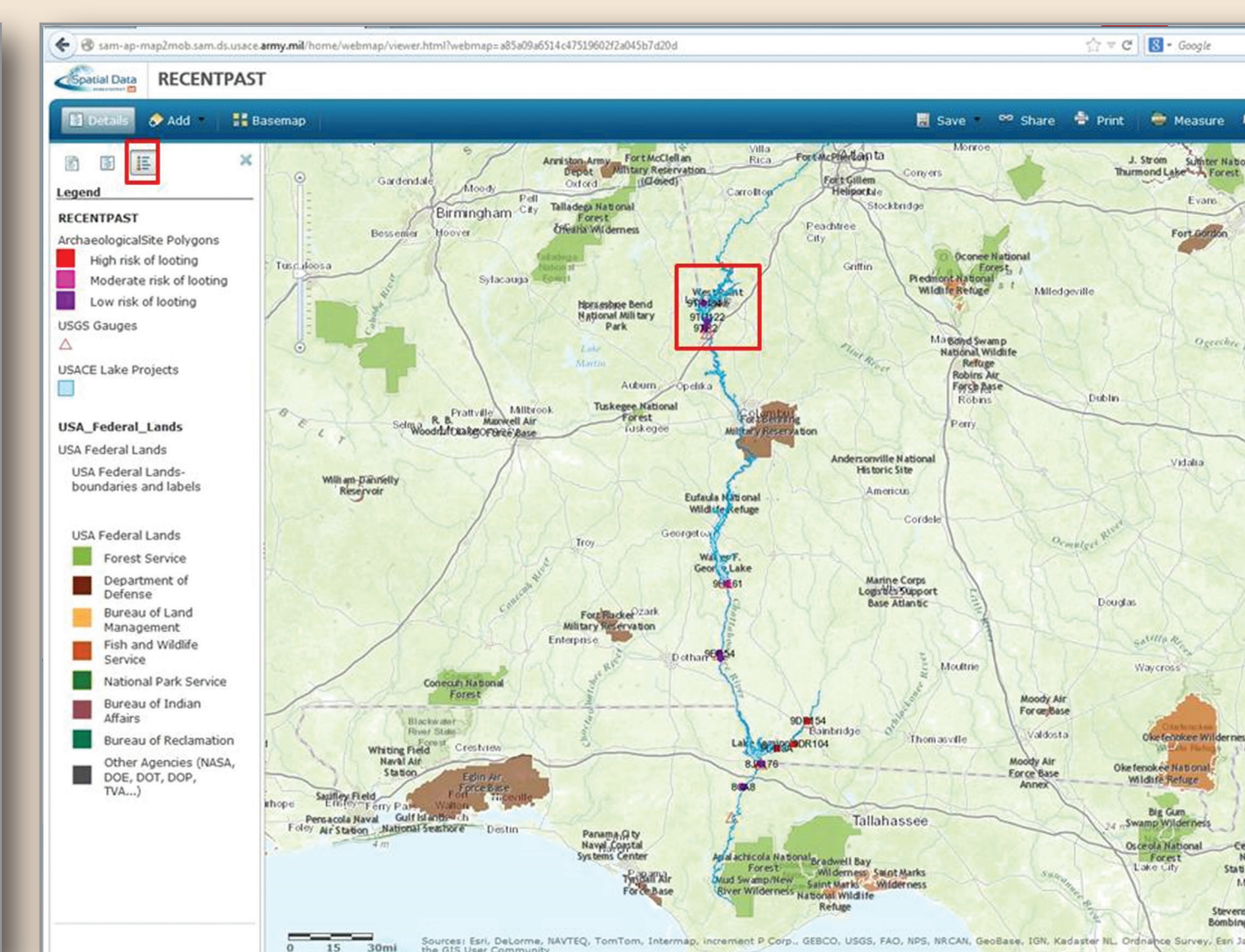
