
2010 Annual Report on Interbasin Transfers for The Cities of Concord and Kannapolis

Prepared for
**City of Concord
City of Kannapolis**

Submitted to:
North Carolina Division of Water Resources

January 2011

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Executive Summary

The 2010 Annual Report on Interbasin Transfers (IBTs) for the Cities of Concord and Kannapolis (Cities) includes monitoring data for daily tracking of IBT amounts and documentation of compliance with all IBT Certificate conditions. Annual reports were previously prepared for calendar years 2007, 2008, and 2009 and are available on the North Carolina Division of Water Resources (NCDWR) website.

The North Carolina Environmental Management Commission (EMC) approved the Cities' IBT Certificate in January 2007 authorizing transfers of up to 10 million gallons per day (mgd) from the Catawba River Basin to the Rocky River Basin and 10 mgd from the Yadkin River Basin to the Rocky River Basin. Additionally, a grandfathered IBT of 6 mgd authorizes transfer from Second Creek, located in the South Yadkin River Basin, to the Rocky River Basin. The terms "Cities" and "Certificate Holders" are used interchangeably herein.

In 2010, the Certificate Holders complied with all conditions of their IBT Certificate. The Cities of Concord and Kannapolis purchased small amounts of water from Charlotte-Mecklenburg Utilities (CMU) from the Catawba River Basin during 2010. The maximum daily transfer from the Yadkin River Basin was 0.3 mgd.

In 2010, the City of Kannapolis did not pump water from Second Creek to Kannapolis Lake under its South Yadkin River Basin grandfathered IBT. Water sales to Landis averaging 0.20 mgd resulted in an IBT to Second Creek (South Yadkin River Basin) during 2010. The maximum day transfer to the South Yadkin River Basin was 0.54 mgd. IBT amounts for 2010 are provided in Table ES-1. The 2010 IBT daily transfers for Concord and Kannapolis are shown in Figure ES-1.

In addition, a settlement was reached in 2010 on a lawsuit filed by the Catawba River Foundation, Inc. and the Protect the Catawba Coalition. While this does not change the IBT Certificate or required reporting in any way, the Cities did agree to some operational conditions regarding the Catawba River Basin during times of drought.

TABLE ES-1
 2010 IBT Average Annual & Maximum Day Demands for Concord and Kannapolis Service Areas
Annual Report on Interbasin Transfers for the Cities of Concord and Kannapolis

Year	Catawba River Basin			Yadkin River Basin			Second Creek ^d (South Yadkin River Basin)		IBT as % of Grand- fathered Amount ^e
	Water Purchase (mgd) ^a		IBT as % of Certificate ^b	Water Purchase (mgd)		IBT as % of Certificate ^{c,d}	Water Transfer (mgd)		
	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day
2010	0.005	-	0.0%	0.3	0.3	3.0%	0.20	0.54	27.1%

^a Concord purchases water from CMU for a residential neighborhood. Only monthly total volume purchased quantities are available.

^b Maximum Day IBT of 10 mgd from the Catawba River Basin.

^c Maximum Day IBT of 10 mgd from the Yadkin River Basin.

^d The grandfathered 6-mgd Maximum Day IBT limit from Second Creek (South Yadkin River Basin) into the Rocky River Basin is not included in the 10-mgd Maximum Day IBT limit for the Yadkin River Basin.

^e Second Creek was not used as a water source in 2010. No transfer from the South Yadkin River Basin to the Rocky River Basin occurred. Water sales to Landis resulted in a positive water transfer to the South Yadkin River Basin.

