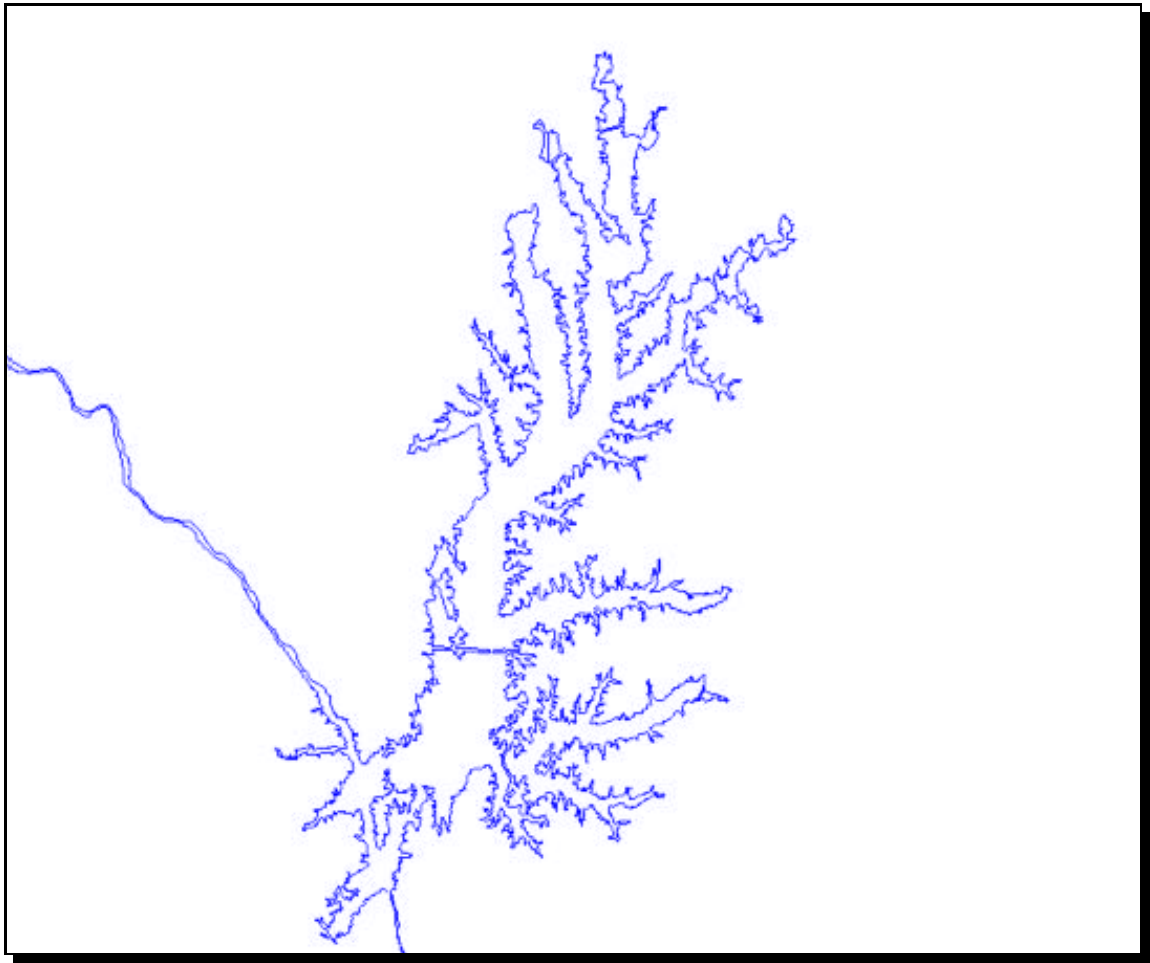


Jordan Lake Water Supply Storage Allocation Round Three

Hearing Officers' Report



June 2002

Prepared for the
North Carolina Environmental Management Commission
by the
North Carolina Department of Environment and Natural Resources,
Division of Water Resources

EXECUTIVE SUMMARY

The Environmental Management Commission held a public hearing on March 18, 2002 at 7:00 PM at 512 N. Salisbury Street in the Ground Floor Hearing Room of the Archdale Building in Raleigh to provide an opportunity for those interested in making a public statement on Jordan Lake water supply storage allocations before representatives of the Commission. The Hearing Officers and Division of Water Resources received a total of eight oral comments and six written comments during the comment period. A summary of these comments is provided in the Public Hearing and Comments section of this report. The Division of Water Resources' responses to public comments are provided in the Responses to Comments section of this report.

As a result of the comments received during the public process and additional analysis by the Division of Water Resources, the Hearing Officers and Division of Water Resources recommend that the Environmental Management Commission:

1. Allocate an additional 11.0 mgd of Jordan Lake water supply storage to the Towns of Cary and Apex for a total Level I allocation of 32.0 mgd.¹
2. Maintain Chatham County's current Jordan Lake water supply storage allocation, but convert the 2.0 mgd Level II allocation to Level I for a total Level I allocation of 6.0 mgd.
3. Allocate 10.0 mgd of Jordan Lake water supply storage to the City of Durham as a Level I allocation.
4. Maintain the Town of Holly Springs' current Jordan Lake water supply storage allocation for a total Level II allocation of 2.0 mgd.
5. Allocate an additional 1.0 mgd of Jordan Lake water supply storage to the Town of Morrisville as a Level I allocation and convert the current 0.5 mgd Level II allocation to Level I for a total Level I allocation of 3.5 mgd.
6. Maintain Orange County's current Jordan Lake water supply storage allocation for a total Level II allocation of 1.0 mgd.
7. Reduce the Orange Water and Sewer Authority's 10.0 mgd Jordan Lake water supply storage allocation to 5 mgd for a total Level II allocation of 5.0 mgd.
8. Allocate an additional 2.0 mgd of Jordan Lake water supply storage to Wake County for a total Level I allocation of 3.5 mgd.
9. Not make an allocation any of Jordan Lake water supply storage at this time to the City of Fayetteville, Harnett County and the City of Sanford, because their current sources are sufficient to meet their projected water supply needs through the year 2030, which is the planning period for Round Three.
10. Not place any additional conditions on Jordan Lake water supply storage allocations for the purposes of drought management or water supply emergencies, because existing laws and policies already provide guidance for these purposes.

¹ Level I allocation holders are required to pay a proportional share of the state's water supply storage capital and interest costs. Level I allocation holders are also required to pay annually a proportional share of operating costs. Level II allocation holders are required to pay annually a proportional share of the project's water supply storage interest and operating costs.

Some of the key features of these recommended water supply storage allocations are:

- The US Congress authorized one-third of the Jordan Lake conservation pool to be used for water supply and two-thirds for downstream flow augmentation. **Water supply storage allocations come from the water supply pool and do not affect the project's ability to meet downstream flow targets.**
- All allocation applicants will have their projected 2030 water needs met either from Jordan Lake or from their existing water supply sources.
- These recommendations leave 37 percent of the water supply pool unallocated and available to meet future water needs.
- Based on a projection of all Basin water supply needs to 2050, the recommended allocations will not hinder any community's ability to meet its 2050 water needs.
- Applicants requested allocations to meet 2050 needs, plus a 20 percent margin. The recommended allocations meet 2030 needs, as specified in the administrative rule on Jordan Lake water supply storage allocations.
- Recommended allocations are based on the water use projections developed by each applicant with one exception. The Division of Water Resources adjusted Chatham County's assumed per capita water use rate to bring it more in line with the rates used by other applicants. This is described in the Division's *Jordan Lake Water Supply Storage Allocation Recommendations: Round Three* (pp.22-25).
- No additional interbasin transfer certificates are required for the recommended allocations.

TABLE OF CONTENTS

Executive Summary	i
Table of Contents	iii
Recommendations	1
Analyses	8
Public Hearing and Comments	14
Responses to Comments	23
 Appendices	
Appendix A. Public Hearing Notices.....	A-1
Appendix B. Public Comments.....	B-1
Appendix C. Drought Operation Curves	C-1

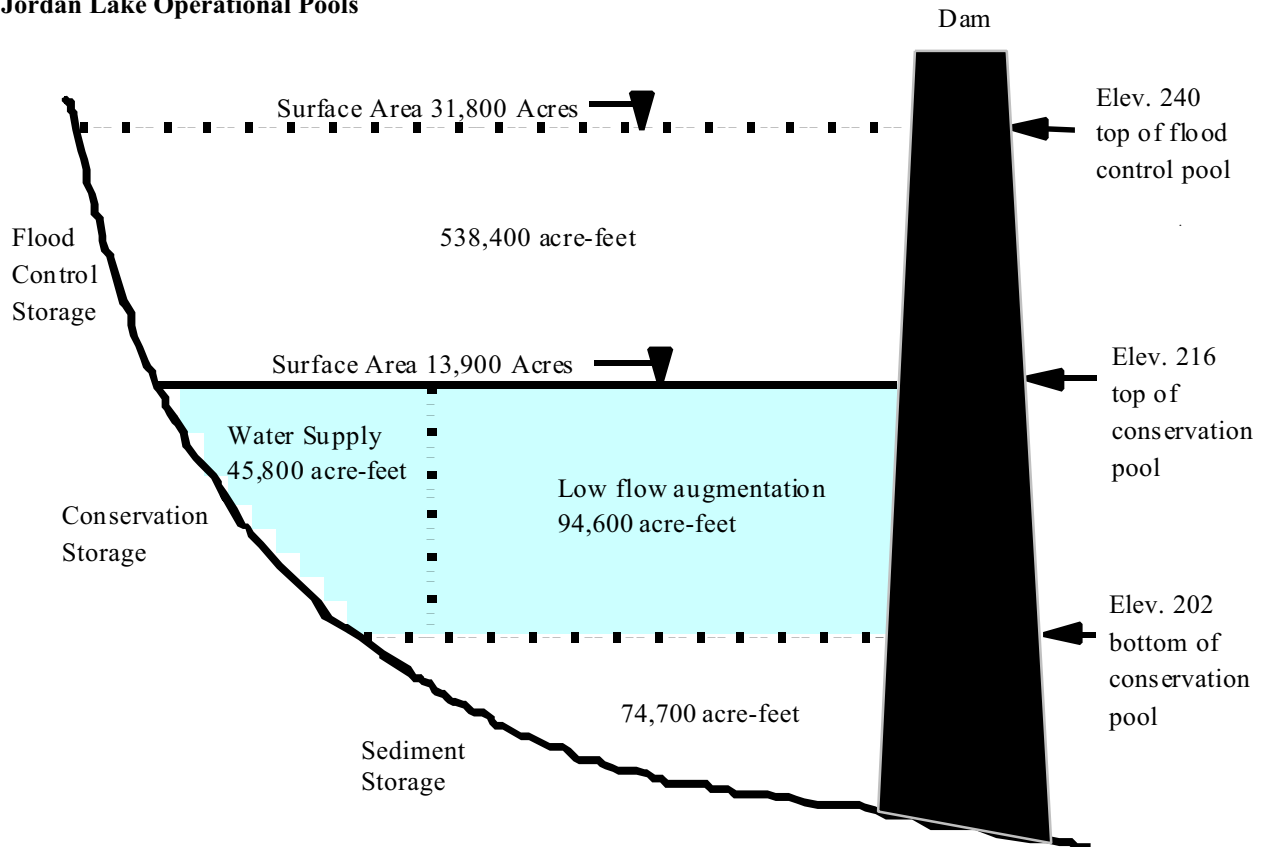
RECOMMENDATIONS

This section includes recommendations from the Hearing Officers and Division of Water Resources on Jordan Lake water supply storage allocations, as well as the Environmental Management Commission’s potential allocation condition distributed for public comment.

Jordan Lake Water Supply Storage Allocations

B. Everett Jordan Lake is a U.S. Army Corps of Engineers’ multipurpose reservoir that was filled in 1982. The reservoir, located mostly in Chatham County, provides low-flow augmentation, flood control, recreation, fish and wildlife habitat, and water supply. Jordan Lake’s storage is divided into conceptual, operational “pools” to meet these multiple purposes, as described in the figure below. Approximately one-third of Jordan Lake’s conservation storage is dedicated to water supply storage and can provide 100 million gallons of water per day (mgd). Approximately two-thirds of Jordan Lake’s conservation storage is dedicated to augmenting downstream flows in the Cape Fear River. This low flow augmentation storage is used to maintain a minimum flow of 600 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). Allocation holders withdrawing water from the water supply storage pool have absolutely no impact on the amount of water available for downstream flow augmentation.

Jordan Lake Operational Pools



The State of North Carolina has purchased the use of the entire water supply storage in Jordan Lake. Under NCGS §143-354(a)(11), the State can assign this storage to any local government having a need for water supply storage. Administrative rule 15A NCAC 2G.0500 describes the specific procedures for allocating the Jordan Lake water supply storage. The two main criteria for Jordan Lake water supply allocations are future water needs and availability of alternative water supplies. The Division of Water Resources' *Jordan Lake Water Supply Storage Allocation Recommendations: Round Three* (October 2001) report describes the methods and analyses used to determine all of the applicants' future water needs.

The recommended Jordan Lake water supply storage allocations for Round Three may be found in the table below. The only difference between the allocations recommended in this Hearing Officers' Report and those that were recommended in the Division's October 2001 report is maintaining the current 2 mgd allocation for the Town of Holly Springs. Note that while the allocations are expressed in millions of gallons of water per day (mgd), the allocations are actually a percentage of the total water supply storage capacity.² Level I allocation holders are required to pay a proportional share of the state's water supply storage capital and interest costs. Level I allocation holders are also required to pay annually a proportional share of operating costs. Level II allocation holders are required to pay annually a proportional share of the project's water supply storage interest and operating costs.

Recommended v. Requested Allocations

	Requested Allocation			Recommended Allocation		
	Level I (mgd)	Level II (mgd)	Total (mgd)	Level I (mgd)	Level II (mgd)	Total (mgd)
Towns of Cary & Apex	34.0	10.0	44.0	32.0	0.0	32.0
Chatham County	6.0	4.5	10.5	6.0	0.0	6.0
City of Durham	16.0	4.0	20.0	10.0	0.0	10.0
City of Fayetteville	10.0	0.0	10.0	0.0	0.0	0.0
Harnett County	0.0	18.0	18.0	0.0	0.0	0.0
Town of Holly Springs	10.0	6.0	16.0	0.0	2.0	2.0
Town of Morrisville	4.0	1.0	5.0	3.5	0.0	3.5
Orange County	0.0	1.0	1.0	0.0	1.0	1.0
Orange Water & Sewer Authority	0.0	5.0	5.0	0.0	5.0	5.0
City of Sanford	0.0	28.0	28.0	0.0	0.0	0.0
Wake County - RTP	3.5	2.0	5.5	3.5	0.0	3.5
Total	83.5	79.5	163.0	55.0	8.0	63.0

The revised allocation recommendations were incorporated into the various modeling scenarios and reanalyzed. These revised analyses are provided in the Modeling Results section. All available data and modeling indicate that these recommended allocations provide for the projected needs of every applicant through the year 2030.

² The assumed yield of the Jordan Lake water supply storage pool is 100 mgd. Therefore, a 1 percent water supply storage allocation is equal to 1 mgd.

Holly Springs

During Round Two of Jordan Lake water supply storage allocations, the Commission approved a 2 mgd allocation for the Town of Holly Springs in December 1997. The Commission approved this allocation based on the assumption that Holly Springs would obtain its allocation through Cary's and Apex's intake on Jordan Lake, as stated in Holly Springs' application for Round Two.

In the Division of Water Resources' October 2001 report, the Division recommended reducing Holly Springs' allocation to 0 mgd by transferring the 2 mgd allocation back to the State. This recommendation was based on the assumption that Holly Springs would **not** obtain its allocation through Cary and Apex's intake on Jordan Lake, as stated in Holly Springs' application for Round Three. Rather, Holly Springs indicated they would obtain any allocation by releasing the water from Jordan Dam and withdrawing it downstream through an intake on the Cape Fear River. Such a means is clearly provided for by statute (NCGS §143-215.46). However, the Division's analysis of projected water supply withdrawals by Holly Springs indicated that the Cape Fear River would be able to satisfy all of Holly Springs' projected water demands without any releases from the Jordan Lake water supply storage.

Holly Springs has recently submitted additional information indicating that it would obtain any Jordan Lake allocation through Cary and Apex's intake on Jordan Lake. Holly Springs' projected water demand for 2030 is 12.2 mgd. Water supplies currently available to Holly Springs include 2.0 mgd of purchased capacity in Harnett County's water treatment plant at Lillington and 9.6 mgd of purchased capacity in a 16 mgd transmission main between Harnett County's water treatment plant and Holly Springs; a contract with the City of Raleigh for 1.2 mgd; and a 2 mgd Jordan Lake allocation. The Division discounts the contract with Raleigh, as it expires in 2017 and Raleigh's projected water demands indicate that it may not have sufficient water supply capacity for bulk water sales in the future. Obtaining water from the Cape Fear River through Harnett County seems the most likely source of future water supply.