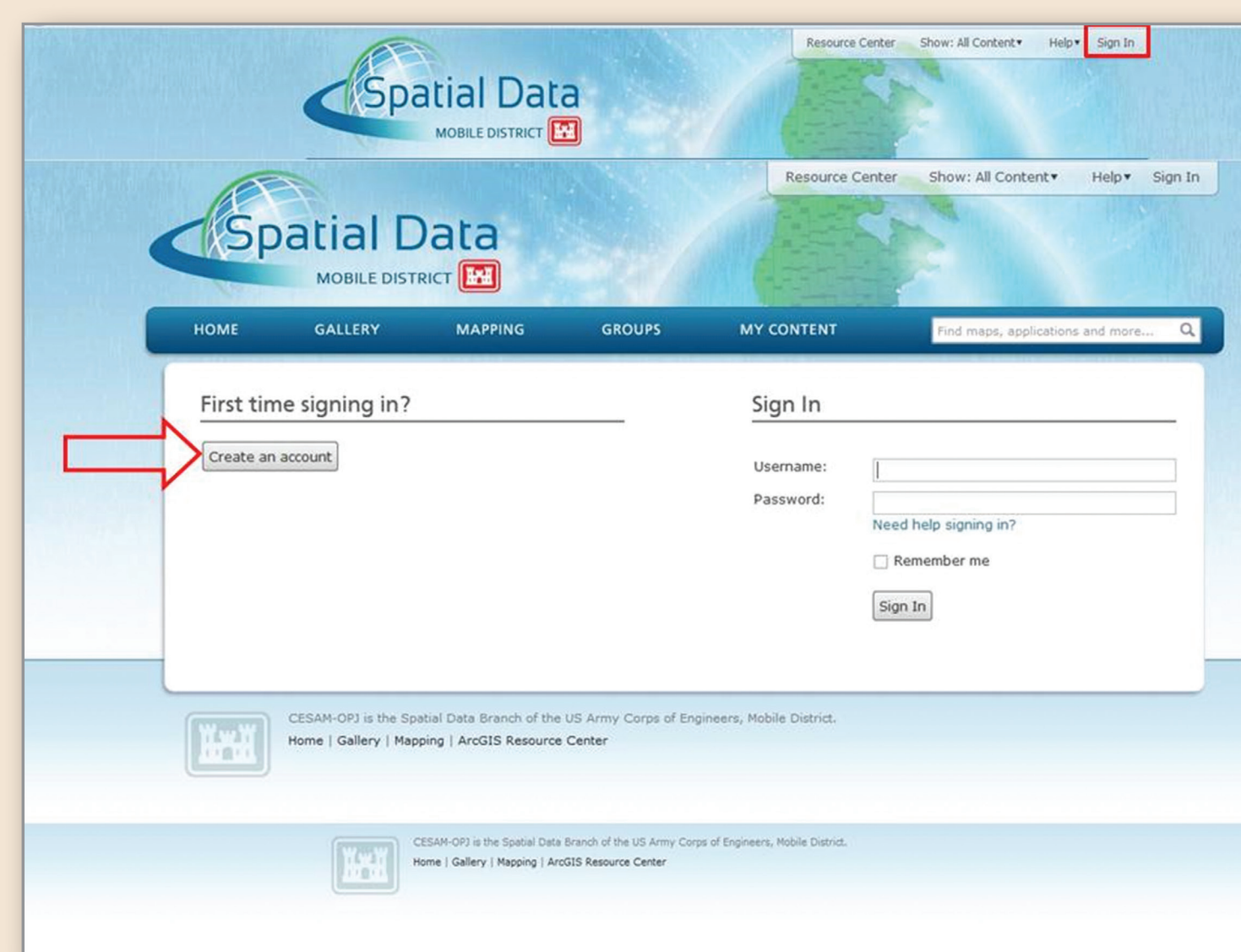
(SEE DEIS SECTION 6.7)