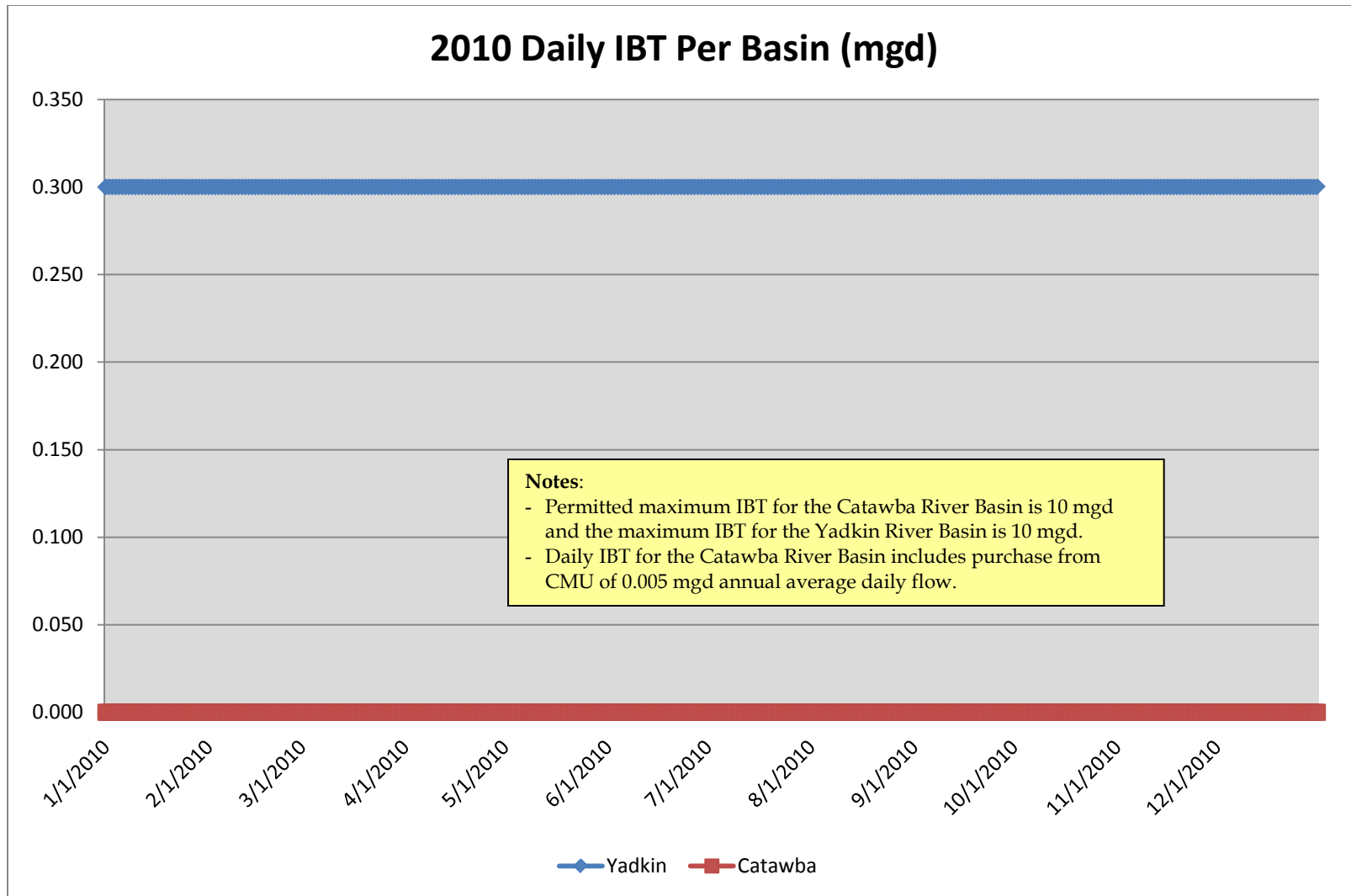


FIGURE ES-1
2010 Daily Interbasin Transfers by Basin

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Daily Interbasin Transfer Amounts for 2010

Acronyms and Abbreviations

CMU	Charlotte-Mecklenburg Utilities
DMAC	Drought Management Advisory Council
EMC	Environmental Management Commission
FERC	Federal Energy Regulatory Commission
IBT	Interbasin Transfer
LIP	Low Inflow Protocol
mgd	million gallons per day
NCDWR	North Carolina Division of Water Resources
WSRP	Water Shortage Response Plan
WTP	Water Treatment Plant

1.0 Introduction

The Cities of Concord and Kannapolis (Cities) received an interbasin transfer (IBT) Certificate, which was originally approved on January 10, 2007, and signed into effect on January 25, 2007. The North Carolina Environmental Management Commission (EMC) has authorized transfers of up to 10 million gallons per day (mgd) from the Catawba River Basin to the Rocky River Basin and 10 mgd from the Yadkin River Basin to the Rocky River Basin. As a condition of the IBT Certificate, the Cities are required to produce an Annual Report that documents transfers over the past year. Annual reports were also prepared for calendar years 2007, 2008, and 2009 and are available on the North Carolina Division of Water Resources (NCDWR) website.

The Cities provide water to each other, various municipalities in the area (including: Mount Pleasant, Midland, Harrisburg, and Landis), and unincorporated areas of Cabarrus County. Concord owns and operates the water distribution system used by the Town of Midland. Charlotte-Mecklenburg Utilities (CMU) and the City of Salisbury currently have contracts to provide water to the Cities from the Catawba and Yadkin River Basins, respectively. Kannapolis has an agreement in place with the City of Salisbury to purchase 0.3 mgd of finished water on a daily basis; the Cities are also in the process of constructing an interconnection with the City of Albemarle, which is located in the Yadkin River Basin. Currently, Concord purchases finished water from CMU for a small residential area.

The terms “Cities” and “Certificate Holders” are used interchangeably herein. Figure 1-1 illustrates the ability to transfer water among the Certificate Holders and all municipalities served by the Certificate Holders.