Given the uncertainty of Holly Springs' selection of future water supply sources, we recommend allowing the Town of Holly Springs to retain its current 2 mgd Jordan Lake water supply storage allocation. Note that the Commission is required to review Jordan Lake allocations periodically and adjust those allocations based on investigations of water supply needs (15A NCAC 2G.0507(a),(d)). As Holly Springs continues to develop water supply sources, the Division will advise the Commission accordingly.

Watershed Diversions

The administrative rule for Jordan Lake water allocation limits allocations that will result in diversions out of the Lake's watershed to 50 percent of the total water supply yield, or 50 mgd, **on an average daily basis**. The Commission may review and revise this limit based on experience in managing the Lake (15A NCAC 2G.0504(h)). The estimated amounts of watershed diversions for the recommended water supply storage allocations are provided in the following table. Note that these estimates are likely to be greater than the actual amounts. We lack

sufficient information about Wake County and Orange County and therefore estimated their 2030 watershed diversions at the maximum amount possible.

As shown, an estimated 42 mgd of the 63 mgd total recommended allocation could be diverted out of the lake’s watershed by 2030, leaving at least 8 mgd of the water supply storage still available for future allocations outside of the lake’s watershed under the current 50 mgd limit.³ Though the Division’s initial modeling results indicate that the 50% watershed diversion limit is unnecessary, this limit does not need to be revised for Round Three.

Estimated 2030 Jordan Lake Watershed Diversions

	Total Recommended Allocation (mgd)	2030 Watershed Diversion (mgd)
Towns of Cary & Apex	32.0	31.3
Chatham County	6.0	1.3
City of Durham	10.0	0.0
City of Fayetteville	0.0	0.0
Harnett County	0.0	0.0
Town of Holly Springs	2.0	2.0
Town of Morrisville	3.5	2.9
Orange County	1.0	1.0
Orange Water & Sewer Authority	5.0	0.0
City of Sanford	0.0	0.0
Wake County - RTP	3.5	3.5
Total	63.0	42.0

Interbasin Transfers

Any amount of water over 2 mgd (calculated **on a maximum day demand basis**) withdrawn from one river basin and discharged to another river basin may constitute an interbasin transfer under the Regulation of Surface Water Transfers Act (NCGS §143-215.22I). For the purposes of our Jordan Lake water supply storage allocation recommendations, we are only concerned with those water withdrawals from a recommended Jordan Lake allocation that might constitute an interbasin transfer. The water supply systems for which we have recommended Jordan Lake allocations that fall into this category are Chatham, Orange and Wake Counties, and the Towns of Cary, Apex, Morrisville and Holly Springs. None of these systems will require a new interbasin transfer certificate for Round Three.

Chatham County will have a projected interbasin transfer amount of 1.9 mgd if they supply the western portion of their county with water withdrawn from Jordan Lake. Jordan Lake lies within the Haw River Basin and the western portion of Chatham County lies within the Deep River

³ The Town of Cary is currently investigating the possibility of returning treated wastewater to the Jordan Lake watershed. If such proves feasible, the total amount of water diverted from the watershed in 2030 would be less than 11 mgd, based on the recommended allocations for Round Three.

Basin. This estimate is based on information provided within their application and on information provided in the Chatham County Water Feasibility Study Update (Hobbs, Upchurch and Associates 2000). This projected amount is below the 2 mgd threshold. Therefore no interbasin transfer certificate will be required as a result of our recommended allocation for Chatham County.

Orange County will likely have some amount of interbasin transfer. The southern part of the county lies within the Haw River Basin and the northern part of the county lies within the Neuse River Basin. However, we have recommended maintaining their current allocation of 1.0 mgd. This allocation amount is unlikely to allow any withdrawal from Jordan Lake sufficient to constitute an interbasin transfer above the 2 mgd threshold. Therefore, no interbasin transfer certificate will be required as a result of our recommended allocation for Orange County.

Cary, Apex, Morrisville and Wake County were granted an interbasin transfer certificate in 2001 that allows them to transfer up to 24 mgd from the Haw River Basin to the Neuse River Basin, subject to several conditions. Therefore, no interbasin transfer certificate will be required as a result of our recommended allocations to Cary, Apex, Morrisville and Wake County.

Holly Springs does not require an interbasin transfer certificate given their current situation. Holly Springs could withdraw more than 2 mgd on a maximum day basis from their 2 mgd Jordan Lake allocation, resulting in an interbasin transfer between the Haw and Cape Fear River Basins. However, the Department of Environment and Natural Resources has recently reviewed a scoping document from Holly Springs to move the location of their wastewater discharge to the Cape Fear River, which would obviate the need for an interbasin transfer certificate (NCGS §143-215.22G(3)(b)). Given the uncertainty of Holly Spring's future water supply system configuration, we recommend postponing interbasin transfer certification until their withdrawal from Jordan Lake approaches 2 mgd.

Water Supply Emergency Allocation Condition

The Commission invited public comment on the following condition for all Jordan Lake water supply storage allocations:

If an extreme drought or a water supply emergency caused by water contamination or infrastructure damage threatens the ability of a public water supply system to meet the public health and safety needs of its customers, the Secretary of DENR can make emergency allocations or reallocations of the water supply storage at Jordan Lake to respond to these emergencies. These emergency allocations or reallocations are limited to 30 days and may be renewed for one additional 30 day period. Before taking such an action, the Secretary shall consult with affected parties and shall specify conditions to protect all affected water users.

Several drought and water supply emergency provisions already exist. The potential allocation condition is unnecessary and in conflict with NCGS §143-354. We recommend that the

Commission place no further drought or water supply emergency conditions on Jordan Lake water supply storage allocations.

All Jordan Lake water supply storage allocations are subject to the Jordan Lake Drought Contingency Plan. The existing drought contingency plan for Jordan Lake includes the following provisions.⁴ These provisions are keyed to specified lake levels that vary depending upon the season (see the chart provided in Appendix C). These provisions may be enacted when the lake is drawn down to Zone C (210 feet msl), but must be enacted when the lake is drawn down to Zone D (207 feet msl).

1. When the lake is drawn down to Zone D, the Drought Management Committee convenes. The Drought Management Committee consists of the Wilmington District of the Corps of Engineers and other Federal agencies as required. Representatives of the State (the Divisions of Water Resources and Water Quality) advise this committee.
2. Alternatives available to the State include implementing restrictive water use measures, temporarily reducing the target at Lillington to conserve the water remaining in the flow augmentation pool, and temporarily assigning any surplus water supply storage for the duration of the drought to supplement the flow augmentation storage or provide relief in those areas of greatest need.

When the lake is drawn down to Zone E, or all of the water supply or all of the flow augmentation storage is depleted, alternatives include the following.

1. The District Engineer in Wilmington may temporarily reallocate any water remaining in the sediment storage pool.
2. The Governor may declare a water emergency, upon which the Environmental Management Commission may order emergency diversions to meet the needs of human consumption and public safety (see below).

All Jordan Lake allocations are subject to the water supply emergency provisions in the General Statutes (NCGS §143-354).⁵ At any time, the governing body of any county, city or town may request that the Commission conduct an investigation to determine whether the needs of human consumption, necessary sanitation and public safety require emergency action (NCGS §143-354(b)). Upon making such determination, the following activities are specified:

1. The Commission conducts a public hearing on the question of the source of relief water after three days' written notice of such hearing has been given to any persons having the right to the immediate use of water at the point from which such water is proposed to be diverted.
2. After determining the source of such relief water the Commission then notifies the Governor.
3. The Governor has the authority to declare a water emergency in an area including said county, city or town and the sources of water available for the relief. No emergency period may exceed 30 days, but the Governor may declare any number of successive emergencies upon request of the Commission.

⁴ B. Everett Jordan Lake Drought Contingency Plan (US Army Corps of Engineers' 1992 Water Control Manual for B. Everett Jordan Project, Exhibit B)

⁵ This discussion paraphrases some of the provisions contained in NCGS §143-354 and does not include all of the provisions in that section.

Once the Governor has declared a water emergency, the Commission has the following duties and powers to be exercised only within the specified area and only during such time as the Governor has designated as the period of emergency (NCGS §143-354(c)):

1. The Commission must provide recommendations to the recipient of any diverted water for restricting and conserving their use of water or increasing their water supply.
2. The person controlling the water or sewerage system into which waters are to be diverted must first have limited and restricted the use of water in their system to human consumption, necessary sanitation and public safety and must have effectively enforced such restrictions.
3. The Commission may then authorize any county, city or town in which an emergency has been declared to divert water in the emergency area sufficient to take care of the needs of human consumption, necessary sanitation and public safety.
4. If the Commission finds that the person controlling the water or sewerage system using diverted waters has failed to effectively enforce the restrictions on use to human consumption and necessary sanitation and public safety, the diversion of waters must cease.
5. When the water emergency terminates, the diversion of waters must cease.

In addition to the aforementioned drought and emergency water supply provisions, all holders of Jordan Lake water supply storage allocations are required to have a Drought and Water Shortage Response Plan. These Drought and Water Shortage Response Plans must be approved by the State and must be implemented during droughts and other water shortages, as specified in the current allocation contracts (Article 9).

In summary, the General Statutes empower the Governor and the Commission to protect all water supply systems in the state during water supply emergencies and specify the process and measures for doing so. Jordan Lake water supply allocation holders are already subject to the Jordan Lake Drought Contingency Plan, as well as Drought and Water Shortage Response Plans. No other water supply systems in the Cape Fear River Basin are subject to such a suite of drought management requirements, yet all water supply systems withdrawing water from the Deep River Basin, Haw River Basin, and Cape Fear River Basin above Lillington have an impact on the amount of water in Jordan Lake.

ANALYSES

The Division of Water Resources revised the model scenarios and analyses used to examine the impacts of recommended Jordan Lake water supply storage allocations, based on the revised allocation recommendations. The Division examined the impacts of Jordan Lake water supply storage allocations by developing two model scenarios for the Cape Fear River Basin Hydrologic Model. The Division used information from the Cape Fear River Basin Water Supply Plan, as well as information from the applicants to develop the model scenarios.

The Cape Fear River Basin Water Supply Plan (Plan) looks at water supply needs for all local water supply systems that rely upon surface water from the Cape Fear River Basin directly or indirectly through the year 2050. The Plan does not yet include information and analyses of drought management impacts. Therefore, the model scenarios and analyses developed for the recommended Jordan Lake water supply storage allocations do not include drought management impacts. **The Division's analyses of the impacts of Jordan Lake allocations represent worst case scenarios.** Drought management measures would result in higher lake levels during extreme droughts than the lake levels shown by the Division's model results. Drought management measures would result in lower flows during minor droughts, but higher flows during extreme droughts than the flows shown by the model results.

Model Scenario 1 evaluates the long-term water supply needs in the basin projected for 2050. Scenario 2 evaluates the basin water supply needs and recommended Jordan Lake water supply storage allocations for 2030. These model scenarios allowed the Division to analyze the cumulative impacts of an entire set of projected basinwide water withdrawals and discharges. The results of these scenarios are compared with the 1998 scenario, which represents current conditions in the basin.

Jordan Lake Low Flow Augmentation Pool

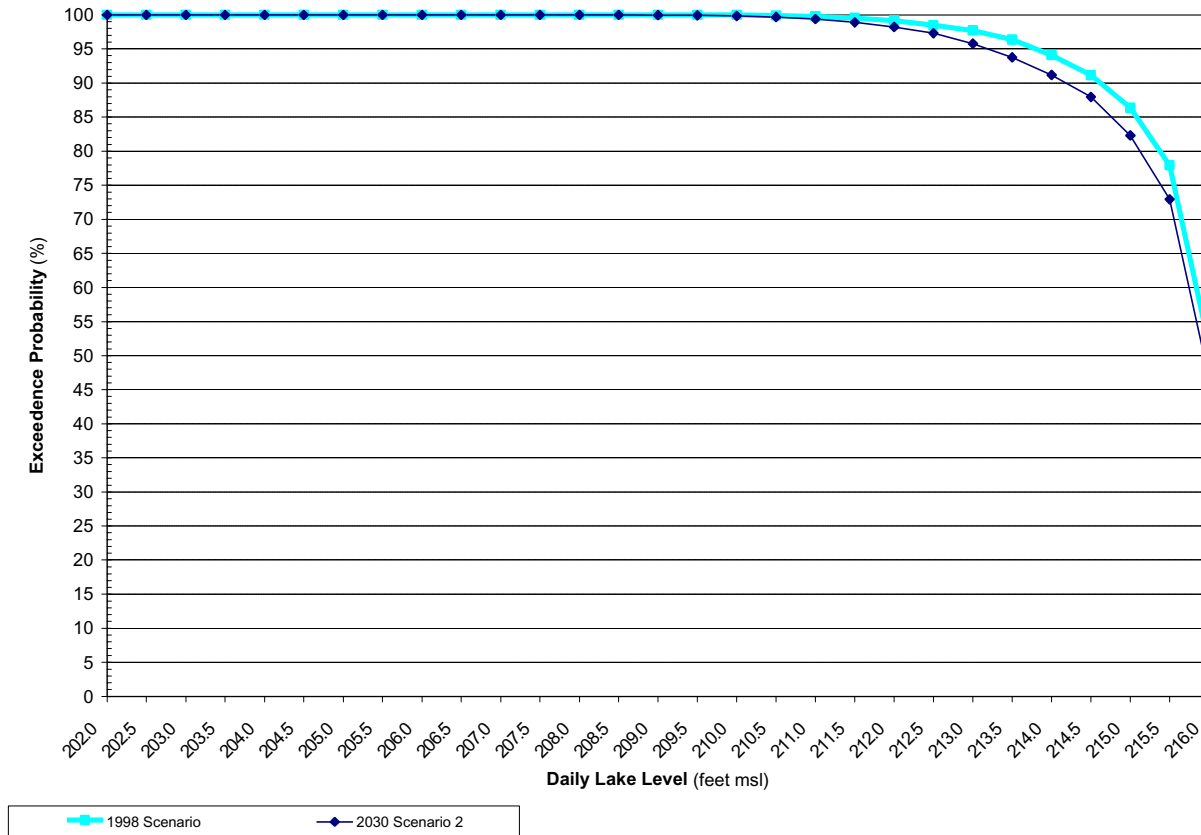
The results of model Scenario 1 indicate that, with a couple of exceptions, there is enough water to meet the 2050 water supply needs of the basin without significant effects on the reliability of the Jordan Lake low-flow augmentation pool, the ability to meet the flow target at the Lillington stream gage, or downstream flows of the Cape Fear River.⁶ The results of model Scenario 2 indicate that the reliability of the low-flow augmentation pool will not change by 2030 compared with 1998. **Again, these scenarios do not include drought management and represent the worst case.**

⁶ The exceptions consist of communities for which a Jordan Lake allocation is not an option and Jordan Lake water supply storage allocations do not impact the water supplies available to these communities in any way.

Jordan Lake Recreation

The results of model Scenario 2 indicate that Jordan Lake levels will only be impacted slightly by 2030 during the main recreation season (May through September) when compared with the 1998 scenario. The chart below shows the probability that a given lake level will be exceeded on a daily basis. Lake levels of 212 feet msl (mean sea level) and below have a negative impact on boating (due to ramp elevations) and beaches. If the lake level drops to 212 feet msl, 15 boat ramp lanes out of 52 may not be usable and beaches are negatively impacted. The chance of this occurring during the peak recreation season increases by 1 percent by 2030 when compared with 1998.