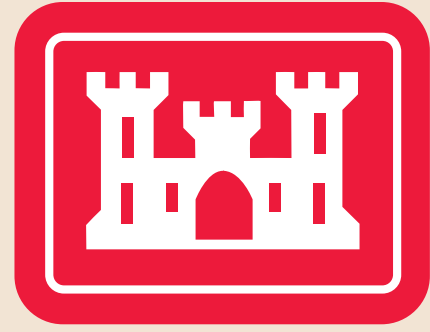
Cultural Resource Exposure Impacts Per Section 106 of the National Historic Preservation Act:

- USACE conducted a longitudinal technical study using Geographic Information Systems (GIS) Technology (RECENTPAST tool) and a sample of ACF Cultural sites in order to evaluate data related to exposure impacts for the ACF WCM.
- Data presented in the technical report illustrated most sites remain inundated throughout the year under current ACF water management (No Action Alternative).
- Unlikely that these sites will be exposed by the Proposed Action Alternative (PAA) as the elevations do not vary significantly enough to trigger exposure.
- PAA may inundate some sites currently exposed thus decreasing risk of exposure.
- The RECENTPAST tool and the technical study results are currently being coordinated with the State Historic Preservation Offices and Federally Recognized Tribes with interests in the area.

Real-time Effects Cultural Evaluation Network Tracking, Planning, and Sensitivity Tool (RECENTPAST)

- A real-time monitoring and warning system utilizing GIS with cultural resource site location and USGS water gage levels to show exposure rates of cultural resources in the ACF Basin.

