

Attachment A

B. Everett Jordan Lake Water Supply Allocation Request Division of Water Resources Summary and Recommendation

In a letter dated November 20, 2009 the Jordan Lake Partnership requested the initiation of Jordan Lake allocation application process. Attachment B is a copy of request. The partnership membership includes the Town of Apex, Town of Cary, Chatham County, City of Durham, Town of Hillsborough, Town of Holly Springs, Town of Morrisville, Orange County, Orange Water and Sewer Authority, Town of Pittsboro, City of Raleigh, and Wake County. This group includes all current allocation holders and several neighboring local governments.

Jordan Lake Background Information

B. Everett Jordan Lake is a U.S. Army Corps of Engineers multi-purpose reservoir in Chatham County. Construction on the dam started in 1967 and Jordan Lake completed filling in 1982. As seen in Figure 1, the dam is located on the Haw River just downstream of the confluence of the Haw and New Hope Rivers, with most of the Lake's storage in the New Hope watershed.

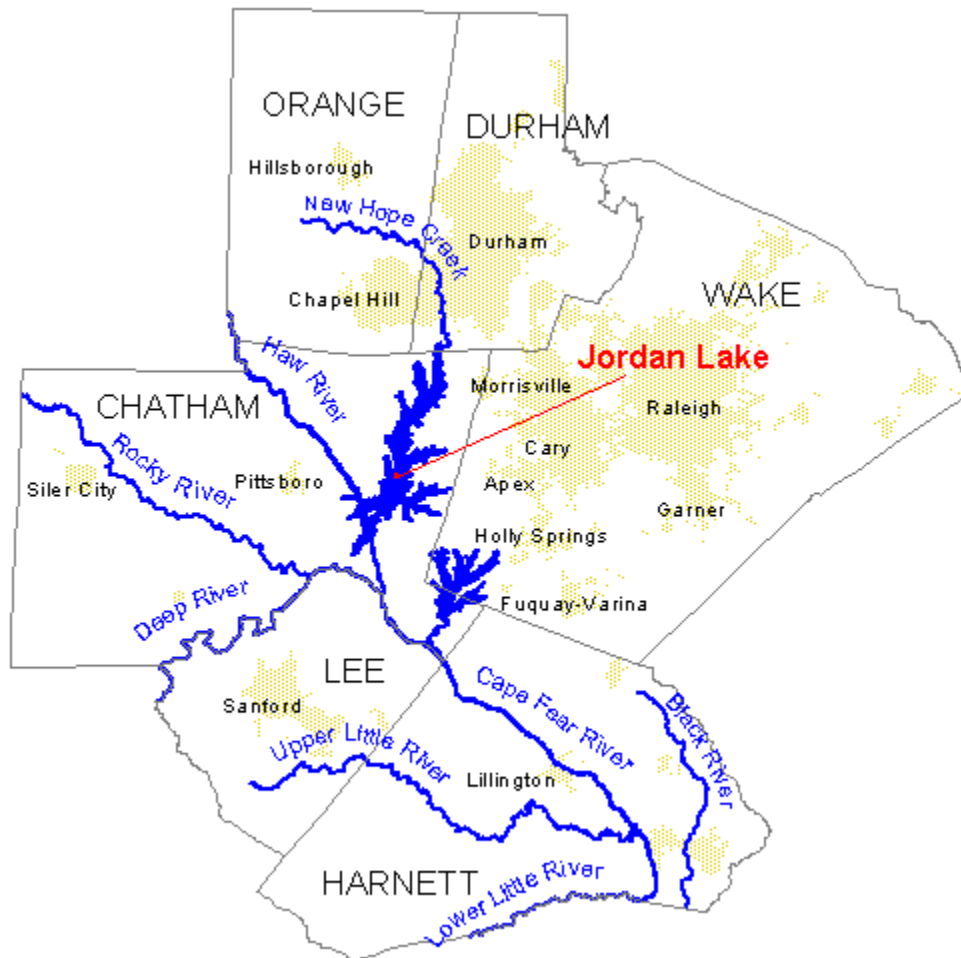


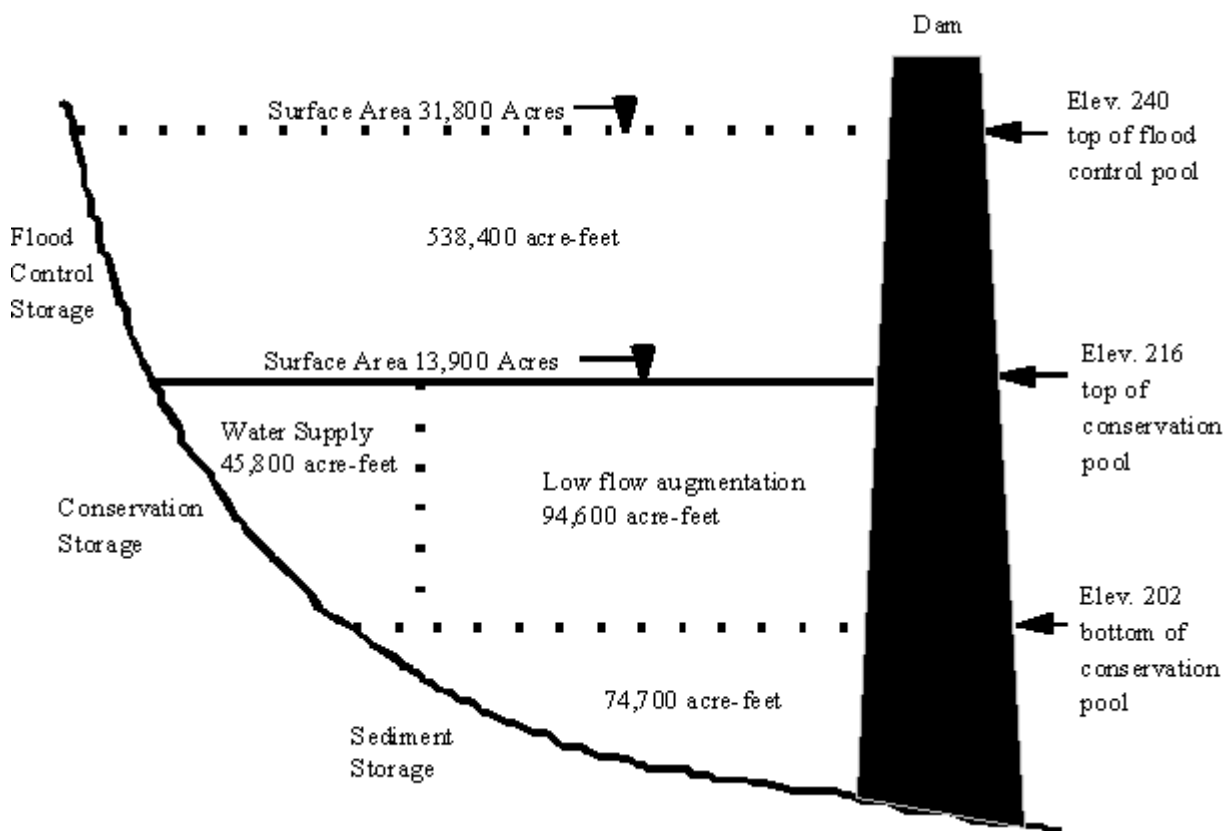
Figure1: Jordan Lake and Surrounding Counties

Reservoir Operations

The reservoir is designed to provide flood control storage as well as water for water supply, recreation, fish and wildlife management, and low-flow augmentation. As is typical for multi-purpose reservoirs, the storage volume is divided vertically into several "pools" defined by elevation above sea level. Specifically, there is a flood control pool, which provides space to store water to minimize downstream flooding; a conservation pool, which provides water for water supply and low flow augmentation; and a sediment pool, which provides space for the accumulation of sediment.

The top of the conservation pool corresponds with the normal water level of 216 feet mean sea level (MSL). At this elevation, Jordan Lake covers 13,900 acres. As Figure 2 shows, usable water in the lake at its normal elevation amounts to a total volume of approximately 140,400 acre-feet and is referred to as the conservation storage. Approximately 45,800 acre-feet in conservation storage, or about 15 billion gallons, is designated to provide water supply. This amount of storage is estimated to be able to furnish approximately 100 million gallons per day (MGD) during most of the severest droughts.

Figure 2. Jordan Lake's Storage Volume



In addition to water supply, the reservoir's conservation storage provides 94,600 acre-feet for downstream flow augmentation for the protection of water quality and aquatic habitat. Under current policy releases from the low flow augmentation storage is used to maintain a minimum flow of 600 cubic feet per second (cfs) (388 MGD) at Lillington. The minimum streamflow recorded by the USGS at Lillington prior to Jordan Lake's impoundment was 11 cfs (7.1 MGD). Withdrawals for water supply and releases for low-flow augmentation are accounted for

separately by the Corps of Engineers and are deducted from the appropriate storage pool. Water supply withdrawals do not diminish the amount of water available for flow augmentation.