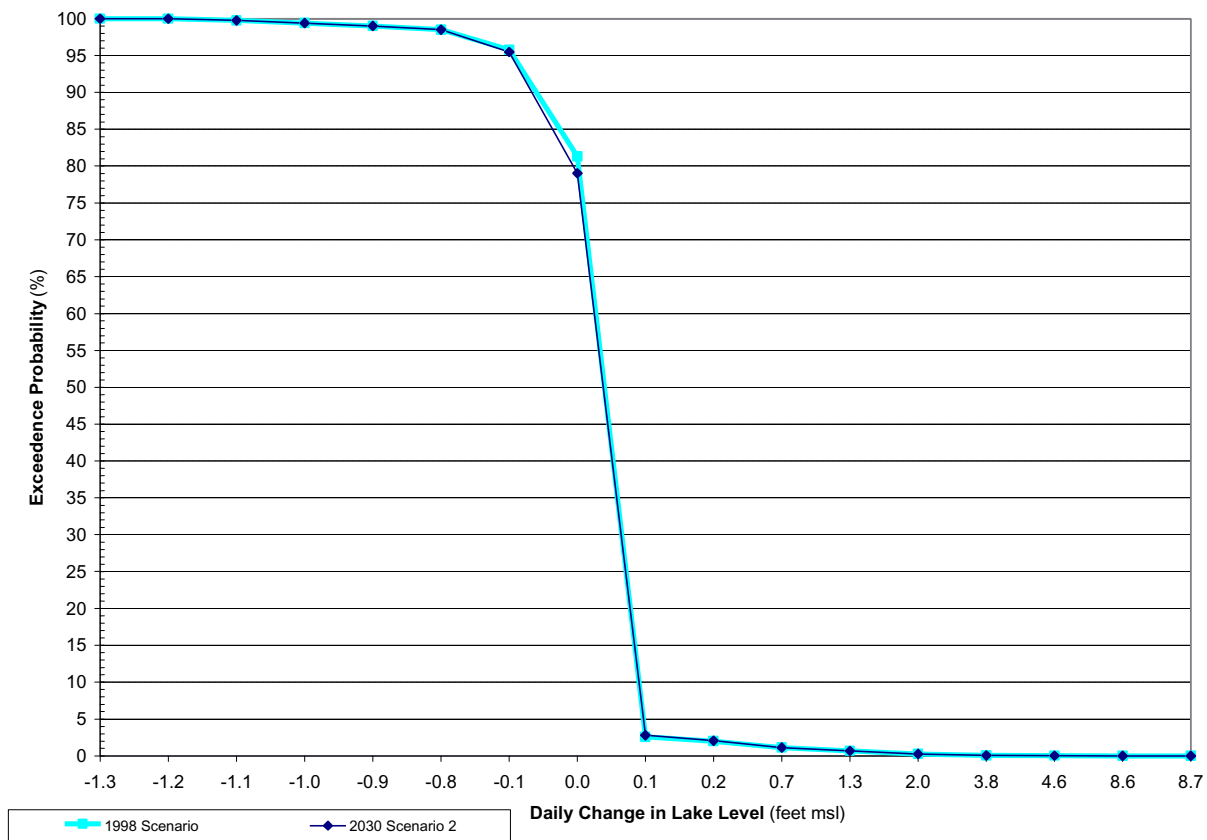
Jordan Lake Levels (May 1 to September 30)



Jordan Lake Fishery

The results of model Scenario 2 indicate that fish spawning will not be significantly impacted by the recommended allocations when compared with the 1998 scenario. Any daily decrease in lake level from April 1 to June 30 has a negative impact on fish spawning. The chance of the lake level falling during this period remains virtually the same by 2030 when compared with 1998. The probability of the lake level falling by less than 0.1 feet on a given day increases by only 0.3 percent by 2030 when compared with 1998. The probability of the lake level falling by more than 0.1 feet on a given day remains the same. The chart below depicts daily changes in lake levels from April 1 to June 30. The chart shows the probability that a change in lake level will be exceeded on a daily basis.

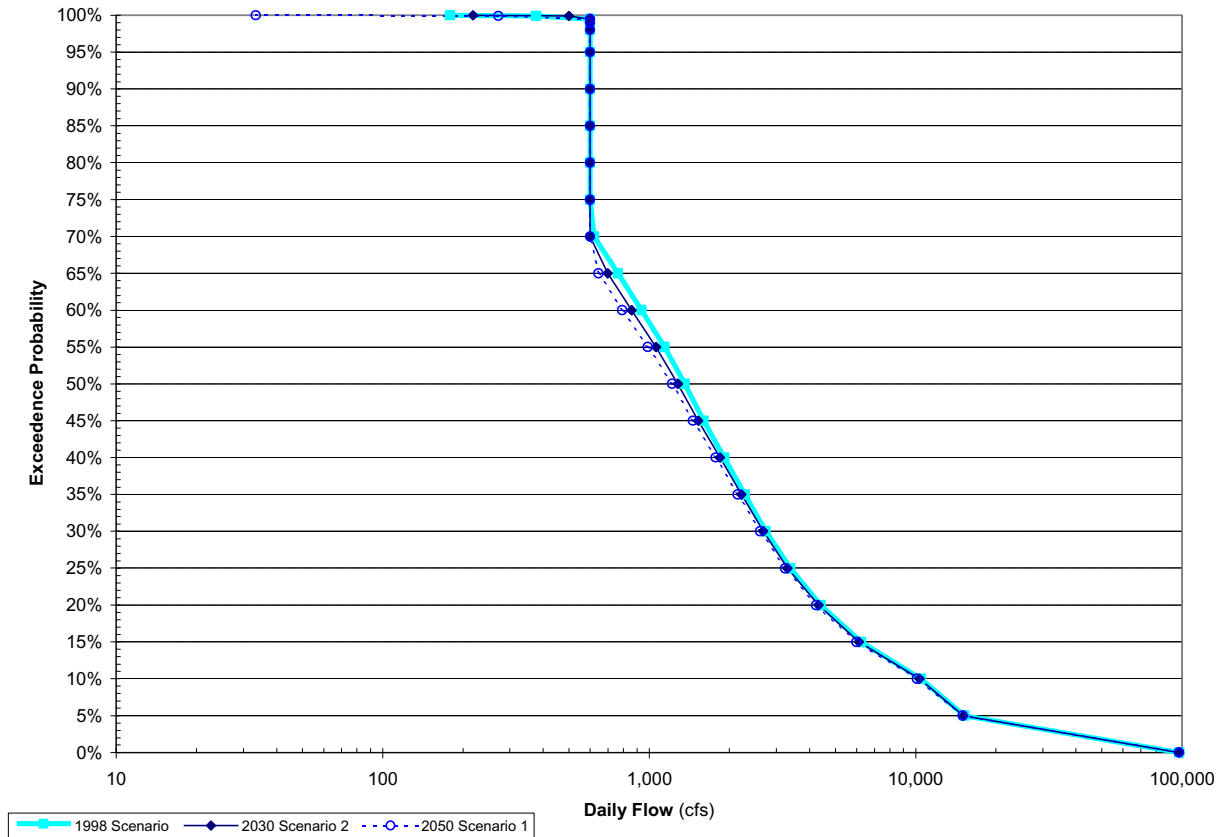
Change in Jordan Lake Levels (April 1 to June 30)



Cape Fear River Flows

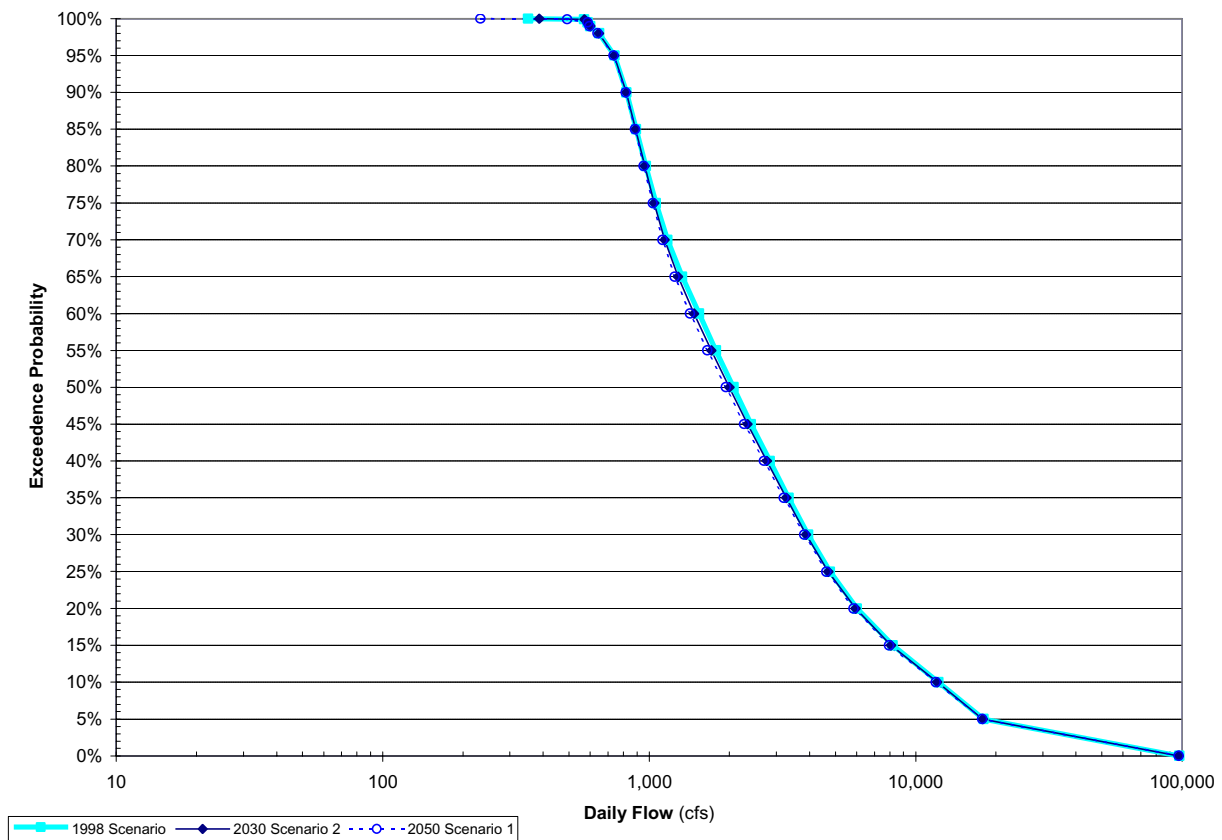
Cape Fear River flows will not be significantly impacted by the recommended Jordan Lake water supply storage allocations. The chart below shows the probability that a given flow will be exceeded on a daily basis at Lillington. The daily flow profile at Lillington remains almost unchanged among the model scenarios. Again, these scenarios do not incorporate any impacts of drought management. Drought management would result in slightly lower flows under moderately low flow conditions, but higher flows during the most extreme low flow conditions.

Cape Fear River Flows at Lillington

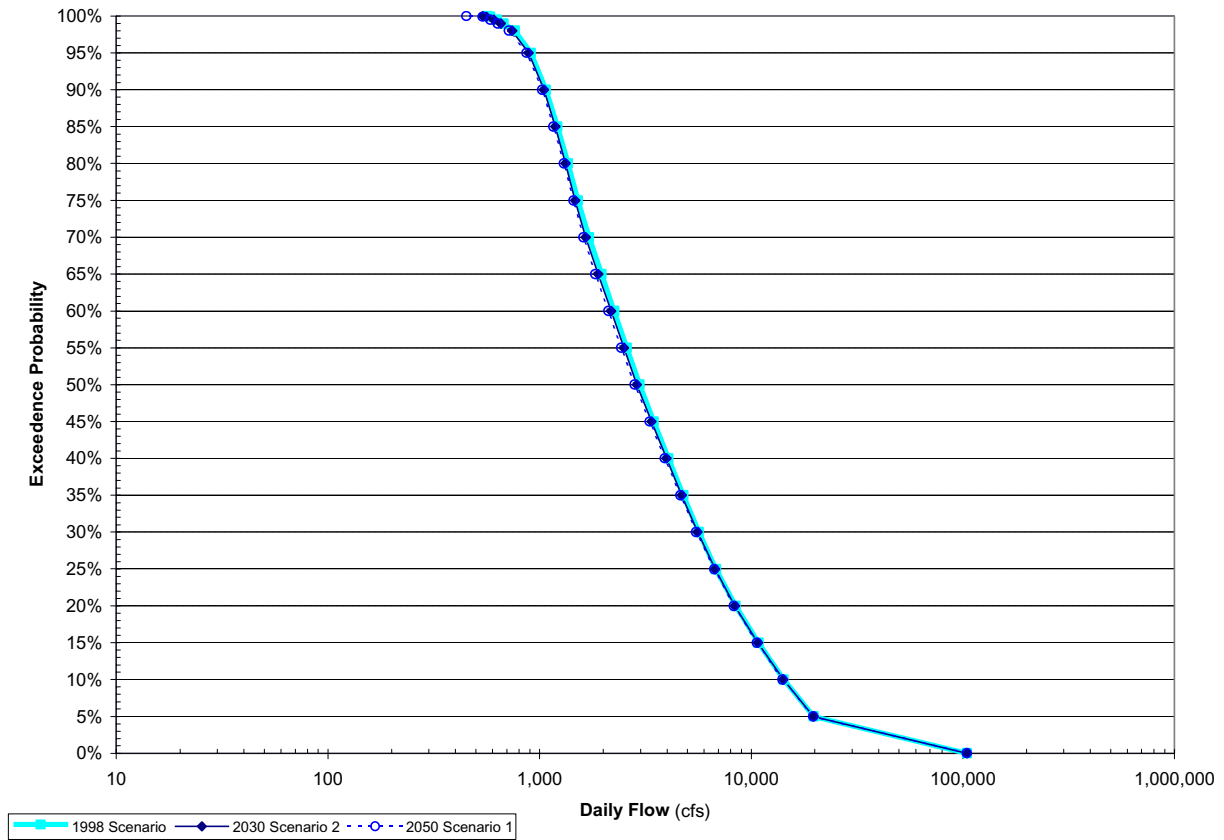


The total projected increase in withdrawals upstream of Fayetteville is 114 mgd by 2030 (an increase of 93 percent compared with 1998 withdrawals) and 197 mgd by 2050 (an increase of 161 percent compared with 1998 withdrawals). Despite these large projected increases in upstream withdrawals, the flow profile at Fayetteville shows even less change among the model scenarios than the flow profile at Lillington. The Cape Fear River flows at Lock & Dam #1 are virtually unchanged among the model scenarios. Note that these modeled impacts on stream flows do not incorporate any drought management for Jordan Lake or any water supply systems in the Basin. Drought management measures will improve the reliability of water supplies. The chart below shows the probability that a given flow will be exceeded on a daily basis at Fayetteville. The chart on the following page shows the probability that a given flow will be exceeded on a daily basis at Lock & Dam #1.

Cape Fear River Flows at Fayetteville



Cape Fear River Flows at Lock & Dam #1



PUBLIC HEARING AND COMMENTS

The Environmental Management Commission held a public hearing on March 18, 2002 at 7:00 PM at 512 N. Salisbury Street in the Ground Floor Hearing Room of the Archdale Building in Raleigh to provide an opportunity for those interested in making a public statement on Jordan Lake water supply storage allocations before representatives of the Commission. This section includes a summary of all oral and written comments submitted to the Division of Water Resources on the Division's recommended Jordan Lake water supply storage allocations for Round Three, and on the Commission's potential condition on allocations. The Hearing Officers and Division of Water Resources received a total of eight oral comments and six written comments during the comment period.

Public Hearing Notice

Public notice of this hearing was provided by E-mail on January 30, 2002 and published on the Division of Water Resources' Web site. Public Notice was published in the North Carolina Environmental Bulletin on February 8, 2002. Public notice was also published in the Raleigh News and Observer and in the Fayetteville Observer-Times on February 22, 2002. The original public hearing notice is provided in Appendix A. Below is an excerpt of the original notice, including the amended allocation request from the Public Works Commission of the City of Fayetteville.⁷

The State of North Carolina has purchased the use of the entire water supply storage in B. Everett Jordan Lake. Under GS 143-354(a)(11) the State can assign this storage to any local government demonstrating a need for water supply storage. Administrative rule T15A: 02G.0500 describes the specific procedures to be used when allocating the Jordan Lake water supply storage. The two main criteria for Jordan Lake water supply allocations are future water needs and availability of alternative water supplies.

Initial allocations of water supply from Jordan Lake were made in 1988. The State completed the second round of allocations in July 2001. Eleven communities have requested new or additional allocations from Jordan Lake in this third round. The Division of Water Resources' allocation recommendations are illustrated in Table 1 on the following page.

Some of the key features of these recommended water supply storage allocations are:

- All allocation applicants will have their projected 2030 water needs met either from Jordan Lake or from their existing water supply sources.
- These recommendations leave 39 percent of the water supply pool unallocated and available to meet future water needs. Of the 50 percent of the Lake's total water supply yield that may be allocated for use outside of the Lake's watershed under current policy, at least 10 mgd remains unallocated and available for future water needs.
- Based on a projection of all Basin water supply needs to 2050, the recommended allocations will not hinder any community's ability to meet its 2050 water needs.

⁷ The Public Works Commission of the City of Fayetteville (PWC) requested an allocation of Jordan Lake water supply storage at the time applications were submitted for Round Three, but had not quantified the amount requested pending the Division of Water Resources' completion of various technical analyses. Following the publication of the public hearing notice, Fayetteville specified the amount of its requested allocation as 10 mgd, based on information currently available.

- Applicants requested allocations to meet 2050 needs, plus a 20 percent margin. The Division of Water Resources recommended allocations to meet only 2030 needs, as specified in the administrative rule for Jordan Lake water supply storage allocations.
- We based our recommended allocations on the water use projections developed by each applicant with one exception. We adjusted Chatham County’s assumed per capita water use rate to bring it more in line with the rates used by other applicants.
- No additional interbasin transfer certificates are required for the recommended allocations.
- The US Congress authorized one-third of the Jordan Lake conservation pool to be used for water supply and two-thirds for downstream flow augmentation. Water supply storage allocations come from the water supply pool and do not affect the project’s ability to meet downstream flow targets.