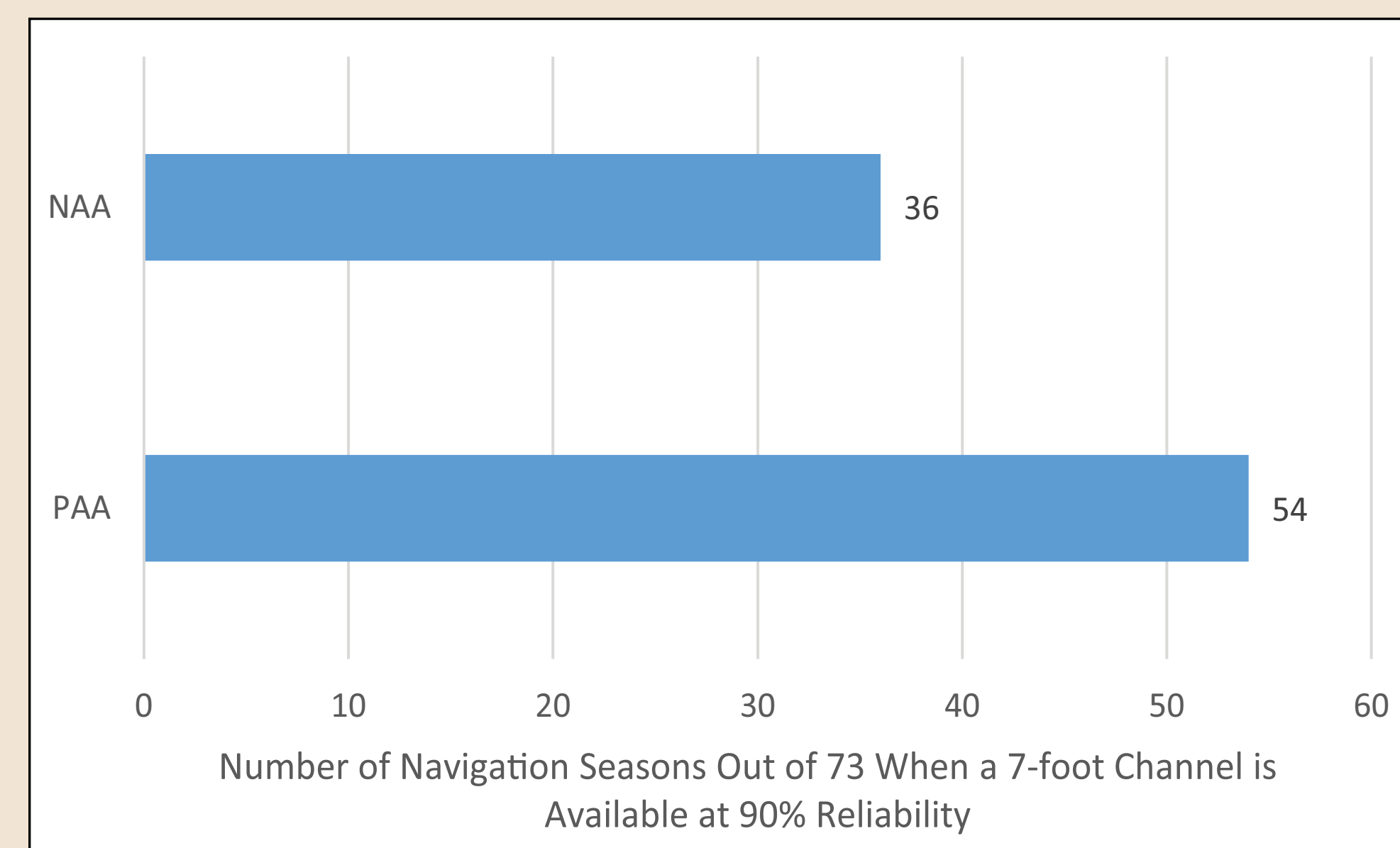
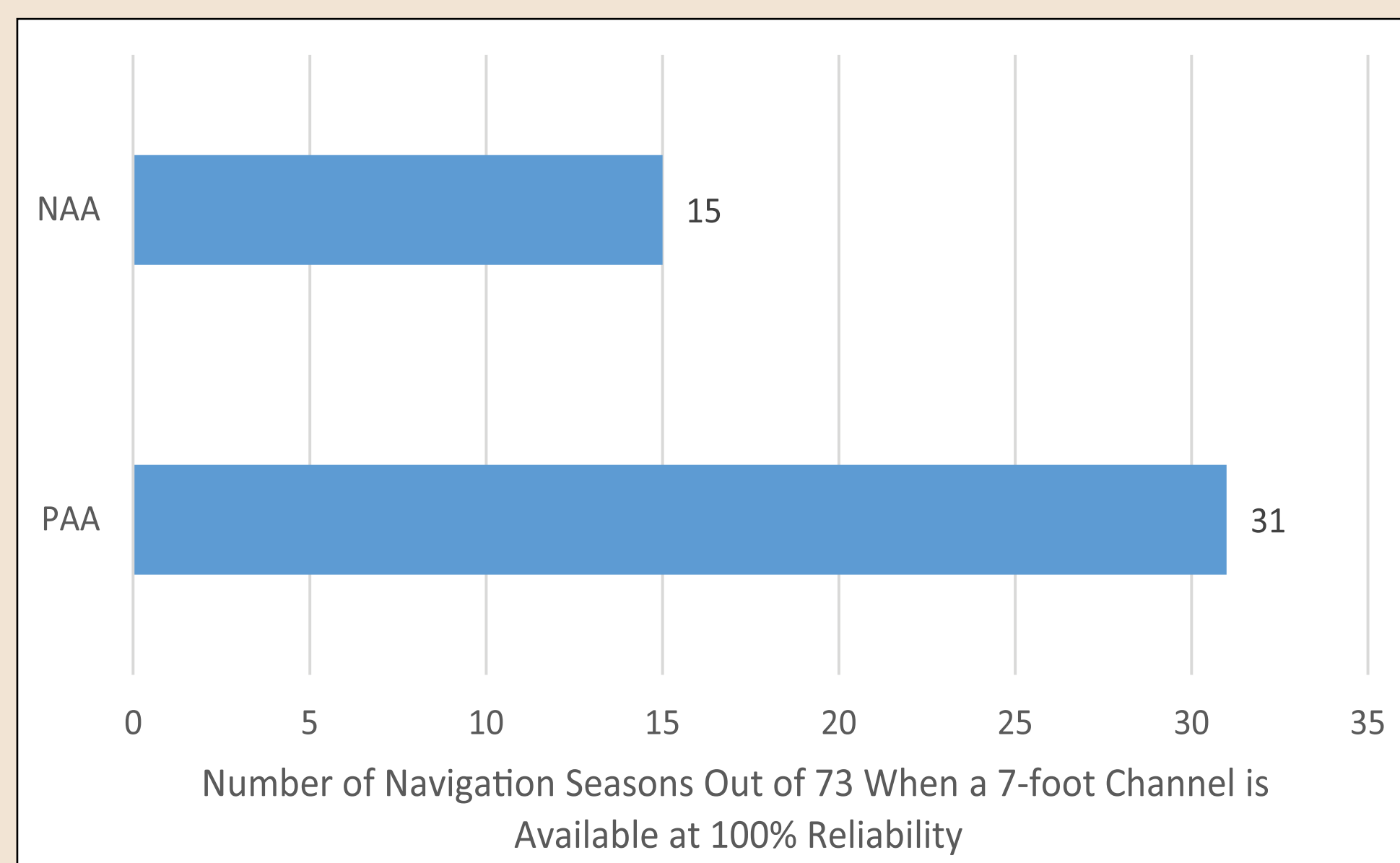
