

## Impact of Interbasin Transfer within the Yadkin River Basin

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The purpose of this memorandum is to briefly summarize information in the Environmental Impact Statement (EIS) for the Cities of Concord and Kannapolis regarding the ability of the Yadkin River Basin to sustain a 10 MGD Interbasin Transfer (IBT).

### Background on IBT Request

The preferred alternative to meet water supply needs for the Cities is a combination of alternatives involving a regional solution to Cabarrus County's water supply needs. The Town's are requesting an average IBT of 24 MGD from a combination of transfers from the Catawba River Basin and the Yadkin River Basin to the Rocky River subbasin (which is within the overall Yadkin River Basin). An additional feature of the request is that the Cities are requesting a maximum day transfer of up to 10 MGD from the Yadkin River Basin and up to 38 MGD from the Catawba River Basin. One reason for this part of the request is that the IBT statute requires that IBT certificates be based on maximum day transfers. In addition, this combination of average and maximum day transfer limits the total transfers while providing the Cities flexibility in dealing with drought conditions in either river basin and in working with other local governments to meet regional water supply needs.

### Effects on the Yadkin River Source Basin

The effects of the various alternatives are evaluated in Section 2 of the EIS. The effects on hydroelectric operations and lake levels were evaluated based on consultation with ALCOA which operates many of the Yadkin River Lakes. This analysis is presented on page 2-44 and 2-45 and in Appendix C of the EIS. It is important to note that the transfers that were originally evaluated included a sustained IBT of 14 MGD and 24 MGD and were evaluated based on withdrawals from either High Rock Lake or from a combination of Tuckertown and Badin Lakes (through the City of Albemarle). In addition, lake levels were evaluated based on an extremely conservative assumption of no inflow to Tuckertown and Badin Lakes. The average day withdrawal of the Preferred Alternative (as shown in Table 5 on page 1-7) will be less than 6 MGD. This will have a much smaller drawdown than the analyzed alternatives. This IBT will have no impact on High Rock Lake.

## IBT Effects during a Drought

The Preferred Alternative was selected because of the flexibility to meet water supply needs through regional cooperation and to provide flexibility during drought conditions. The Cities of Concord and Kannapolis were in an extreme drought condition for almost 5 years from 1998 through early 2003. The drought impacted them severely because they have a small watershed for their water supply reservoirs with fairly large storage volumes that are slow to recover. Through this period, the Cities implemented aggressive water conservation measures. Their tier 2 rate structure has been implemented to discourage irrigation and has been very effective as a baseline conservation measure.

The 2001-2002 drought on the Yadkin River was the drought of record and well-beyond droughts used for water supply planning. The impacts of the drought were most significant on High Rock Lake and on downstream flows into the Pee Dee River. The proposed IBT will not impact High Rock Lake and transferred water (including transfers from the Catawba River) returns to the Yadkin River above Blewett Falls Lake – the most downstream lake on the Yadkin River chain. Therefore, the minor downstream flows effects shown in Table 18 (page 2-45 of the EIS) will be limited to the areas below Badin Lake and the confluence with the Rocky River.

The Cities of Concord and Kannapolis have a drought contingency plan that was developed through the experiences of the recent drought of record. They have a history of prudent water use and aggressive water conservation. This plan will be modified after their system is expanded based on the outcome of the IBT certificate process.