Table 1. Jordan Lake Water Supply Storage Allocations for Round Three^(a)

Applicant	Current Total Allocation (mgd)	Requested Total Allocation (mgd)	Recommended Total Allocation (mgd)	Interbasin Transfer Certification Required
Chatham County	6.0	10.5	6.0	No
City of Durham	0	20.0	10.0	No
City of Fayetteville	0	10.0	0	No
City of Sanford	0	28.0	0	No
Harnett County	0	18.0	0	No
Town of Holly Springs	2.0	16.0	0	No
OWASA	10.0	5.0	5.0	No
Orange County	1.0	1.0	1.0	No
Towns of Cary and Apex	21.0	44.0	32.0	No
Town of Morrisville	2.5	5.0	3.5	No
Wake County/ Research Triangle Park	1.5	5.5	3.5	No
Total	44.0	163.0	61.0	

(a) Allocations obtained are actually a percentage of the water supply storage in Jordan Lake. However, since all (100 percent) of the water supply storage has an estimated safe yield of 100 mgd, allocations are conveniently expressed here in terms of mgd. For example, a 6.0 mgd allocation actually represents an allocation of 6.0 percent of Jordan Lake’s water supply storage.

Level II allocation holders are reserving the right to use Jordan Lake water in the future and pay only a proportional amount of the interest and operating costs associated with the water supply storage component of Jordan Lake. Level I allocation holders have present rights to use Jordan Lake water and are required to repay a proportional share of the capital cost of the project, as well as the interest and operating costs paid by Level II allocation holders. Because Level II allocation holders have only paid to reserve water supply storage for future use and have not paid any capital costs, the Division of Water Resources does not recommend reimbursement of past Level II

allocation payments when Level II allocations are reduced in accordance with the allocation holders' changes in plans or growth rates. Therefore, we recommend no reimbursement of payments made by OWASA or Holly Springs.

The EMC is considering adding the following condition to Jordan Lake allocations:

If an extreme drought or a water supply emergency caused by water contamination or infrastructure damage threatens the ability of a public water supply system to meet the public health and safety needs of its customers, the Secretary of DENR can make emergency allocations or reallocations of the water supply storage at Jordan Lake to respond to these emergencies. These emergency allocations or reallocations are limited to 30 days and may be renewed for one additional 30 day period. Before taking such an action, the Secretary shall consult with affected parties and shall specify conditions to protect all affected water users.

The EMC may consider allocations of different amounts and to different recipients than those recommended by the Division of Water Resources. The EMC invites comments on the recommended allocations, on the recommended amounts as compared with the requested amounts, and on the aforementioned allocation condition.

A list of attendees at the public hearing is provided in Appendix A.

Summary of Comments

The following pages provide tables that summarize the various comments we have received and a key to the Division's responses. The complete comments we received are in Appendix B. The Division's responses are in the next section.

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
William B. Coleman, Jr. <i>Town of Cary</i>	letter – March 21, 2002	• Cary supports DWR’s recommendations for Round Three of Jordan Lake water supply storage allocation.	1
		• The condition the EMC proposes to add to Jordan Lake allocations is not consistent with the existing administrative (15A NCAC 2G.0507) and statutory (NCGS §143-354(b),(c)) procedures for managing water supply emergencies.	2
		• If Jordan Lake allocations are not treated the same as other water sources in the state, the reliability of Jordan Lake allocations will be negatively impacted.	1
		• The Governor, not the EMC, has the authority to declare a water emergency for a specified period of no more than thirty days (renewable).	2
		• Once the Governor declares a water emergency, the EMC must conduct a public hearing on the proposed source of relief water.	2
		• Recipients of diverted water must first enact and enforce emergency water use restrictions.	2
		• Recipients of emergency water supply must post bond for any loss or damage caused by the diversion of water supply and, in the case of Jordan Lake, must assume every payment obligation to the state.	3
Carl G. Dean <i>Town of Holly Springs</i>	letter – March 22, 2002	• Holly Springs requests that the EMC permit Holly Springs to retain its existing 2 mgd Jordan Lake allocation.	4
		• Holly Springs is requesting no additional Jordan Lake allocation at this time, but may consider such a request in the future if other alternatives are not successful.	4
		• Holly Spring has spent over \$25,000 and much staff time in securing and retaining their 2 mgd allocation.	1
		• Maintaining their current 2 mgd allocation is Holly Springs’ top priority for future water supply needs.	1
		• Holly Springs, Cary and Apex have begun working towards regionalizing wastewater infrastructure.	4
		• Holly Springs’ discussions with Apex and Chatham County have included the possibility of future negotiations to access Holly Springs’ current 2 mgd allocation through the existing Jordan Lake intake.	4
		• Holly Springs sees retaining its 2 mgd allocation as a way to continue regional discussions.	4

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
		<ul style="list-style-type: none"> • Holly Springs plans to continue to receive water from Raleigh. 	4
		<ul style="list-style-type: none"> • Holly Springs plans to continue to receive water from Harnett County and hopes to expand this agreement in the future. 	4
		<ul style="list-style-type: none"> • Holly Springs’ option of their own intake on the Cape Fear River is a last resort and they do not expect to forward this action beyond scoping in the near future. 	4
Timothy L. Donnelly <i>Town of Apex</i>	verbal statement with written copy – March 18, 2002 Public Hearing	<ul style="list-style-type: none"> • Apex requests that the hearing officers recommend the proposed allocations to the EMC. 	1
		<ul style="list-style-type: none"> • The allocation recommendations were based on scientific facts and a very conservative approach. 	1
		<ul style="list-style-type: none"> • The allocation recommendations are consistent with prudent water supply management. 	1
		<ul style="list-style-type: none"> • The process to develop the allocation recommendations was unbiased and included stakeholder input. 	1
		<ul style="list-style-type: none"> • The allocation recommendations provide for the needs of all affected communities. 	1
		<ul style="list-style-type: none"> • Apex requests that the hearing officers reject the proposed condition allowing the Secretary of DENR to make emergency reallocations. 	2
		<ul style="list-style-type: none"> • NCGS §143-354 already provides logical and enforceable procedures for emergency water management and a separate set of conditions is unnecessary for allocations. 	2
Leila R. Goodwin <i>Town of Cary</i>	verbal statement with written copy – March 18, 2002 Public Hearing	<ul style="list-style-type: none"> • Cary requests that the EMC grant the Jordan Lake allocations recommended by DWR. 	1
		<ul style="list-style-type: none"> • DWR’s extensive stakeholder involvement process resulted in reliable, consistent information on which DWR could base their analyses and recommendations. 	1
		<ul style="list-style-type: none"> • The Cape Fear River Basin Water Supply Plan, incorporating recommended Round Three allocations, shows that there is enough water in the basin to meet users’ projected needs through the year 2050. 	1
		<ul style="list-style-type: none"> • Cary will continue to participate in DWR’s stakeholder meetings. 	1
		<ul style="list-style-type: none"> • NCGS §143-354 adequately addresses the potential need to divert water during an extreme drought or a water supply emergency caused by contamination or infrastructure damage. 	2
		<ul style="list-style-type: none"> • The condition the EMC proposes to add to Jordan Lake allocations is not consistent with the existing administrative (15A NCAC 2G.0507) and statutory (NCGS §143-354(b),(c)) procedures for managing water supply emergencies. 	2

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
		<ul style="list-style-type: none"> • Only the Governor can declare a water emergency within a particular area of the state, and only then is the EMC authorized to divert water to that emergency area for the period of time specified by the Governor. 	2
		<ul style="list-style-type: none"> • Recipients of emergency water supply must have first enacted and enforced emergency water use restrictions. 	2
		<ul style="list-style-type: none"> • Recipients of emergency water supply must post bond for any loss or damage caused by the diversion of water supply and, in the case of Jordan Lake, must assume every payment obligation to the state. 	3
		<ul style="list-style-type: none"> • Holders of allocations from Jordan Lake must receive appropriate refunds if their allocations are adjusted, reassigned or otherwise amended. 	3
		<ul style="list-style-type: none"> • Each Jordan Lake allocation holder is required to have a Water Shortage Response Plan approved by DWR, which addresses the need for cooperation in managing the lake during regional drought scenarios. 	2
Stephen Halkiotis <i>Orange County</i>	letter – June 4, 2001	<ul style="list-style-type: none"> • Orange County supports OWASA’s request to reduce their Jordan Lake allocation from 10 mgd to 5 mgd. 	1
		<ul style="list-style-type: none"> • OWASA’s request to retain a portion of their Jordan Lake allocation is thoughtful and prudent planning. 	1
Charles W. Ham <i>City of Fayetteville Public Works Commission</i>	verbal statement with written copy – March 18, 2002 Public Hearing	<ul style="list-style-type: none"> • It would be inappropriate for the State to make final Round Three decisions when essential Cape Fear Basin information is still under development. 	5
		<ul style="list-style-type: none"> • The EMC opened Round Three based on the schedule provided by DWR. 	6
		<ul style="list-style-type: none"> • DWR’s staffing and budget limitations are not a valid reason to abandon the critical information needs established as prerequisites for making Round Three allocation decisions. 	5, 7
		<ul style="list-style-type: none"> • PWC requests that the EMC establish a time frame to complete the Jordan Lake drought management plan, the 50% watershed rule analysis, safe yield analysis, and Cape Fear River Basin Water Supply Plan. 	6
		<ul style="list-style-type: none"> • We do not yet know how Jordan Lake storage will be managed in the future during drought conditions. 	8
		<ul style="list-style-type: none"> • A revised drought management plan is needed to assure downstream communities of adequate minimum flow maintenance during severe drought conditions. 	5, 8
		<ul style="list-style-type: none"> • If DWR’s recommendations were approved, the remaining fraction of water supply storage would be inadequate to assure adequate Cape Fear River flows for PWC and other downstream users. 	5, 9

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
		<ul style="list-style-type: none"> • If DWR had developed safe yield information for the Jordan Lake water supply storage pool earlier, smaller allocations of the water supply storage should have been recommended. 	10
		<ul style="list-style-type: none"> • More sophisticated model validation procedures should be used to ensure that we now have a hydrologic model that produces trustworthy results. 	11
		<ul style="list-style-type: none"> • PWC has requested a Round Three allocation of 10 mgd, based on our projected deficit and based on past excursions of Cape Fear River flows at Lillington below the minimum target level. 	9, 12
		<ul style="list-style-type: none"> • PWC supports the EMC adding a condition to future Jordan Lake allocations that would allow the State to make emergency allocations or reallocations of water supply storage at Jordan Lake to respond to extreme drought or other water supply emergencies. 	2
Sid Harrell <i>NC Division of Environmental Health</i>	memo – March 26, 2002	<ul style="list-style-type: none"> • North Carolina provided \$5.9M in grants to fund the construction of a transmission main capable of supplying 16 mgd from the Harnett County WTP at Lillington to Holly Springs. 	4
		<ul style="list-style-type: none"> • Increased supply through this main is preferred to Holly Springs building a new WTP on the Cape Fear River. 	4
Ed Kerwin <i>Orange Water & Sewer Authority</i>	letter – March 14, 2002	<ul style="list-style-type: none"> • The Round Three application process and DWR’s recommendations has been the most effective effort to date for allocating Jordan Lake water supply storage within the larger regional and long-term planning context. 	1
		<ul style="list-style-type: none"> • OWASA appreciates DWR’s agreement with their voluntary offer to reduce their existing 10 mgd Jordan Lake allocation to 5 mgd. 	1
		<ul style="list-style-type: none"> • OWASA strongly disagrees with DWR’s recommendation to only reimburse OWASA for the amounts of principal paid on the original capital investment costs. 	13
		<ul style="list-style-type: none"> • OWASA finds DWR’s recommendation on reimbursement inconsistent with the administrative rule for Jordan Lake allocation (15A NCAC 2G.0507(d)). 	13
Bobby E. Long <i>recreational fisherman</i>	e-mail – October 5, 2001	<ul style="list-style-type: none"> • The recommended allocations may result in drastically fluctuating lake levels that would have a significant impact on the fishery. 	14
		<ul style="list-style-type: none"> • Cary has grown out of control without regard to the resources it consumes. 	1
Narayan B. Rajbhandari <i>resident of Apex</i>	verbal statement with written copy – March 18, 2002 Public Hearing	<ul style="list-style-type: none"> • Deforestation caused by population growth and land development may result in lower stream flows in the Haw River Basin. 	1
		<ul style="list-style-type: none"> • I request that DWR incorporate a forest conservation plan for the Haw River Basin into the Jordan Lake allocation scheme. 	7, 15

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
James O. Roberson <i>Research Triangle Foundation</i>	verbal statement with written copy – March 18, 2002 Public Hearing	• RTF encourages the EMC to approve the recommended allocations to Wake County and Durham.	1
		• RTP has been an important force in the economic well-being of the Triangle Area and of North Carolina in general.	1
		• Provision of adequate water supply is crucial to the continued development of RTP.	1
		• RTF supports the need for the State to have the ability to take emergency steps in the event of a severe drought, but urges that any such emergency drought procedures be consistent with existing regulations.	2
Terry Rolan <i>City of Durham</i>	verbal statement – March 18, 2002 Public Hearing	• Durham hopes the EMC will support DWR’s recommended Jordan Lake allocation.	1
		• DWR’s recommended 10 mgd allocation for Durham would be adequate to meet Durham’s short-term needs, since all of Jordan Lake’s water supply storage is not being allocated.	1
		• During the summer of 2001, both of Durham’s lakes set record low levels, because Durham’s demands were near the lakes’ safe yields and it was the driest year since 1933 and 1941.	1
		• The existing regulations are adequate to address extreme droughts and water supply emergencies and we do not need additional regulations to address emergency situations.	2
Stephanie L. Sudano <i>Town of Holly Springs</i>	verbal statement with written copy – March 18, 2002 Public Hearing	• Holly Springs requests that the EMC support Holly Springs retaining its existing 2 mgd Jordan Lake allocation.	1
		• Holly Springs has experienced rapid growth and expects their population to exceed 100,000 by 2030.	4
		• Holly Springs expects their water demands to increase to 12.2 mgd by 2030.	4
		• Holly Springs must secure a long-term water supply source to meet planned needs.	4
		• DWR’s recommendations were based on the assumption that sufficient water supply is available from the Cape Fear River, but it would not be prudent for Holly Springs to rely upon this option alone for its long-term water supply.	4
		• Holly Springs’ town manager has had favorable discussions with Apex and Chatham County about the possibility of Holly Springs negotiating with them for access to its Jordan Lake allocation via the existing Jordan Lake intake.	4
		• There is no precedent for DWR’s recommendation to rescind Holly Springs’ existing 2 mgd Jordan Lake allocation.	4, 16

Jordan Lake Water Supply Storage Allocation Round Three – Summary of Public Comments

Name & Association	Type & Date of Comments	Summary of Comments	Key to Staff Responses
		<ul style="list-style-type: none"> • Holly Springs requests that the EMC support Holly Springs' application for an additional Jordan Lake allocation. 	17
Rodney Tart <i>Harnett County Public Utilities</i>	verbal statement with written copy – March 18, 2002 Public Hearing	<ul style="list-style-type: none"> • The value of Jordan Lake extends not only to those systems withdrawing water directly from the lake, but also those withdrawing water from downstream. • Downstream water supplies are more reliable, because of flow augmentation provided by Jordan Lake. • Analysis of water supply systems with run-of-river intakes should consider maximum-day demands, rather than average-day demands. • Harnett County will request consideration for a Jordan Lake allocation during Round Four. 	1 1 18 1

RESPONSES TO COMMENTS

This section provides the Division of Water Resources' responses to the various comments received on Round Three of Jordan Lake water supply storage allocations. The preceding the response corresponds to the number in the comment summary tables.

1. Comment noted.
2. See the discussion on the potential allocation condition on pages 4-6.
3. This is provided for in NCGS §143-354(e) and 15A NCAC 2G.0507.
4. We have recommended that the Commission allow the Town of Holly Springs to retain the 2.0 mgd Jordan Lake water supply storage allocation that the Commission approved in 1997. See the discussion on pages 1-2.
5. All of the analyses necessary to support a sound recommendation for Round Three of Jordan Lake water supply storage allocations have been completed. The only studies not completed pertain to improving the Jordan Lake Drought Contingency Plan. By not including drought management in our model scenarios, we have based our analyses and recommendations on the most conservative, worst case.
6. The Commission opened Round Three during their meeting on July 13, 2000 based on an urgent request by the City of Durham for a Jordan Lake water supply storage allocation. At that time, the Division presented a schedule describing the process for Round Three. A number of reports and studies were included in the schedule. The scope of some of the reports goes beyond that of Jordan Lake allocations. The Division is committed to completing all of these reports and studies and will continue working on them beyond the conclusion of Round Three.
7. The administrative rule for Jordan Lake water supply storage allocations specifies the information required to make allocation decisions (15A NCAC 2G.0503 and .0504). The Division has gone well beyond those requirements in developing the Cape Fear River Basin Water Supply Plan and various Cape Fear River Basin Hydrologic Model scenarios.
8. A Jordan Lake Drought Contingency Plan already exists and is described on pages 4-5. This plan has been in effect since 1992 and the historic record of Jordan Lake levels and Cape Fear River flows indicate its impacts. The Division is currently working on an improved Jordan Lake Drought Contingency Plan and will include stakeholders in the process as our work progresses.
9. The Division used the water demand projections provided by Fayetteville PWC and determined that the City of Fayetteville's projected 2050 water supply withdrawal from the Cape Fear River could be as much as 79 mgd on an average annual basis. This projection includes a 531% increase in Fayetteville's industrial water use compared with 2000, as well

as the projected demands of Hope Mills, Hoke County RWS and Spring Lake. Our 2050 model scenario includes the seasonal variations of that demand ranging from 61 mgd to 96 mgd. Under all model scenarios, Fayetteville's water demands are completely satisfied every day in the 68 year period of record. This is without any drought management of any kind anywhere in the Cape Fear River Basin and despite a projected increase in total upstream withdrawals of 161% compared with 2000.