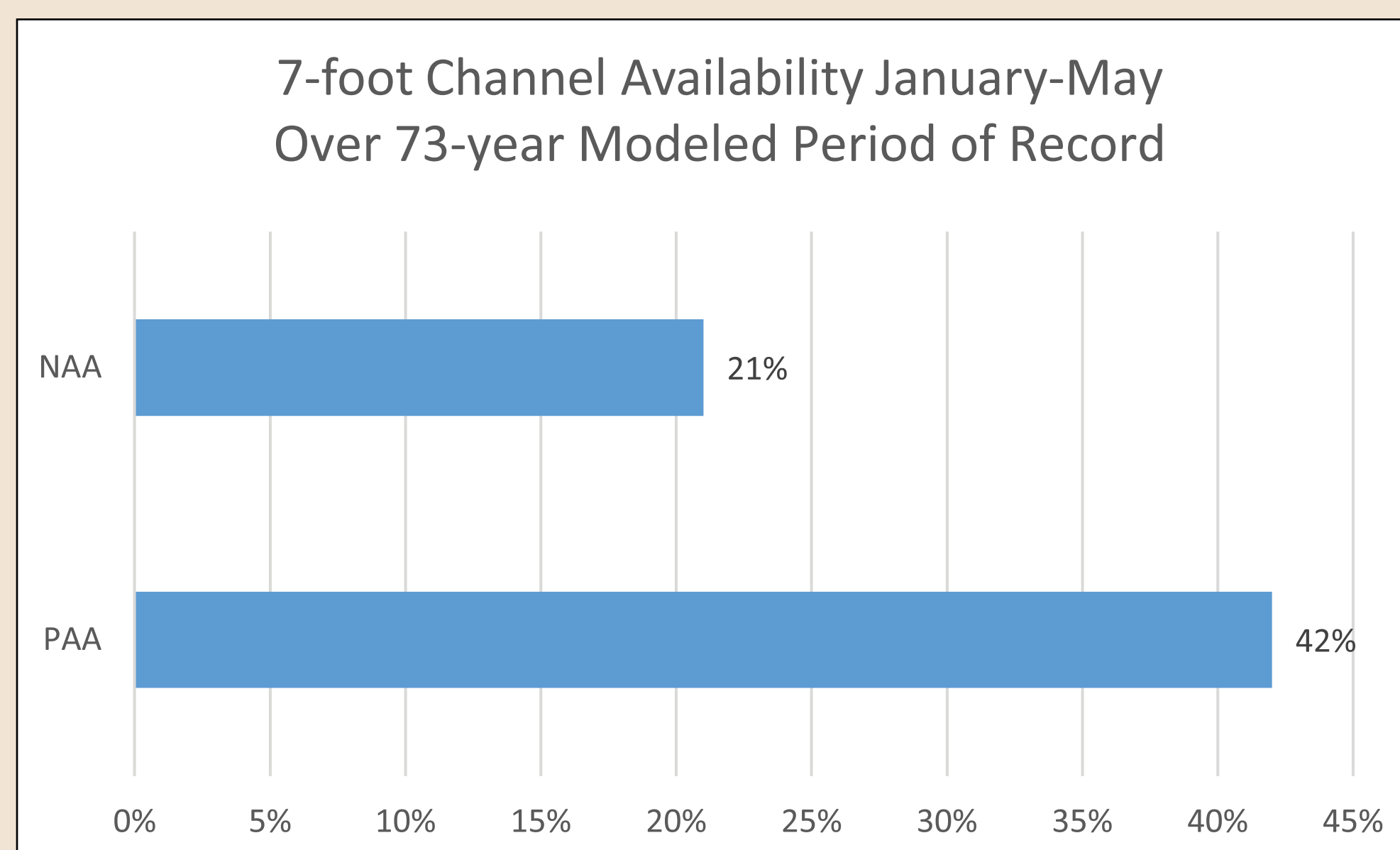