Water Supply Allocations

The State of North Carolina has been assigned the use of the entire water supply storage in Jordan Lake. General Statute 143-354(a)(11) gives the Commission responsibility to allocate this storage to units of local government having a need for water supply storage. The North Carolina Administrative Code 15A NCAC 2G.0500 (attachment C) describes the specific procedures to be used in allocating the Jordan Lake water supply storage. Allocations are defined as a percentage of the water supply pool.

Allocations fall into two categories. Level I allocations are made based on 20-year water need projections *and* when withdrawals are planned to begin within five years of receiving the allocation. Level II allocations are made based on longer term needs of up to 30 years.

Initial allocations of water supply from Jordan Lake were made in 1988. At that time, 42 percent of the water supply pool was allocated. There have been two subsequent rounds of allocation and currently, 63 percent of the water supply pool is allocated. Note that allocations are actually a percentage of the water supply pool and not a rate of withdrawal. However, for convenience allocations are frequently expressed in MGD, since 100 percent of water supply storage has an estimated yield of 100 MGD.

Existing rules limit water supply allocations that will result in diversions out of the reservoir's watershed to 50 percent of the total water supply yield. The EMC may review and revise this limit based on experience in managing the Lake and on the effects of changes in the Lake's watershed that affect its yield. Currently, 40 percent of the total water supply yield is approved to be diverted out of the reservoir's watershed.

Costs and Repayment

Jordan Lake was financed and constructed by the Federal government through the U.S. Army Corps of Engineers. Storage space for municipal and industrial water supply was included at the request of state and local officials with the understanding that the costs associated with this water supply storage would be paid for by the actual users. North Carolina statute (G.S. 143-215.38) authorized the State, acting through the EMC, to assume repayment responsibilities for these costs. The costs associated with providing water supply storage in Jordan Lake fall into three basic categories: capital costs, operating costs, and administrative costs.

The total annual cost for each percent of water supply storage allocated varies based on when the allocation is received, when water is actually withdrawn, the length of the payback period, and variable annual operating expenses. An additional administration charge of \$250 is added to each annual bill regardless of the total allocated storage amount.

Current Allocations

Allocation Holder	Level I Percent	Level II Percent	Total Percent
Towns of Cary and Apex	32	0	32
Chatham County	6	0	6
City of Durham	10	0	10
Town of Holly Springs	0	2	2
Town of Morrisville	3.5	0	3.5
Orange County	0	1	1
Orange Water & Sewer Authority	0	5	5
Wake County - RTP South	3.5	0	3.5
Total	55	8	63

Staff Recommendations

Request to Proceed to Round 4 of the Jordan Lake Water Supply Allocations.

The allocation process has been undertaken three times since the reservoir was filled. The chronology of water supply allocations is:

- 1967 – Construction Begins
- 1982 – Lake Filled to Normal Water Level
 - Water Supply Allocation Rule Making Started
 - 1st Round of Allocations Started 1988 – EMC Approves 1st Round of Water Supply Allocations
- 1996 – 2nd Round of Allocations Started
 - 1997 – EMC Approves 2nd Round Allocations without an IBT
 - 2000 – EMC Approves 2nd Round Allocations with an IBT
- 2000 – 3rd Round of Allocations Started
 - 2002 – EMC Approves 3rd Round Allocations
- 11/20/2009 – Received Request to Start 4th Round Allocations

Since finalizing the last round of allocations periodic water shortages and changes in local development patterns have forced current allocation holders and interconnected water systems to reassess the reliability of their existing water supplies. Twelve units of local government, including all the current allocation holders, have organized themselves as the Jordan Lake Partnership to jointly plan for the use of regional water resources. The Division has been working with Chatham County and other partners since 2007 on their needs for additional water supply from Jordan Lake. Based on our current understanding of the regional needs and the Partnership's commitment to finding a good regional approach, the Division recommends the EMC approve proceeding with a 4th round of water supply allocations.