The City of Fayetteville's projected 2050 water supply withdrawal from the Cape Fear River on a maximum week basis could be as high as 114 mgd (based on the maximum week factor of 1.44 provided by Fayetteville PWC). According to our model scenarios, even this amount could be satisfied every day in the 68 year period of record.

Fayetteville PWC reported a 2000 maximum day demand of 38 mgd (in May, according to their Round Three Jordan Lake application). Fayetteville's projected 2050 water supply withdrawal from the Cape Fear River on a maximum day basis could therefore be as high as 113 mgd (based on the maximum day factor of 1.42 from their application). The US Geologic Surveys' latest 7Q10 flow statistic at Fayetteville is 625 cfs. According to our model scenarios, the 7Q10 at Fayetteville could be reduced by as much as 3% in 2050 compared with 1998. If we apply that factor we obtain a 2050 7Q10 of 608 cfs (393 mgd). Again, there is more than sufficient water available to meet the projected water supply demands of Fayetteville through the year 2050.

The administrative rules for the NC Environmental Policy Act require environmental documentation for expansions of water treatment plants that increase capacity by 1 mgd or more, or result in a design withdrawal equal to or greater than 20% of the 7Q10 flow of the contributing stream (15A NCAC 01C.0504(3)). This is a requirement for study and documentation, **not a limit on withdrawals**. Fayetteville PWC may be required to provide environmental documentation before expanding their water treatment plant or water supply intake on the Cape Fear River at some point in the future. According to all of the information available to the Division, the amount of water available from the Cape Fear River will not be a limiting factor for Fayetteville's water supply withdrawals.

10. Our latest analysis indicates that the water supply pool of Jordan Lake can provide a yield of 100 mgd with a recurrence interval of 200-225 years, or a yield of 120 mgd with a recurrence interval of 50 years. We have based all Jordan Lake water supply storage allocations to date, including our recommended allocations for Round Three, on an assumed yield of 100 mgd. Given that our recommendations would leave 37% of the Jordan Lake water supply storage unallocated, there is no reason to change that assumption at this time. We may assume a larger yield upon which to base future allocations. If so, we will adjust all allocations accordingly, as provided by the administrative rule for Jordan Lake water supply storage allocation (15A NCAC 2G.0504(i) and .0507(d)).
11. The Danish Hydraulic Institute (the consultant that calibrated the Cape Fear River Basin Hydrologic Model) has provided additional documentation that indicates the model we use is properly calibrated. Our model is the best available tool for analyzing the impacts of Jordan Lake water supply allocations. According to the distinguished statistician, George P. E. Box,

“all models are wrong, but some models are useful.”⁸ The Cape Fear River Basin Hydrologic Model is extremely useful.

12. The administrative rule for Jordan Lake water supply storage allocation specifies that the Commission will allocate storage based on projected needs for water supply (15A NCAC 2G.0504). Fayetteville PWC’s projected deficit is based on the assumption that Fayetteville’s water supply withdrawal would be limited to 20% of the 7Q10 flow at Fayetteville. According to all of the information available to the Division of Water Resources, Fayetteville’s water supply withdrawal would not be limited to 20% of the 7Q10 flow. Similarly, the fact that minimum daily flows at Lillington have differed from the 600 cfs flow target is not a justifiable basis for Jordan Lake water supply storage allocations. Approximately two-thirds of the Jordan Lake conservation storage (about twice the storage dedicated to water supply) is dedicated to augmenting the flows of the Cape Fear River.
13. When a Level II allocation is reduced, we believe that it is appropriate to reimburse the allocation holder for any payments made on the original capital investment cost of an allocation. Therefore, if the Commission approves the recommended allocation change, OWASA will be reimbursed for the interest payments on the capital cost associated with 5 mgd of the Level II allocation. OWASA will not be reimbursed for any payments made on operation and maintenance costs or rehabilitation costs.
14. Our analyses indicate that the recommended Jordan Lake water supply storage allocations for Round Three will have no significant impact on the Jordan Lake fishery. See page 9.
15. We require that holders of Jordan Lake water supply storage allocations enact ordinances at least as protective of water quality as the Neuse River buffer rules (15A NCAC 2B.0233) for the parts of their jurisdictions that are within the Jordan Lake watershed under the current allocation contracts (Article 13). These buffer requirements are subject to approval by the Division of Water Resources after consultation with the Division of Water Quality.
16. According to the administrative rule for Jordan Lake water supply storage allocations, the Commission may only rescind an allocation if the holder fails to meet the requirements of the North Carolina Environmental Policy Act at the time the holder proposes to build facilities to use water from Jordan Lake; fails to install and maintain suitable meters for the measurement of water withdrawn, report these withdrawals to DENR on a monthly basis, and obtain DENR’s approval for the design, location, and installation of associated withdrawal facilities; or fails to pay the required capital, interest, and operating costs when due (15A NCAC 2G.0507(c)). Rescinded allocations cannot be refunded (15A NCAC 2G.0507(d)).

Our original recommendation in the Division’s October 2001 report was to adjust Holly Springs’ allocation to 0 mgd by transferring the 2 mgd allocation to the State, as provided for by the administrative rule (15A NCAC 2G.0507(d)) and discussed on pages 1-2 of this report. Aside from the precedent set forth in the administrative rule, the Commission granted a 4 mgd Jordan Lake water supply storage allocation to Orange-Alamance Water System and a 5.5 mgd allocation to the Town of Hillsborough in 1988, but later adjusted those allocations

⁸ Water Resources Research Institute News, Number 334 March/April 2002, p.2.

to 0 mgd. Furthermore, we have recommended the Commission adjust the 10 mgd allocation held by Orange Water and Sewer Authority to 5 mgd for Round Three.

17. Stephanie Sudano made this oral comment at the public hearing on March 18, 2002. Carl Dean, Town Manager of Holly Springs sent a letter on March 22, 2002 indicating that Holly Springs no longer requested any increase of its 2 mgd Jordan Lake water supply storage allocation (see page 16).
18. We agree that analyses of water supply withdrawals by systems with run-of-river intakes should consider withdrawal amounts based on maximum day demands, as well as average day demands. Both bases are important. Withdrawals calculated on an average day basis when compared with flow statistics for the point of withdrawal provide an indication of a potential need for water. Withdrawals calculated on a maximum day basis when compared with flow statistics for the point of withdrawal provide an indication of a potential need for off-stream storage to meet peak demands. Withdrawals calculated on a maximum day basis when compared with the 7Q10 flow for the point of withdrawal determine whether environmental documentation is needed before building or increasing the capacity of an intake structure (15A NCAC 01C.0504(3)).

APPENDIX A. PUBLIC HEARING NOTICES

This appendix includes the original public hearing notice, the addendum to the public hearing notice and a list of all attendees at the public hearing.

Original Public Hearing Notice

JORDAN LAKE WATER SUPPLY STORAGE ALLOCATION: ROUND THREE

NOTICE OF PUBLIC HEARING

The North Carolina Environmental Management Commission (EMC) will hold a public hearing to receive comments on the Division of Water Resources' recommendations for Round Three of Jordan Lake water supply storage allocation. This public hearing will start at 7:00 PM on March 18, 2002 at 512 N. Salisbury Street, Ground Floor Hearing Room, Archdale Building, Raleigh. In addition, staff will be available to answer questions from 6:30 PM to 7:00 PM, prior to the hearing. The public may inspect the staff's recommendation report during normal business hours at the offices of the Division of Water Resources, 512 N. Salisbury Street, Room 1106, Archdale Building, Raleigh. This document may also be viewed at the Division's web site: <http://www.ncwater.org>.

The purpose of this announcement is to encourage those interested in these matters to provide comments. You may attend the public hearing and make relevant oral comments and/or submit written comments, data, or other relevant information. We request that you bring a written version of your oral comments to the hearing. The hearing officers may limit the length of oral presentations if many people want to speak. If you are unable to attend, written comments can be mailed to Sydney Miller, Division of Water Resources, DENR, 1611 Mail Service Center, Raleigh, NC 27699-1611. Comments must be received before 5:00 PM, March 22, 2002. Comments may also be submitted electronically to sydney.miller@ncmail.net.

The State of North Carolina has purchased the use of the entire water supply storage in B. Everett Jordan Lake. Under GS 143-354(a)(11) the State can assign this storage to any local government demonstrating a need for water supply storage. Administrative rule T15A: 02G.0500 describes the specific procedures to be used when allocating the Jordan Lake water supply storage. The two main criteria for Jordan Lake water supply allocations are future water needs and availability of alternative water supplies.

Initial allocations of water supply from Jordan Lake were made in 1988. The State completed the second round of allocations in July 2001. Eleven communities have requested new or additional allocations from Jordan Lake in this third round. The Division of Water Resources' allocation recommendations are illustrated in Table 1 on the following page.

Some of the key features of these recommended water supply storage allocations are:

- All allocation applicants will have their projected 2030 water needs met either from Jordan Lake or from their existing water supply sources.
- These recommendations leave 39 percent of the water supply pool unallocated and available to meet future water needs. Of the 50 percent of the Lake’s total water supply yield that may be allocated for use outside of the Lake’s watershed under current policy, at least 10 mgd remains unallocated and available for future water needs.
- Based on a projection of all Basin water supply needs to 2050, the recommended allocations will not hinder any community’s ability to meet its 2050 water needs.
- Applicants requested allocations to meet 2050 needs, plus a 20 percent margin. The Division of Water Resources recommended allocations to meet only 2030 needs, as specified in the administrative rule for Jordan Lake water supply storage allocations.
- We based our recommended allocations on the water use projections developed by each applicant with one exception. We adjusted Chatham County’s assumed per capita water use rate to bring it more in line with the rates used by other applicants.
- No additional interbasin transfer certificates are required for the recommended allocations.
- The US Congress authorized one-third of the Jordan Lake conservation pool to be used for water supply and two-thirds for downstream flow augmentation. Water supply storage allocations come from the water supply pool and do not affect the project’s ability to meet downstream flow targets.

Table 1. Jordan Lake Water Supply Storage Allocations for Round Three^(a)

Applicant	Current Total Allocation (mgd)	Requested Total Allocation (mgd)	Recommended Total Allocation (mgd)	Interbasin Transfer Certification Required
Chatham County	6.0	10.5	6.0	No
City of Durham	0	20.0	10.0	No
City of Fayetteville	0	not specified	0	No
City of Sanford	0	28.0	0	No
Harnett County	0	18.0	0	No
Town of Holly Springs	2.0	16.0	0	No
OWASA	10.0	5.0	5.0	No
Orange County	1.0	1.0	1.0	No
Towns of Cary and Apex	21.0	44.0	32.0	No
Town of Morrisville	2.5	5.0	3.5	No
Wake County/ Research Triangle Park	1.5	5.5	3.5	No
Total	44.0	153.0	61.0	

(a) Allocations obtained are actually a percentage of the water supply storage in Jordan Lake. However, since all (100 percent) of the water supply storage has an estimated safe yield of 100 mgd, allocations are conveniently expressed here in terms of mgd. For example, a 6.0

mgd allocation actually represents an allocation of 6.0 percent of Jordan Lake's water supply storage.

Level II allocation holders are reserving the right to use Jordan Lake water in the future and pay only a proportional amount of the interest and operating costs associated with the water supply storage component of Jordan Lake. Level I allocation holders have present rights to use Jordan Lake water and are required to repay a proportional share of the capital cost of the project, as well as the interest and operating costs paid by Level II allocation holders. Because Level II allocation holders have only paid to reserve water supply storage for future use and have not paid any capital costs, the Division of Water Resources does not recommend reimbursement of past Level II allocation payments when Level II allocations are reduced in accordance with the allocation holders' changes in plans or growth rates. Therefore, we recommend no reimbursement of payments made by OWASA or Holly Springs.

The EMC is considering adding the following condition to Jordan Lake allocations:

If an extreme drought or a water supply emergency caused by water contamination or infrastructure damage threatens the ability of a public water supply system to meet the public health and safety needs of its customers, the Secretary of DENR can make emergency allocations or reallocations of the water supply storage at Jordan Lake to respond to these emergencies. These emergency allocations or reallocations are limited to 30 days and may be renewed for one additional 30 day period. Before taking such an action, the Secretary shall consult with affected parties and shall specify conditions to protect all affected water users.

The EMC may consider allocations of different amounts and to different recipients than those recommended by the Division of Water Resources. The EMC invites comments on the recommended allocations, on the recommended amounts as compared with the requested amounts, and on the aforementioned allocation condition.

For more information, visit our project website at:

http://www.ncwater.org/Permits_and_Registration/Jordan_Lake_Water_Supply_Allocation/. You may also contact Sydney Miller in the Division of Water Resources at 919-715-3044, or email: sydney.miller@ncmail.net.

Addendum to Public Hearing Notice

ADDENDUM TO NOTICE OF PUBLIC HEARING

Jordan Lake Water Supply Storage Allocation: Round Three

March 18, 2002, 7:00 PM

The Public Works Commission of the City of Fayetteville (PWC) requested an allocation of Jordan Lake water supply storage at the time applications were submitted for Round Three, but had not quantified the amount requested pending the Division of Water Resources' completion of an updated Jordan Lake Drought Management Plan and other technical analyses. This work is underway, but the Division of Water Resources has not yet completed the updated Drought Management Plan. Fayetteville has now specified the amount of its requested allocation as 10 mgd, based on information currently available.

The North Carolina Environmental Management Commission (EMC) will hold a public hearing to receive comments on the Division of Water Resources' recommendations for Round Three of

Jordan Lake water supply storage allocation. This public hearing will start at 7:00 PM on March 18, 2002 at 512 N. Salisbury Street, Ground Floor Hearing Room, Archdale Building, Raleigh. In addition, staff will be available to answer questions from 6:30 PM to 7:00 PM, prior to the hearing. The public may inspect the staff's recommendation report during normal business hours at the offices of the Division of Water Resources, 512 N. Salisbury Street, Room 1106, Archdale Building, Raleigh. This document may also be viewed at the Division's web site: <http://www.ncwater.org>.

The purpose of this announcement is to encourage those interested in these matters to provide comments. You may attend the public hearings and make relevant oral comments and/or submit written comments, data, or other relevant information. We request that you bring a written version of your oral comments to the hearing. The hearing officers may limit the length of oral presentations if many people want to speak. If you are unable to attend, written comments can be mailed to Sydney Miller, Division of Water Resources, DENR, 1611 Mail Service Center, Raleigh, NC 27699-1611. Comments must be received before 5:00 PM, March 22, 2002. Comments may also be submitted electronically to sydney.miller@ncmail.net.

Attendees at Public Hearing

Name	Affiliation
Anne Barnes	NC Environmental Management Commission
Dan Boone	The Wooten Company
David S. Briley	CH2M Hill
Patrick Davis	Triangle J Council of Governments
Tim Donnelly	Town of Apex
Tom Fransen	NC Division of Water Resources
Thomas W. Glenn	City of Durham
Leila Goodwin	Town of Cary
E. Leo Green, Jr.	NC Environmental Management Commission
Chad Ham	Public Works Commission of the City of Fayetteville
Bill Kreutzberger	CH2M Hill
Jay Meyers	CH2M Hill
Sydney Miller	NC Division of Water Resources
John Morris	NC Division of Water Resources
Paul Peterson	Malcolm Pirnie
Narayan Rajbhandari	resident of Apex
Don Rayno	NC Division of Water Resources
James O. Roberson	Research Triangle Foundation
Terry Rolan	City of Durham
Elizabeth Rooks	Research Triangle Foundation
Stephanie Sudano	Town of Holly Springs
Rodney M. Tart	Harnett County Public Utilities
Steve Tedder	resident of Holly Springs
Sheila Thomas-Ambat	NC Division of Water Resources
Kendra Thompson	Town of Holly Springs
Paul Woolverton	Fayetteville Observer-Times

APPENDIX B. PUBLIC COMMENTS

This appendix includes all comments submitted to the Division of Water Resources on Round Three of Jordan Lake water supply storage allocations. The comments are provided in the same order as listed in the Summary of Comments section.