Navigation and Hydropower Impacts

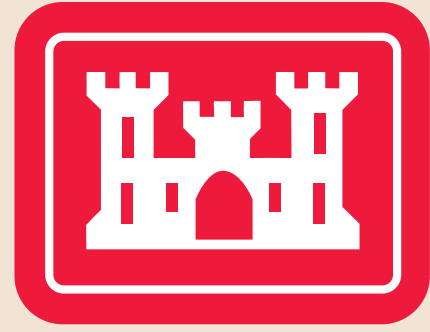
Navigation (see DEIS Section 6.5.2)

- Proposed Action Alternative (PAA) provides substantial improvement in 7-foot navigation channel availability during a 5 month navigation season.
- Sufficient releases from Jim Woodruff Lock and Dam to specifically support reliable navigation channel depths in the Apalachicola River have not been made since 2001 for multiple reasons described in the draft EIS.
- Upstream operational constraints based upon water availability in the system limit the extent of releases that can be made to support navigation.



Hydropower (see DEIS Section 6.5.3)

- Hydropower analysis performed over the entire ACF Basin system (including both federal and non-federal generation plants).
- The duration of daily peak power generation at USACE plants is guided by each project's conservation storage action zone.
- The PAA provides for reduced hydropower generation in each action zone at Buford Dam during drought operations compared to the No Action Alternative (NAA).
- The PAA does not change typical generation schedules by action zone at West Point Dam and Walter F. George Lock and Dam compared to the NAA.
- The PAA would result in a slight 0.5 percent decline in the annual total energy and capacity value for the entire ACF Basin system (federal and non-federal) compared to the NAA.



Recreation and Water Supply Impacts

Recreation (see DEIS Section 6.5.1 and Section 6.1.1.2)

- Recreation impact thresholds are established for lakes Lanier, West Point, and Walter F. George (based on impacts to public use and access to facilities).
 - Initial Impact Level (IIL) – slight impacts
 - Recreation Impact Level (RIL) – moderate impacts
 - Water Access Limited (WAL) Level – severe impacts

- Median daily flows for the PAA would closely match those for the NAA in the vicinity of the Chattahoochee River National Recreation Area.

Water Supply (see DEIS Section 6.5.1)

- The PAA would meet Georgia’s request for releases from Buford Dam under the River and Harbor Act sufficient to support withdrawals of 408 million gallons per day (mgd)

Number of years that reservoir pool elevations would drop below (for at least one day) established impact thresholds for recreation use during the peak recreation season over the 73-year modeled period of record (1939 – 2011)



Annualized	Lake Sidney Lanier			West Point Lake			Walter F. George Lake		
	IIL	RIL	WAL	IIL	RIL	WAL	IIL	RIL	WAL
NAA	32	14	6	38	6	3	3	0	0
PAA	36	17	6	44	4	2	6	0	0
PAA-NAA	+4	+3	--	+6	-2	-1	+3	--	--

Peak recreation season: May – September for Lake Lanier and West Point Lake; June – August for Walter F. George Lake.

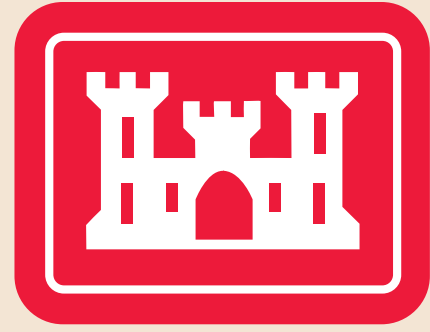
- Under the Proposed Action Alternative (PAA), average annual recreation benefits at USACE reservoirs would decrease by 0.3 percent at Lake Lanier and by 0.1 percent at Walter F. George Lake, increase by 0.2 percent at West Point Lake, and remain the same at Lake Seminole and Lake George W. Andrews. The overall effects on average annual recreation benefits would be negligible.

from the Chattahoochee River by metro Atlanta users by 2040.

- The PAA would also provide for gross withdrawals of 225 mgd upstream of Buford Dam:
 - Withdrawals from Lake Lanier under relocation contracts (20 mgd)
 - Reallocation of storage in Lake Lanier sufficient to provide for 165 mgd
 - It is assumed that if Glades Reservoir is constructed it will provide 40 mgd

- 189,497 ac-ft of conservation storage in Lake Lanier would be reallocated to water supply under the Water Supply Act of 1958 to