Request to Approve Water Supply Allocation Process

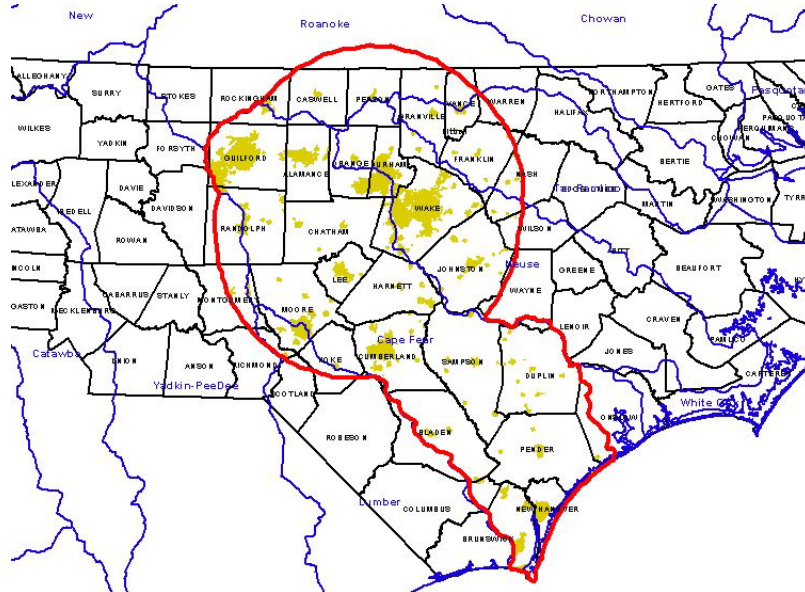
The previous rounds of allocations have used a regional approach. DWR staff provided extensive outreach and notification to inform potential users of Jordan Lake that we were starting the process and inviting them to participate and submit an application. For the 2nd round the Division developed a hydrologic model and a long-range 50-year Cape Fear Water Supply Plan to evaluate allocation options and the ability of various options to meet regional water resource goals. During previous allocation processes, some allocation holders had to receive interbasin transfer certificates in order to utilize their recommended allocations. The allocations for those systems were processed separately from those systems that did not require IBT certificates.

Factors that will be different in round 4, if the EMC approves initiating the next round, include:

- In prior rounds, requests were made for specific allocation amounts and the planning process was used to evaluate if the requests met the regional needs. The Partnership's proposal is that this time the planning process will be done first and the allocation requests will be based on the results of the long-range basin water-supply evaluation.
- With the changes in the regulation of surface water transfers, staff recommends not splitting the non-IBT and IBT decisions like it was done in the second round. By not splitting the decisions the allocation process will be lengthen by about 5 years if there are any IBT certifications needed. This extended timeline maybe of concern for some applicants.
- With the increased growth pressures and only 37% of the pool unallocated to balancing the needs of the region is going to be more difficult. To assist in balancing staff recommends having all allocation holders submit an application justifying their existing allocation levels even if they do not plan on requesting a change. This is similar to the third round of allocations. This should not be a problem since all the current allocation holders are members of the partnership requesting the opening of a new round of allocations.
- The current allocation rules require that no more than 50% of the water can be allocated outside the Jordan Lake watershed to help protect the yield of the reservoir. Currently 40% of the water is allocated outside of the watershed. As part of the update for the Cape Fear Water Supply Plan the staff will review this requirement and make a recommendation if a change to the rule is warranted.

Proposed Process:

1. Regional Approach
 - a. Regional information and application notice using the same area we used in Rounds 2 and 3



2. Update the Cape Fear Basin Water Supply Plan.
 - a. 50-year planning horizon, input from Partnership members and other stakeholders, review of the 50% watershed allocation rule, and review of the Jordan Lake water supply yield.
 - b. Applicants submit draft allocation requests after the draft plan is completed.
3. Interbasin Transfer Certification?
 - a. If one or more applicants need an IBT certificate:
 - i. Applicant(s) needing an IBT certification go through the certification process.
 - ii. Applicants submit final allocation requests.
 - iii. DWR reviews allocation applications and finalize water supply plan.
 - iv. EMC holds public hearings for both IBT and allocations.
 - v. EMC makes decision
 - b. If no IBT certificates are needed:
 - i. Applicants submit final allocation requests.
 - ii. DWR reviews allocation applications and finalize water supply plan.
 - iii. EMC holds a public hearing.
 - iv. EMC makes decision.

Using this process the Division estimates the Commission would be making allocation decisions in 2012 if there are no IBT certifications. If there are any IBT certifications required the allocation decisions would be moved back to the 2016 or 2017 timeframe.