TOWN MANAGER'S OFFICE

March 21, 2002

RECEIVED
MAR 22 2002

Mr. Sydney Miller
Division of Water Resources
DENR
1611 Mail Service Center
Raleigh, NC 27699-1611

DIVISION OF
WATER RESOURCES

Dear Mr. Miller:

The purpose of this letter is to provide additional comments regarding the proposed water supply emergency condition to be added to Jordan Lake water supply allocations. I would like to reiterate the Town of Cary's support of the recommendations for Round Three of Jordan Lake water supply storage allocation. Our Water Resources Manager, Leila Goodwin, made a public statement addressing both these issues at the hearing on March 18, so I will not repeat the details included in that statement.

I would like to repeat, however, that the suggested condition is not consistent with the very detailed procedure included in N.C.G.S. Section 143-354 for dealing with water supply emergencies. Allocations from the Jordan Lake water supply pool should be treated the same as other water sources within the state. Otherwise, the reliability of Jordan Lake water supply allocations will be negatively impacted.

N.C.G.S. Section 143-354 and 15A NCAC 2G.0507 includes the following critical requirements, among others, for use of a water supply as relief for a water supply emergency:

- a. Upon determining an emergency exists, the Environmental Management Commission (Commission) must conduct a public hearing on the question of the proposed source of relief water.
- b. The Governor, not the Commission or the Secretary of the Department of Environment and Natural Resources, has the authority to declare a water emergency, which includes a specified area and a time period of no more than 30 days (which can be renewed). The Commission then has duties and powers to carry out the Governor's declaration.

TOWN of CARY

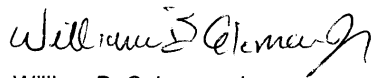
316 North Academy Street • Cary, NC 27513 • PO Box 8005 • Cary, NC 27512-8005
tel 919-469-4007 • fax 919-460-4929 • www.townofcary.org

- c. The recipient of the diverted water must first enact and enforce restrict water use to what is needed for human consumption, necessary sanitation and public safety.
- d. The recipient of the diverted water is liable for any loss or damage resulting from use of the diverted water, and must post bond for potential loss or damage. They must pay any costs to the State for use of a Jordan Lake water supply allocation.

The Town of Cary respectively suggests that if any water supply condition is added to Jordan Lake allocations, that condition should be consistent with and specifically incorporate the existing procedures in N.C.G.S. Section 143-354 and 15A NCAC 2G.0507.

Please call me at 469-4002, or Leila Goodwin at 462-3846, if you have any questions.

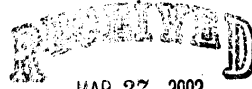
Sincerely,



William B. Coleman, Jr.
Town Manager



THE TOWN OF
**Holly
Springs**



DIVISION OF
WATER RESOURCES

March 22, 2002

Mr. John Morris
North Carolina Division of Water Resources
1611 Mail Service Center
Raleigh, NC 27699-1611

Subject: Comments on DWR Staff Recommendations for Round 3
Jordan Lake Water Supply Storage Allocation

Dear Mr. Morris:

At the October 13, 2001 meeting of EMC, the Division of Water Resources (DWR) staff released its recommendations for the Round 3 Jordan Lake Water Supply Storage Allocations. The purpose of this letter is to document our understanding of a meeting with you earlier this week and to provide additional information to support and to supplement our original application that was submitted in May 2001.

We have met with your staff several times since these recommendations were released, and understand that this recommendation was based in part on the fact that the Town's application identifies alternatives for accessing the requested allocation other than pulling it directly from Jordan Lake. The alternatives include an option for the Town to access its requested allocation through a proposed raw water intake on the Cape Fear River. At the time the application was prepared, this idea was clearly supported by the current contract between the Town of Holly Springs and the State of North Carolina for the Town's existing 2 mgd allocation. The existing contract contains language that would allow the Town to access its allocation from the Cape Fear River, below the Jordan Lake dam. However, since the Round 3 allocation process was initiated, the State has completed studies of the Cape Fear River and has moved towards considering the Cape Fear River as a water source more independent of the Jordan Lake.

P.O. Box 8
128 S. Main Street
Holly Springs, N.C. 27540

(919) 552-6221

Fax: (919) 552-5569

Mayor's Office Fax:
(919) 552-0654

Mr. John Morris
Page 2
March 22, 2002

In follow up to these meetings with you and your staff, the Town of Holly Springs would like to offer additional information relating to our needs for continued allocation of water from Jordan Lake.

Again, in our application, we included several options as we set forth our alternatives to provide suitable and sufficient water for our community. We included information on future alternatives to obtain additional water from Harnett County, from the City of Raleigh, from Jordan Lake, and from the construction of a new intake on the Cape Fear River. Due to the location of Holly Springs and the fact that we do not have our own withdrawal from a water source, we felt it imperative that we continue to evaluate all possibilities to ensure meeting the water needs for our citizens. Without our own withdrawal, we also felt the need to consider multiple sources for reliability purposes to ensure safe and sufficient drinking water in the event of problems with a single particular source. More specific information about each alternative source we have evaluated is provided, for your information, below. The information summarizes what we told you in our meeting earlier this week.

Recently, Holly Springs and neighboring communities to the north (Cary and Apex) have begun working successfully and progressively towards regionalizing wastewater infrastructure. In addition, there have been discussions over the past year and a half about transferring water between municipalities. This would simply involve re-instituting former purchase and transfer agreements that were in place as recently as 1999. In fact, emergency transfer agreements remain in place today. Our most recent discussions with both Apex and Chatham County have included the possibility of future negotiations to access our current allocation through their existing Jordan Lake intake. We see this as a viable way for our community to access its existing 2 mgd allocation. We also see the retention of this allocation as a way for us to continue those regional discussions.

Holly Springs plans to continue to receive water from the City of Raleigh - this is important, again, in insuring reliability for our community water source.

Mr. John Morris
Page 3
March 22, 2002

These plans will be subject to obtaining a renewal of our contract with the City of Raleigh after it expires in the future, but this is the case with any similar agreement with a government agency, and we see no reason that this will not occur.

Holly Springs also receives water from the Harnett County water system and plans to continue this arrangement, hopefully expanding this agreement in the future. Of course, obtaining additional water from this source would require expansions of their treatment facility, and therefore successful negotiations for additional capacity.

Holly Springs' last alternative mentioned was that of an intake to the Cape Fear to provide our own source of water without total reliance on other municipalities. This is presently considered a last option for the Town at this time and we do not expect to forward this action beyond the scoping state in the near future.

For the Town of Holly Springs, maintaining our current 2.0 mgd allocation from Jordan Lake is the top priority for our future water supply needs. The Town of Holly Springs is a growing community and retaining the allocation currently under contract from the Jordan Lake supply is very important to the Town. We were given the original allocation by the EMC in 1998, and have (to date) spent over \$25,000 plus much staff time in securing and in paying for reservation of the allocation. We would respectfully request that the Hearing Officers consider our situation and the information provided in this letter prior to final determinations on the Round 3 allocations from Jordan Lake.

It is our understanding from our meeting earlier this week that if the Town of Holly Springs withdraws more than the 2.0 mgd raw water allocation that it now holds in Jordan Lake, it is likely that an interbasin transfer certificate from the EMC would be required. Therefore, this letter is also to advise that the Town of Holly Springs is electing not to pursue an additional allocation at this time, but may consider such a request in the future if other alternatives are not successful.

Mr. John Morris
Page 4
March 22, 2002

In summary, the Town of Holly Springs is requesting no additional allocation from Jordan Lake at this time. The Town is, however, requesting that the EMC permit Holly Springs to retain its existing 2 mgd allocation in Jordan Lake.

I would like to thank you and your staff for your consideration of this new information submitted by the Town of Holly Springs. If you have any questions or comments regarding the additional information provided in this letter, please contact either me or Ms. Sudano at 919/557-3903.

I believe that the additional information that we have provided in this letter, and the revision to our initial request for additional capacity will both meet the Town's future water supply needs and satisfy the EMC's objectives in allocating this important water source.

Sincerely,

TOWN OF HOLLY SPRINGS



Carl G. Dean
Town Manager

SLS:km

cc: Leo E. Greene, Jr., EMC Hearing Officer
Anne Barnes, EMC Hearing Officer
Marion E. Deerhake, EMC Hearing Officer
Tom Fransen, DWR
Mayor and Town Commissioners, Holly Springs
Stephanie L. Sudano, P.E., Director of Engineering
Tommy Esqueda, CH2M HILL
David Briley, CH2M HILL

11823



Town of Apex

P. O. BOX 250
APEX, NORTH CAROLINA 27502

**Comments in Support of the Proposed Round Three
Jordan Lake Water Supply Storage Allocation Recommendations**

**Submitted for the Town of Apex by Timothy L. Donnelly, PE
Public Works and Utilities Director**

On behalf of the Town of Apex, I would like to thank the Environmental Management Commission and the Division of Water Resources staff for their efforts in developing the Round Three Storage Allocation Recommendations. Clearly, the recommendations have been accomplished with a very conservative approach that provides for the needs of all affected communities, were based on scientific facts and consistent with the prudent water supply management expected of the Environmental Management Commission and the Division of Water Resources. The process to develop these recommendations has been unbiased and has included the inputs of stakeholders prior to the development of the finished product. We would ask the hearing officers to acknowledge the thoroughness of the process by recommending the proposed allocations to the full Commission.

Also, we would ask the hearing officers to reject the proposed condition allowing the Secretary of DENR to make emergency reallocations. The North Carolina General Statutes already provide logical and enforceable procedures for emergency water management as part of the duties of the Commission (NCGS 143-354). We do not believe a separate set of conditions is necessary for the Round Three allocation.

March 18, 2002



**Comments in Support of the DWR Recommendations for the Round Three Jordan Lake
Water Supply Storage Recommendations**

Submitted by

Leila R. Goodwin, Water Resources Manager, Town of Cary

March 18, 2002

I would like to thank the hearing officers for your attention to this important issue. My comments will address two items: the DWR recommendations for Round 3 allocations, and the additional item mentioned in the public hearing notice regarding water supply emergency allocations or reallocations.

First, the Town of Cary requests that the Environmental Management Commission (Commission) grant the Round 3 Jordan Lake water supply allocations that have been recommended by the Division of Water Resources. DWR staff used objective scientific analysis in developing those recommendations, which are supported by the draft Cape Fear River Basin Water Supply Plan. That plan, which incorporates the Round 3 allocations, shows that there is enough water in the basin to meet users' projected needs through the year 2050.

We appreciate DWR's efforts in conducting an extensive stakeholder involvement process to define the allocation application process and data needs. This process resulted in submittal of reliable, consistent information on which they could base their analysis and recommendations. This stakeholder process will also serve as the basis for ongoing cooperative efforts to address Cape Fear River Basin water resources planning issues. Cary will continue to participate in the stakeholder meetings as DWR refines the Cape Fear River Water Supply Plan and develops a drought management plan for the Jordan Lake low flow augmentation pool.

Second, I would like to comment on the condition that the Commission is considering adding to Jordan Lake allocations. The condition specifies that the Secretary of the Department of Environment and Natural Resources could make emergency allocations or reallocations of the water supply storage at Jordan Lake in response to drought or water supply emergencies caused by contamination or infrastructure damage. The Town of Cary recognizes and supports the State's need to have the ability take emergency management measures regarding water supply. However, we believe it should be pointed out that there are already administrative and statutory procedures for managing such emergencies, and that this proposed condition is not consistent with those existing procedures.

Specifically, N.C.G.S. Section 143-354 (Attachment 1) establishes procedures for managing water emergencies. Under Section 143-354 (b) the Commission is authorized, upon the request of a governing body of a County, City, or Town, to conduct an investigation to determine whether emergency action is needed. This provision establishes procedures for making such a determination, and includes conducting a public hearing on the proposed source of relief water. Of particular importance, the Commission is required to notify the Governor, who is authorized

Page 1 of 7

to declare a water emergency and determine the source or sources of water available for relief. To our knowledge, the Commission itself is not currently authorized to make this determination. Once the Governor has declared a water emergency within a particular area of the State, the Commission is authorized, only within such area and only during the period of time specified by the Governor, to authorize diversion of water to the emergency area.

N.C.G.S. Section 143-354 specifies that the recipient of the emergency water supply must have first enacted and enforced emergency restrictions on the use of the water. The recipient is also liable for, and must post bond for, any loss or damage caused by the diversion of the water supply. Even more specifically, the provision specifies that in the case where the Commission has assigned supply storage to a local government from a federal project such as Jordan Lake, the recipient must assume every payment obligation to the State for the diverted water supply. The Commission's regulations (15A NCAC 2G.0507) (Attachment 2) reaffirm this requirement and, further, specify that holders of allocations from Jordan Lake will receive appropriate refunds if their allocations are adjusted, reassigned or otherwise amended.

It is Cary's opinion that Section 143-354 of the General Statutes adequately addresses the potential need to divert water during an extreme drought or a water supply emergency caused by contamination or infrastructure damage. In addition, each Jordan Lake allocation holder is required to have a Water Shortage Response Plan approved by DWR, which addresses the need for cooperation in managing the lake during regional drought scenarios. In view of the above, the Town of Cary recommends that any condition placed upon Jordan lake allocations regarding drought or water supply emergencies be consistent with, and specifically incorporate, the procedures and requirements in N.C.G.S. Section 143-354 and 15A NCAC 2G.0507.

ATTACHMENT 1

§ 143-354. Ordinary powers and duties of the Commission.

(a) Powers and Duties in General. - Except as otherwise specified in this Article, the powers and duties of the Commission shall be as follows:

- (1) The Commission shall carry out a program of planning and education concerning the most beneficial long-range conservation and use of the water resources of the State. It shall investigate the long-range needs of counties and municipalities and other local governments for water supply storage available in federal projects.
- (2) The Commission shall advise the Governor as to how the State's present water research activities might be coordinated.
- (3) The Commission, based on information available, shall notify any municipality or other governmental unit of potential water shortages or emergencies foreseen by the Commission affecting the water supply of such municipality or unit together with the Commission's recommendations for restricting and conserving the use of water or increasing the water supply by or in such municipality or unit. Failure reasonably to follow such recommendations shall make such municipality or other governmental unit ineligible to receive any emergency diversion of waters as hereinafter provided.
- (4) The Commission is authorized to call upon the Attorney General for such legal advice as is necessary to the functioning of the Commission.
- (5) Recognizing the complexity and difficulties attendant upon the recommendation of the General Assembly of fair and beneficial legislation affecting the use and conservation of water, the Commission shall solicit from the various water interests of the State their suggestions thereon.
- (6) The Commission may hold public hearings for the purpose of obtaining evidence and information and permitting discussion relative to water resources legislation and shall have the power to subpoena witnesses therefor.
- (7) All recommendations for proposed legislation made by the Commission shall be available to the public.
- (8) The Commission shall adopt such rules and

regulations as may be necessary to carry out the purposes of this Article.

- (9) Any member of the Commission or any person authorized by it, shall have the right to enter upon any private or public lands or waters for the purpose of making investigations and studies reasonably necessary in the gathering of facts concerning streams and watersheds, subject to responsibility for any damage done to property entered.
- (10) The Commission is authorized to provide to federal agencies the required assurances, subject to availability of appropriations by the General Assembly or applicable funds or assurances from local governments, of nonfederal cooperation for water supply storage and other congressionally authorized purposes in federal projects.
- (11) The Commission is authorized to assign or transfer to any county or municipality or other local government having a need for water supply storage in federal projects any interest held by the State in such storage, upon the assumption of repayment obligation therefor, or compensation to the State, by such local government. The Commission shall also have the authority to reassign or transfer interests in such storage held by local governments, if indicated by the investigation of needs made pursuant to subsection (a)(1) of this section, subject to equitable adjustment of financial responsibility.
- (b) Declaration of Water Emergency. - Upon the request of the governing body of a county, city or town the Commission shall conduct an investigation to determine whether the needs of human consumption, necessary sanitation and public safety require emergency action as hereinafter provided. Upon making such determination, the Commission shall conduct a public hearing on the question of the source of relief water after three days' written notice of such hearing has been given to any persons having the right to the immediate use of water at the point from which such water is proposed to be diverted. After determining the source of such relief water the Commission shall then notify the Governor and he shall have the authority to declare a water emergency in an area including said county, city or town and the source or sources of water available for the relief hereinafter provided; provided, however, that no emergency period shall exceed 30 days but the Governor may declare any number of

successive emergencies upon request of the Commission.