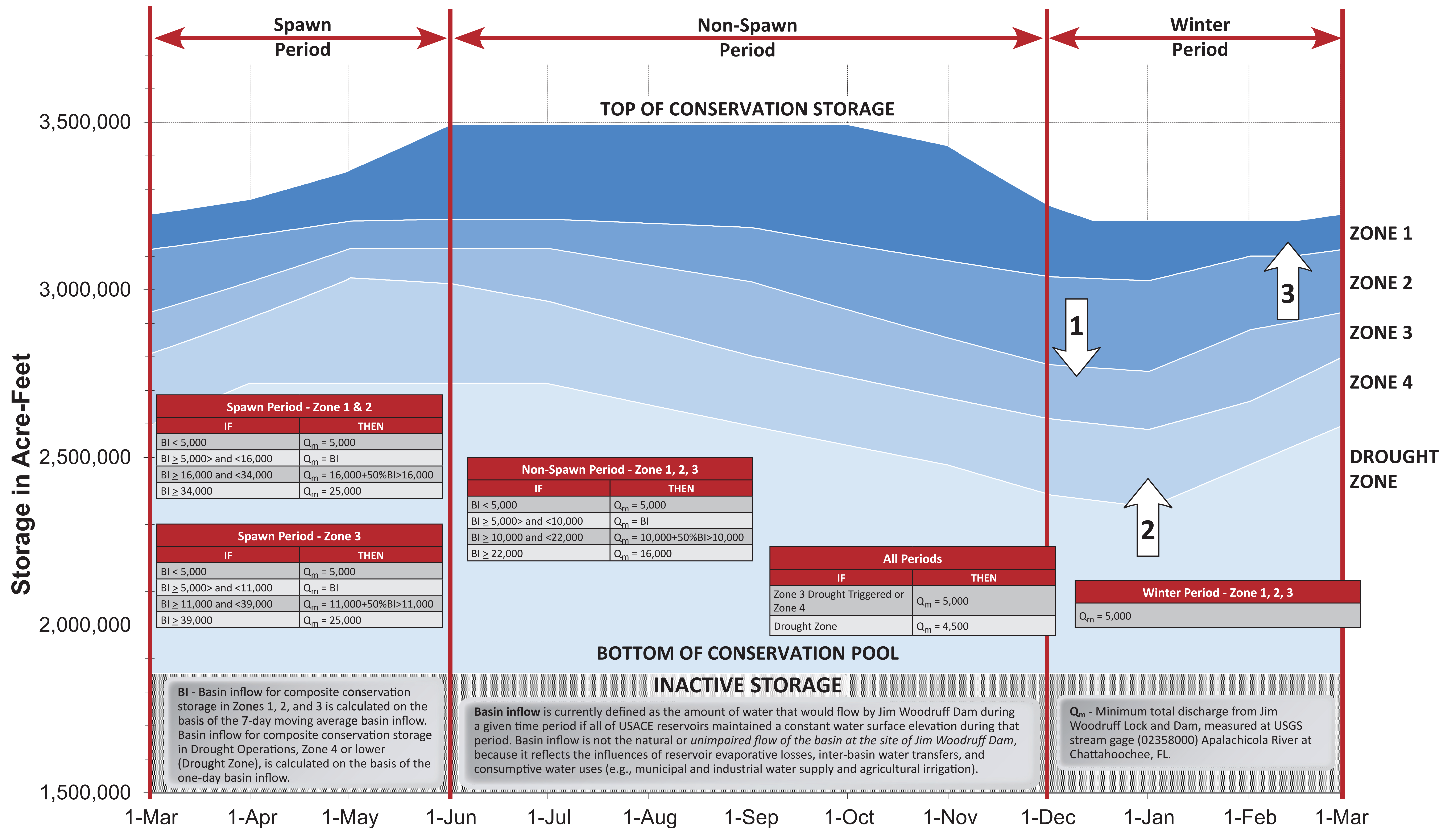
- accommodate the withdrawal of 165 mgd at an average annual cost of \$2.6 million to the benefitting communities.
- The PAA would satisfy 75 percent (225 mgd/297 mgd) of Georgia’s request for gross withdrawals upstream of Buford Dam by the year 2040.



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PROPOSED ACTION ALTERNATIVE

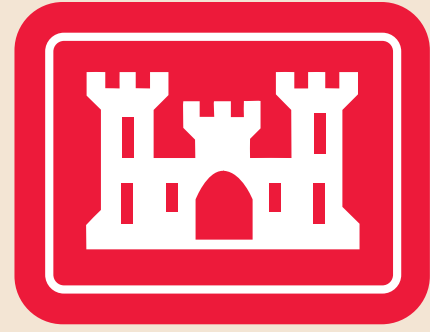
Jim Woodruff Lock and Dam Flow Matrix and Drought Plan Triggers



■ Zone 1
 ■ Zone 2
 ■ Zone 3
 ■ Zone 4
 ■ Drought Zone
 ■ Inactive Storage

↓ 1 Drought Plan Initiation
 ↑ 2 Re-instatement of 5,000 cfs
 ↑ 3 Drought Plan Suspension

Drought plan is triggered when the composite conservation storage falls into Zone 3, the first day of each month represents a decision point



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Summary of Proposed Action Alternative

- **Guide Curves:** Continue operations using existing guide curves

- **Action Zones:** Revised action zones*

- **Drought Operations:**

- Revised drought operations trigger - Zone 3*

- Continue current drought operations suspension - Zone 1

- Continue current extreme drought operations

- **Current Minimum Flows:**

- Seasonal flow at Peachtree Creek (750 cfs [May–Oct] and 650 cfs [Nov–Apr])*

- Continue minimum releases from West Point Dam to meet 670 cfs requirement

- **Hydropower:** Modified generation schedule at Buford Dam for drought operations*