(c) Water Emergency Powers and Duties of the Commission. - Whenever, pursuant to this Article, the Governor has declared the existence of a water emergency within a particular area of the State, the Commission shall have the following duties and powers to be exercised only within said area and only during such time as the Governor has, pursuant to this Article, designated as the period of emergency:

- (1) To authorize any county, city or town in which an emergency has been declared to divert water in the emergency area sufficient to take care of the needs of human consumption, necessary sanitation and public safety. Provided, however, there shall be no diversion of waters from any stream or body of water pursuant to this Article unless the person controlling the water or sewerage system into which such waters are diverted shall first have limited and restricted the use of water in such water or sewerage system to human consumption, necessary sanitation and public safety and shall have effectively enforced such restrictions. Diversion of waters shall cease upon the termination of the water emergency or upon the finding of the Commission that the person controlling the water or sewerage system using diverted waters has failed to enforce effectively the restrictions on use to human consumption and necessary sanitation and public safety. In the event waters are diverted pursuant to this Article, there shall be no diversion to the same person in any subsequent year unless the Commission finds as fact from evidence presented that the person controlling the water or sewerage system has made reasonable plans and acted with due diligence pursuant thereto to eliminate future emergencies by adequately enlarging such person's own water supply.
- (2) To make such reasonable rules and regulations governing the conservation and use of diverted waters within the emergency area as shall be necessary for the health and safety of the persons who reside within the emergency area; and the violation of such rules and regulations during the period of the emergency shall constitute a Class 1 misdemeanor; provided, however, that before such rules and regulations shall become effective, they shall be published in not less than two consecutive

issues of not less than one newspaper generally circulated in the emergency area.

(d) Temporary Rights-of-Way. - When any diversion of waters is ordered by the Commission pursuant to this Article, the person controlling the water or sewerage system into which such waters are diverted is hereby empowered to lay necessary temporary water lines for the period of such emergency across, under or above any and all properties to connect the emergency water supply to an intake of said water or sewerage system. The route of such water lines shall be prescribed by the Commission.

(e) Compensation for Water Allocated during Water Emergency and Temporary Rights-of-Way. - Whenever the Commission, pursuant to this Article has ordered any diversion of waters, the person controlling the waters or sewerage system into which such waters are diverted shall be liable to all persons suffering any loss or damage caused by or resulting from the diversion of such waters or caused by or resulting from the laying of temporary water lines to effectuate such diversion. The Commission, before ordering such diversion, shall require that the person against whom liability attaches hereunder to post bond with a surety approved by the Commission in an amount determined by the Commission and conditioned upon the payment of such loss or damage. (1959, c. 779, s. 1; 1967, c. 1071, ss. 1, 2; 1973, c. 1262, s. 23; 1991, c. 342, s. 15(b); 1993, c. 539, s. 1033; 1994, Ex. Sess., c. 24, s. 14(c).)

ATTACHMENT 2

15A NCAC 02G .0507 LOSS OF ALLOCATION

- (a) The Commission will review the Level I and Level II allocations at five year intervals, beginning on the effective date of the first allocation.
 - (b) Level I allocations will be reviewed for possible reassignment if the recipient does not begin to withdraw water within five years of the effective date of allocation or is not using and withdrawing the water as proposed in the application.
 - (c) Level I and Level II allocations will be rescinded upon failure by the local government to meet the regulation requirements in .0506 (a), (b), and (c).
 - (d) The Commission may adjust, reassign, or transfer interests in water supply storage held by local governments, if indicated by an investigation of needs or changes in the project's water supply storage capacity. Capital, interest, and operating costs will be equitably adjusted to reflect the allocation recipients' proportion of total capacity.
- Holders of Level I and Level II allocations will receive appropriate refunds for any payments made if their allocations are adjusted, reassigned, or otherwise amended with the approval of the Commission. Rescinded allocations will not be refunded.
- (e) The Commission shall hold a public meeting to obtain comments and information regarding the proposed loss of allocation.

History Note: Authority G.S. 143-215.3(a)(1); 143-354(a)(11); 143B-282;

Eff. March 1, 1988.

STEPHEN H. HALKIOTIS, CHAIR
BARRY JACOBS, VICE CHAIR
MARGARET W. BROWN
MOSES CAREY, JR.
ALICE M. GORDON

ORANGE COUNTY BOARD OF COMMISSIONERS
POST OFFICE BOX 8181
200 SOUTH CAMERON STREET
HILLSBOROUGH, NORTH CAROLINA 27278



June 4, 2001



DIVISION OF
WATER RESOURCES

Mr. John Morris, Director
North Carolina Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

RE: Jordan Lake Water Allocation for the Orange Water and Sewer Authority

Dear Mr. Morris:

I am writing on behalf of the Orange County Board of Commissioners to support the Orange Water and Sewer Authority's (OWASA) request to voluntarily reduce their allocation of Jordan Lake water supply storage from 10 to 5 million gallons per day.

As you know, Carrboro, Chapel Hill, and Orange County have worked very closely with OWASA to proactively protect and maximize our local water resources. We believe OWASA's request to retain a portion of their Jordan Lake allocation is thoughtful and prudent planning. We also believe OWASA's proposed reduction of their Jordan Lake allocation reflects the significant progress we have collaboratively achieved to maximize our local water resources.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Halkiotis", is written over a horizontal line.

Stephen Halkiotis, Chairman
Orange County Board of Commissioners

Enclosure

- c: Mayor Rosemary Waldorf, Town of Chapel Hill
- Mayor Michael Nelson, Town of Carrboro
- Mr. Calvin Horton, Chapel Hill Town Manager
- Mr. John Link, Orange County Manager
- Mr. Robert Morgan, Carrboro Town Manager
- OWASA Board of Directors
- Ed Kerwin, OWASA Executive Director

Protecting and preserving – people, resources, quality of life
Orange County, North Carolina – You Count!
(919) 245-2130 • FAX (919) 644-0246

STATEMENT BY FAYETTEVILLE PUBLIC WORKS COMMISSION

**March 18, 2002 Public Hearing
Jordan Lake Water Supply Storage Allocation: Round 3**

My name is Chad Ham. I am the Water Resources Environmental Programs Manager for the Water Resources Division of the Public Works Commission of the City of Fayetteville. This evening I would like to summarize our comments regarding the North Carolina Division of Water Resources' recommendations for Round 3 of Jordan Lake water supply allocation.

A major part of the Round 3 decision-making process was to include critical technical studies promised by the State when Round 3 was initiated. Unfortunately, we lack completed information from these studies that was deemed necessary to make allocation decisions and provide assurances to basin stakeholders. We thus believe that it would be inappropriate for the State to now make final Round 3 decisions when essential Cape Fear Basin information is still under development.

The entire Round 3 process and schedule was predicated on the State providing additional technical information. This new information was specified in DWR's June 23, 2000 schedule that was used as the basis on which the EMC opened Round 3 in July 2000. According to that schedule, the additional studies were to be completed well before making final Round 3 decisions. Extensive stakeholder involvement went into determining Round 3 actions that would best meet everyone's needs. Among the critical studies committed to by the State are:

1. Drought management plan for Jordan Lake.
2. Analyses of 50% watershed rule for Jordan Lake.
3. Safe yield analyses for Jordan Lake.
4. Cape Fear River Basin water supply plan.

Allow me to elaborate on the need for each of these studies, beginning with the need for completion of a revised Jordan Lake drought management plan. We do not yet know how Jordan Lake storage will be managed in the future during drought conditions to maintain Cape Fear River minimum flow requirements. We need more assurance that water quality storage can be managed to maintain minimum target flow requirements at Lillington. In clear evidence of this need, nearly 70% of Jordan Lake's water quality storage was depleted last year in the period leading up to January 2002. This occurred despite substantial cutbacks in Jordan Lake releases. Both historical Jordan Lake operations and projected water quality pool failures have demonstrated that a revised drought management plan is needed to assure downstream communities of adequate minimum flow maintenance during severe drought conditions.

Another Round 3 study to which the State committed was analysis of the 50% watershed rule for Jordan Lake. This refers to the current administrative rule that limits allocations resulting in diversions out of Jordan Lake's watershed to 50% of the total water supply yield. In its October 2001 Round 3 allocation recommendations, DWR projected a 2030 watershed diversion of 40 mgd, or 40% of Jordan Lake's estimated 100 mgd safe yield. In other words, if DWR's recommendations were approved, only an estimated 10% of the water supply storage would remain available for allocated use outside Jordan Lake's watershed. Absent a well-constructed drought management plan, and absent changes to the 50% rule, the small remaining fraction of water supply storage would be inadequate to assure adequate Cape Fear River flows for PWC and other downstream users. DWR has maintained that water supply storage allocations do not affect Jordan Lake's ability to meet downstream flow targets. However, that is simply not true if allocations are needed for downstream users due to inadequacy of the water quality pool or failure to develop a drought plan. Studies are not in place to show that the small remaining fraction of storage would be adequate to meet future downstream flow augmentation needs.

Another promised Round 3 study was confirmation of the basic assumption about Jordan Lake water supply safe yield. Decision-makers are still missing this crucial data needed to make well-informed allocation decisions. A 100 mgd safe yield estimate continues to be relied on for allocation recommendations. However, only 10 days ago, DWR staff presented preliminary results to basin stakeholders showing that the recurrence interval associated with a 100 mgd yield from Jordan Lake is about 225 years. DWR has recommended that systems serving more than 50,000 people should estimate reservoir safe yield based on a drought event with a 50-year recurrence interval. For Jordan Lake, DWR's preliminary results show that its estimated safe yield would increase to about 120 mgd based on a 50-year recurrence interval. Furthermore, this safe yield estimate is conservatively low since it ignores the 50% watershed rule and simply assumes that no water supply withdrawals are returned to Jordan Lake's watershed. This preliminary information indicates that reliability of the water supply pool is much higher than previously thought. Likewise, an allocation of 1% of the water supply pool will result in a substantially larger safe yield benefit than 1 mgd. If this critical safe yield information had been developed earlier as intended, then smaller percentage allocations of the water supply pool should logically have been recommended.

Just last month, DWR reported finding and correcting major errors in how lake evaporation was simulated in the Cape Fear River Basin Model. The model now produces substantially different simulation results. DWR has indicated that the model errors were detected as a direct result of initiating the Jordan Lake safe yield analysis. We believe this provides another clear example of why it is so important to complete basic studies before moving forward with additional allocations. We also continue to advocate that more sophisticated model validation procedures be used to ensure that we now have a hydrologic model that produces trustworthy results.

A final example of a study commitment for Round 3 is the Cape Fear River Basin water supply plan. DWR has made substantial progress in this regard and has circulated drafts of the plan to stakeholders for review. However, the draft plan has not progressed to the point where drought management is incorporated, nor has Jordan Lake safe yield analysis or evaluation of the 50% watershed rule yet been incorporated. PWC and other basin stakeholders downstream of Jordan Lake have also expressed concerns that the plan does not fairly address our future water needs. For example, the plan does not consider maximum water withdrawal requirements for run-of-river withdrawals, instead simply relying on comparison of average day demand to available supply. PWC's maximum weekly demand factor of 1.44, when applied to our 2030 average day demand projection of 63.4 mgd results in maximum projected weekly demand that exceeds DWR's estimate of our available supply. Our projected 2030 deficit under maximum daily demand conditions would be still higher. Based on this forecasted deficit, and based on past excursions of Cape Fear River flows at Lillington below the minimum target level, PWC has requested a Round Three allocation of 10 mgd. Absent a drought management plan for the Jordan Lake water quality pool, we really had no choice but to make this allocation request since there is still no formal plan for how adequate flows below Jordan Lake will be maintained, even during severe drought. Our future needs have yet to be evaluated from these perspectives in the State's planning efforts. Although the Cape Fear basin plan is progressing, it is far from being the final plan that was promised when Round 3 was opened 20 months ago.

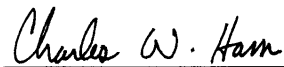
In conclusion, PWC respectfully asks that the EMC defer further consideration of Round 3 allocation recommendations until such time that the promised drought management plan, basin plan, and related hydrologic analyses are completed. Only then will potential downstream allocation needs be adequately known. Since allocations are generally long term, it does not seem unreasonable to defer action for several months until all supporting technical information is finalized.

We recognize that staffing and budget limitations at DWR and other agencies may make it more difficult to accomplish required studies and analyses within a certain timeframe. However, PWC fails to see that as a valid reason to abandon the critical information needs established, and committed to by the State, as prerequisites for making Round 3 allocation decisions. It is further requested that the EMC establish a time frame to complete these studies. Now is the time to correct these deficiencies in the allocation process, while the relevant technical issues are still fresh in the minds of DWR staff and stakeholders.

On a final note, PWC supports the EMC adding a condition to future Jordan Lake allocations that would allow the State to make emergency allocations or reallocations of water supply storage at Jordan Lake to respond to extreme drought or other water supply emergencies that threaten the ability of a public water supply system to meet the public health and safety needs of its customers.

Thank you for the opportunity to express the views of the Public Works Commission of the City of Fayetteville.

Respectfully submitted by:



Charles W. Ham
Water Resources Environmental Programs Manager
Water Resources Division
Public Works Commission of the City of Fayetteville

DIVISION OF ENVIRONMENTAL HEALTH

County Wake

Inter-Agency Project Review Response

Project Name Holly Springs Type of Project Raw water Intake, WTP, raw water & finished water lines.
Comments provided by: Scoping letter

- Regional Program Person
- Regional Engineer for Public Water Supply Section
- Central Office program person

Name: Sid Harvell Date: 3-26-02

Telephone number: (919) 715-3216

Program within Division of Environmental Health:

- Public Water Supply, DWSRF
- Other, Name of Program: _____

Response (check all applicable):

- No objection to project as proposed
- No comment
- Insufficient information to complete rev
- Comments attached
- See comments below

Post-It® Fax Note	7671	Date	<u>3/26/02</u>	# of pages	<u>1</u>
To	<u>Sydney Miller</u>	From	<u>Sid Harvell</u>		
Co./Dept.	<u>DWR</u>	Co.	<u>PWS</u>		
Phone #		Phone #	<u>5-3216</u>		
Fax #	<u>3-3550</u>	Fax #			

The State of North Carolina through the Clean Water and Natural Gas Critical Needs Bond Bill of 1998 has provided \$5.9M in grants to fund the construction of a transmission main from the Harnett County WTP at Lillington to the Town of Holly Springs. This main, operational in April of 2001, along with pump stations and tanks is capable of supplying about 16 mgd to the Town. In a June, 1998 Preliminary Engineering Report, excerpts attached, this main and the alternative of a Holly Springs WTP on the Cape Fear River were explored. The main was by far the preferred alternative at that time. A reexamination of the alternative of increased supply through this main verses a new WTP would likely produce similar results.

Return to:

Public Water Supply Section
 Environmental Review Coordinator
 for the
 Division of Environmental Health



ORANGE WATER AND SEWER AUTHORITY

Quality Service Since 1977

March 14, 2002

Dr. David H. Moreau, Chairman
North Carolina Environmental Management Commission
1617 Mail Service Center
Raleigh, NC 27699-1617

Subject: Jordan Lake Water Supply Storage Allocations, Round Three

Dear Dr. Moreau:

This letter is to convey Orange Water and Sewer Authority's comments for the Jordan Lake Water Supply Storage Allocation, Round Three public hearing record.

As you know, OWASA has historically played an active role in Triangle Area water resources planning and management and has held a Level II Jordan Lake allocation ever since the Environmental Management Commission (EMC) first allocated water supply storage in 1988. Most recently, our staff participated in the Division of Water Resources' highly interactive and collaborative process in which the Round Three application procedures were developed. OWASA applauds the Division's efforts, which we believe resulted in consistent and equitable methods of estimating future water supply needs and Jordan Lake's potential role in meeting them. We believe that the Round Three application process and the Division's recommendations has been by far the most effective effort to date for allocating Jordan Lake's water supply storage capacity within the larger regional and long-term planning context.

We also note and appreciate the Division's agreement with OWASA's voluntary offer to reduce our existing storage allocation from its present level of ten percent down to five percent. We strongly disagree, however, with the Division's recommendation that OWASA not be reimbursed for a portion of our previous payments of nearly \$150,000 for the 10 percent Level II allocation we have held since 1988. Please note that NCAC Section T15A:02G.0507(d) of the EMC's Jordan Lake Water Supply Storage Allocation Rules explicitly anticipates circumstances such as ours and provides for a proportional reimbursement of payments already made:

"Holders of Level I and Level II allocations will receive appropriate refunds for any payments made if their allocation are adjusted, reassigned, or otherwise amended with the approval of the Commission."

The Division has recommended that reimbursements only be made to allocation holders for the amounts of *principal* they have paid on the original capital investment costs for any allocation

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Jordan Lake Water Supply Allocation
Public Hearing Comments by Orange Water and Sewer Authority
March 14, 2002
Page 2

amounts reassigned; i.e., the Division is recommending that only holders of reassigned Level I allocations be reimbursed. Although we recognize the logic of the Division's recommendation, we believe that the EMC's intent to reimburse holders of Level II allocations as well as Level I was clear and unambiguous, as indicated by the citation quoted above. With all due respect, we trust that the Commission will follow its own rules and reimburse OWASA for an appropriate amount of payments already made.

Once again, we applaud the Jordan Lake Round Three process and the Division's allocation recommendations and we thank you in advance for considering our reimbursement request.