- **Navigation:** 4 to 5-month navigation season (when basin hydrologic conditions allow)*

- **Fish and Wildlife:**

- Continue current basin inflow computational method

- Continue current fish spawning and fish passage operations at Jim Woodruff Lock and Dam

- Listed species management:

- Current minimum flow provisions at Chattahoochee, Florida, USGS gage

- Current ramping rates

- Suspension of ramping rates during prolonged low flow*

- **Federal Water Supply:**

- Provides for gross withdrawals of 225 mgd upstream of Buford Dam.*

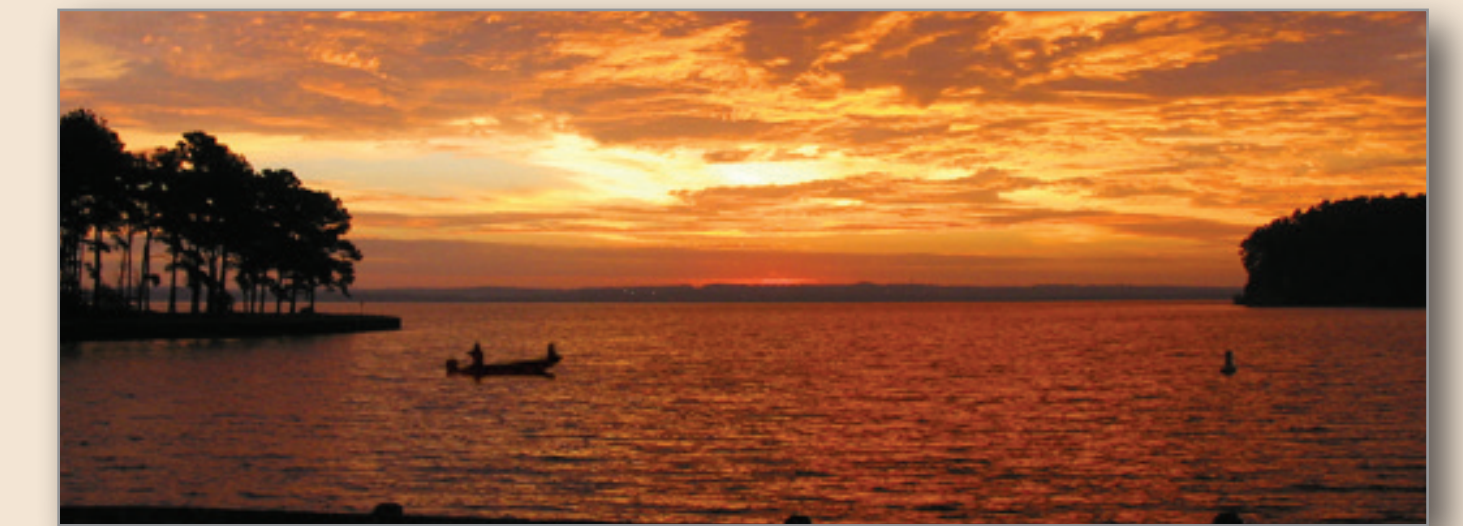
- Withdrawals from Lake Lanier under relocation contracts (20 mgd)

- Reallocation of storage in Lake Lanier sufficient to provide gross water supply withdrawals of 165 mgd (189,497 acre feet) – in addition to the 20 mgd relocation contracts.*

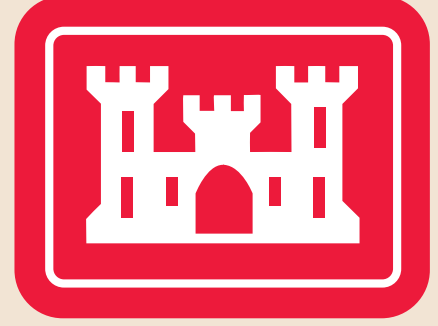
- Releases from Buford Dam to support downstream withdrawals of the estimated year 2040 need of 408 mgd*

- **Flood Risk Management:**

- Revised West Point flood zone segmentation



*Changes from the No Action Alternative are shown in red. PAA assumes that Glades Reservoir is constructed by others and in operation.



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Court Reporter

If you would like your verbal comments about the draft ACF Water Control Manual update and DEIS to become part of the public record, please make your statement to the court reporter. If you have a prepared written statement, please leave it with the court reporter.





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Submit Comments

Comments on the draft ACF Water Control Manual update, DEIS, and Water Supply Storage Assessment should be submitted by January 15, 2016.

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