Sincerely,



Ed Kerwin
Executive Director

cc: Mr. John N. Morris, Director, NC Division of Water Resources
Mr. Sydney Miller, NC Division of Water Resources
OWASA Board of Directors

Subject: RE: Jordan Lake Allocation - Round Recommendations
Date: Fri, 5 Oct 2001 14:18:31 -0400
From: Bobby Long <BobbyL@workplaceoptions.com>
To: "Sydney Miller" <Sydney.Miller@ncmail.net>

Mr. Miller,

I have been following the allocations of Jordan lake closely the last year. I have a few questions about these allocations. To give you a short background, Im an avid fisherman and Jordan lake is one of my favorite lakes. My concern in reference to my hobby is, how will this effect lake levels with the large withdrawals demands made by Cary, Apex, and Morrisville? I'm concerned that the lake levels will fluctuate drastically, especially during periods of drought. This would have a very significant impact on the fishery (especially during spawning periods in the spring). Will the Army Corp of Engineers keep the lake at a higher pool level to offset these withdrawals? I know fishing has little significance compared to water needs of the exploding growth in this area, but a rural way of life is what has kept me in North Carolina most of my life. This brings me to my second point.

I feel that Cary (especially) and Raleigh have grown out of control without regard to the resources it consumes. Growth in an of itself is not bad, but Cary has "created a monster" that it no longer can control. Their demand on land and water have come with little or no regard to the people or property they have taken. This topic could consume several pages so I will leave my thoughts brief. Im not a "no growth, tree hugger", as a matter of fact I'm closer to the Libertarian line politically, but I have watched these municipalities involuntarily condemn property and grab resources "willie-Nillie" much to my dismay. Ive lived in municipalities of great number (Alexandria, VA for 5 years), and I can see the Triangle area headed in that direction. North Carolina has been home to me for several years, and I love being here because it offers rural hospitality with some conveniences of city life.

I guess in closing I understand the numbers in all the Allocation Requests, but I want to know how it effects Jordan lake. Thank you very much for your time in this matter.

Respectfully,

Bobby E. Long MCP, MCSE
Network Engineer
bobbyl@workplaceoptions.com
Phone: 919 834-6506 x3007
Cell: 919 880-2871
Pager: 919 982-0510

Jordan Lake Water Supply Storage Allocation Recommendations: Public Hearing.

Narayan B. Rajbhandari, Ph.D.
3001 Cregler Drive,
Apex, NC-27502.

March 18, 2002.

I humbly thank the forum chair for giving me a chance to speak a few words regarding the Jordan Lake water supply storage allocation recommendations. Today, I am very pleased to speak as a resident of Apex, NC. The Jordan Lake water supply scheme as presented today was excellent and well prepared. I have no comments on the scheme. However, I have some concerns regarding the conservation of water in the Jordan Lake for the long-lasting water supply. As we all know, the Jordan Lake receives 70 to 90 percent of water from the Haw River. The Haw River originates in the piedmont near Oak Ridge in Guilford County and drains 1,526 square miles through Caswell County, Orange County, and Chatham County. I am afraid that if the current rate of population growth (about 9 to 11 %) continued for another decade in these four counties, we might have to sacrifice the valuable forested resources of the river basin for the sake of residential and commercial development in the near future. As a consequence, we might not be able to receive water from the river as much as we are receiving today. We can take an example from my home country Nepal, where 60 percent of the land was covered by forests about 30-40 years ago. Because of the growing population and mismanagement of forestlands, the country lost more than half of its forestlands. As the result, the county is now facing water scarcity throughout the year. Therefore, my request is to incorporate the conservation plan of the forestlands as well along with the Jordan Lake water supply scheme. Otherwise, our dream of long term water supply might not come true. Thank you.

Jordan Lake Water Supply Storage Allocation
Round Three Public Hearing
March 18, 2002

Comments Submitted by
James O. Roberson, President
Research Triangle Foundation

Good Evening. I am speaking on behalf of the Research Triangle Foundation, the owner and developer of the Research Triangle Park. I appreciate the opportunity to comment on the Round Three Allocation Recommendations for Jordan Lake.

The Research Triangle Park has been an important force in the economic well-being of the Triangle Area and of North Carolina in general. RTP was created in 1959. Today it encompasses 7000 acres, houses 144 companies and provides jobs for approximately 42,000 people. We have approximately 1200 acres of land remaining in vacant lots. During the 1990s we saw unprecedented growth in RTP, not just from new companies coming to the Park, but also from expansion of existing companies. Clearly provision of adequate water supply is crucial to the continued development of the Research Triangle Park and to the retention and potential future expansion of the companies which have already located in RTP.

The Research Triangle Park will be affected by the Round Three Allocations in two ways: First, Wake County has requested an allocation on behalf of the portion of RTP which is located within its jurisdiction. The Division of Water Resources has recommended allocating an additional 2.0 mgd for a total allocation of 3.5 mgd for the Wake County portion of RTP. This is calculated to meet our needs in Wake County through 2030. We are supportive of this recommended allocation. Second, the Durham County portion of RTP receives its water from the City of Durham. The water supply available from Durham's current reservoirs (Little River and Lake Michie) has reached a point in relation to demand that Durham needs to look for additional water supply sources. The Division of Water Resources has recommended a total allocation of 10 mgd for the City of Durham, which will be the first allocation for Durham from Jordan Lake. We are also supportive of this recommendation and we encourage the Environmental Management Commission to approve both of these allocations.

The Town of Cary has raised a concern about the condition concerning procedures for emergency allocation that the Commission is considering adding to the Jordan lake Allocations. We certainly support the need for the State to have the ability to take emergency steps in the event of a severe drought but we

would urge that any such emergency drought procedures be consistent with existing regulations.

Thank you very much for the opportunity to comment on these recommendations.

Terry Rolan's Statement – City of Durham
(transcript from public hearing on March 18, 2002)

Good evening. My name is Terry Rolan and I am the Director of Environmental Resources for the City of Durham. I do not have prepared remarks this evening, but our Mayor, William Bell, has sent a letter to each of the Hearing Officers and to each of the members of the Environmental Management Commission regarding our request. The City of Durham was the primary requestor, I guess, to get Round Three going and we are glad to be at this stage of the process now. Our 37 million gallons a day, as Sydney has indicated earlier, will take us until about 2010 and as many of you know, that is not long enough to get a new reservoir built and if we don't get an allocation from Jordan Lake, the City of Durham could be in a bad situation by 2010. So, we are glad to see this recommendation for 10 million gallons a day. We had requested 20 originally, but since all the water is not being allocated, we believe the 10 million gallon allocation, in combination with some other possibilities, would be adequate to meet our short-term needs, at least.

I would also like to point out that this summer, if you haven't ever seen what a 28-foot-below-lake looks like I got a picture here I will share with you after the hearing is over, both of our lakes set record low levels this year. Lake Mickey got down to a point of 22.8 feet below full and Little River Lake to a point of 28.4 feet below full. Now, both of those lakes combined have a safe yield of 37 million gallons per day and we were treating about, or our demand was running about, 34 million gallons per day this summer, so we were pressing our lakes to the limit this year, because it was a record dry year, I believe, based on our records anyway. It was probably the driest year we have had since 1933 and 1941, so we are really pleased to be considered for this allocation and hope that you will support that.


Finally, I would just like to say on the existing, or the authority rather, that is included here: recommendation for authority for emergencies. We believe that the existing regulations are adequate to address those concerns and we don't really need additional regulations to address emergency situations. I appreciate the opportunity to comment tonight and thank you for the consideration.

Town of Holly Springs

Round 3 Jordan Lake Water Supply Allocation Public Hearing Comments

TO: EMC Members

COPIES: Division of Water Resource Staff

FROM: Stephanie L. Sudano, P.E., Director of Engineering on behalf of the 
Town of Holly Springs

DATE: March ~~18~~²², 2002

Thank you for the opportunity to provide public comment on the Round 3 Jordan Lake Water Supply Allocation Process this evening. My name is Stephanie Sudano, and as the Director of Engineering, I offer the following comments on behalf of the Town of Holly Springs.

- **Growth and Development:** The Town of Holly Springs has experienced rapid growth in recent years. The Town's population increased from 1,024 in 1990 to 9,200 in 2000. Sustained, planned growth is expected to continue with the Town's population projected to exceed 100,000 by 2030.
- **Water Supply Needs:** To support the continued, planned growth and development, of the Holly Springs community, water demands are projected to increase to 12.2 mgd by the year 2030. These demand projections do incorporate expected reductions due to an aggressively-pursued water conservation program, including planned water reclamation and reuse projects.
- **Current Water Supply Availability:** Currently, the Town's water supplies include bulk purchase contracts with both the City of Raleigh and Harnett County totaling 3.2 mgd. The Town also has a 2-mgd allocation from the Jordan Lake water supply pool. Therefore, the Town of Holly Springs needs to secure additional water supply by 2010 in order to meet the peak day demands of its service area. The contract with the City of Raleigh cannot be considered a guaranteed long-term water supply option, as the contract expires in 2017. Therefore, the Town of Holly Springs must secure a long-term water supply source in order to meet planned needs.
- **DWR's Recommendations:** In its recommendations for Round 3 of the Jordan Allocation process, the North Carolina Division of Water Resources staff made two recommendations:
 - That no additional allocation be granted to the Town; and
 - That the Town's existing 2.0-mgd allocation (obtained in Round 2 allocations) from the Jordan Lake water supply pool be rescinded

We believe that there is no precedent for DWR's recommendation to rescind Holly Springs' existing 2 mg allocation. DWR staff's recommendations are based upon its analysis that sufficient water supply is available from the Cape Fear River to meet the Town's needs through 2050. The Town is currently working to complete an Enhanced Environmental Assessment in request for a new raw water intake to withdraw water from the Cape Fear River via a water treatment facility. However, this project is in the very early stages of development, and is far from permitted at this date. Therefore, it is not prudent for the Town of Holly Springs to rely upon this option alone for its long-term water supply.

- **Revised Information per DWR staff recommendation:** The Town wishes to maintain its existing Jordan Lake allocation and be granted an additional allocation to provide the Town with a reliable water supply source to meet its community's needs. In this vein, the Town recently met with DWR staff and, with their recommendations, submitted additional information to DWR regarding its Jordan Lake allocation request. The Town Manager has had additional discussions with both the Town of Apex and with Chatham County recently about the possibility of Holly Springs negotiating with them in the future to access its allocation via the two existing Jordan intakes. Those discussions have been favorable.
- **Town's Requests:** The Town requests that the EMC support Holly Springs' ability to retain its existing 2 million gallon allocation. In addition, the Town requests that the EMC support Holly Springs' application for additional allocation from the Jordan Lake water supply pool so that the Town can continue to maintain a reliable water supply to meet the needs of its planned growth. As DWR staff has interpreted is necessary, the Town will proceed with the IBT Certification process for the additional allocation requested.

Comments by Rodney Tart of Harnett County

Round 3 Jordan Lake Public Hearing March 18, 2002

On behalf of Harnett County Public Utilities, I'd like to commend the Division Water Resources for developing the process for Jordan Lake Round 3 Application Request. We recognize that water supply planning is such an important issue within the rapidly growing area of the Triangle and Lower Cape Fear Basin. The stakeholders workshops held to develop the process concurrently with the application period served as an invaluable tool that not only encouraged communication, interlocal cooperation, but a better understanding of technical and political issues that face us all. As professionals we all recognize that there is a degree of uncertainty in water supply planning. We all have to look after our individual systems. Sitting back and not being proactive is not a viable option. We would, therefore, like to register our comments.

During the stakeholders process it became abundantly clear that all of us have a tremendous value in Jordan Lake. The value not only extends to systems that pull directly from the lake, but also to those of us that draw from downstream. The water supply has become more reliable to the extent we don't have as severe of low flow conditions that we once had. In

apportioning the allocation from the lake we need to continue to consider the value of the lake. There should , and needs to be, a degree of equity shared by both direct users and downstream users in the basin.

The allocation evaluation process considered only average demand usage. While this is appropriate for those drawing from the reservoir, it is not appropriate for users drawing from a run of river source like we are. The limits of withdrawal in low flow conditions will be gauged by the maximum day demand and not average demands. This will, in effect, require us and other downstream users to construct offstream storage reservoirs to allow us to continue service at maximum day conditions. Our most cost effective reservoir is to count on release from Jordan Lake. We believe that the modeling scenario should be adjusted to evaluate these maximum day withdrawals.

Harnett County's round 3 allocation water demand projection showed the need for additional water supply greater than 30 years out and therefore not eligible for Round 3 allocation. Harnett County water system is a Regional Facility providing water to communities in Wake, Johnson, Moore , Lee and Cumberland Counties, as well as Harnett County. We need to be vigilant to ensure adequate supplies are available for our regional partners.

We will continue to be a part of these proceedings and will request consideration in the Round 4 allocation process.

Thank you for your consideration.

APPENDIX C. DROUGHT OPERATION CURVES

This appendix includes the chart describing the Jordan Lake operation curves for the B. Everett Jordan Lake Drought Contingency Plan. The complete Drought Contingency Plan may be found in Exhibit B of the US Army Corps of Engineers' 1992 Water Control Manual for the B. Everett Jordan Project.

1 YEAR BY DAYS 46 2890
 X 250 DIVISIONS
 HUNTER & LESSER CO.

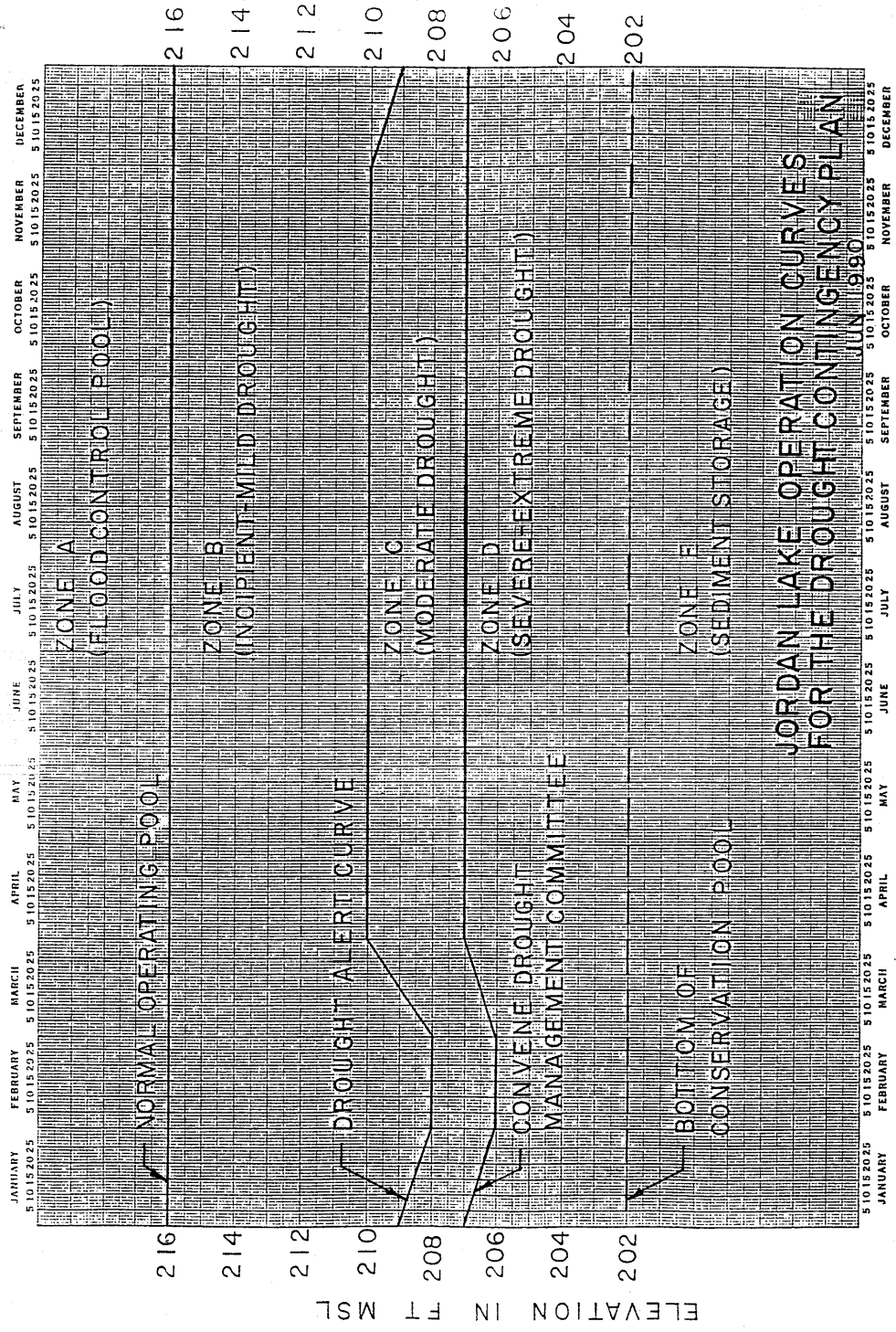


EXHIBIT 1