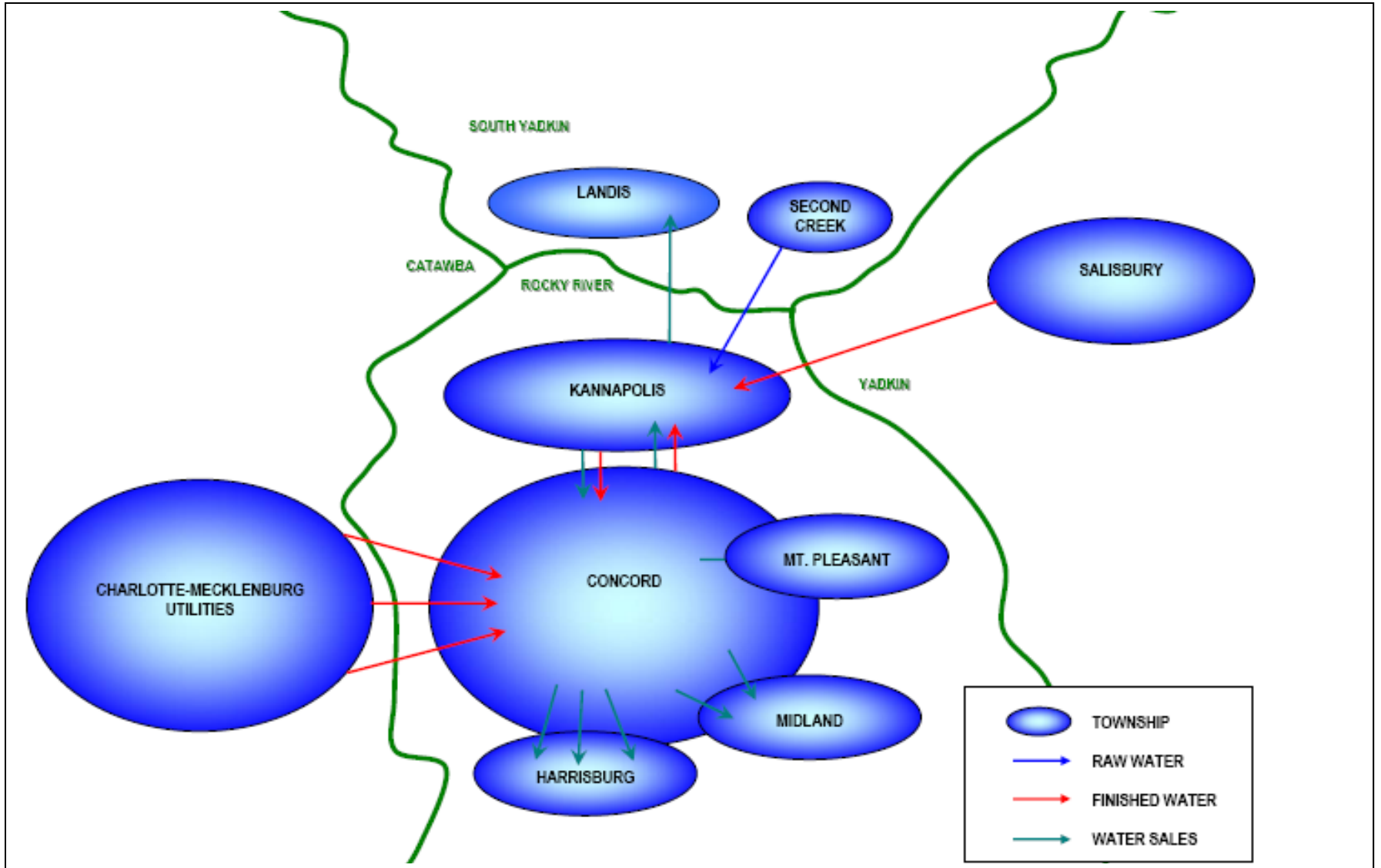


FIGURE 1-1
Water Connections of the Certificate Holders and All Municipalities Served by the Certificate Holders

2.0 IBT Monitoring

2.1 Service Area Water Demand

Table 2-1 presents 2010 annual average water production for the Certificate Holders based on finished water produced at the Hillgrove, Coddle Creek, and Kannapolis Water Treatment Plants (WTPs). It also shows finished water purchases from CMU and the City of Salisbury, if they occurred. Additionally, Table 2-1 presents the 2010 annual average IBT (or water purchases) from each basin covered by the IBT Certificate and from Second Creek, from which transfers are authorized by a grandfathered IBT. In 2010, finished water production averaged 12.58 mgd and purchased IBT finished water averaged 0.30 mgd for the Yadkin River Basin. The City of Concord purchased small amounts of water from CMU, whose water source is from the Catawba River Basin, during 2010. The combined 2010 annual average water use for the Certificate Holders was 12.89 mgd.

TABLE 2-1
2010 Water Production or Purchases by River Basin
Annual Report on Interbasin Transfers for the Cities of Concord and Kannapolis

2010					
Certificate Holders	Annual Average Finished Water Produced ^a (mgd)	Annual Average Purchased Water (mgd)			Annual Average Combined Water Use (mgd)
		Catawba River Basin ^b	Yadkin River Basin	Second Creek ^c	
Concord & Kannapolis	12.58	0.005	0.30	0.00	12.89

^a Water produced within Rocky River Basin; may include water from Second Creek transferred directly into Kannapolis Lake (none in 2010).

^b Concord purchases water from CMU for a residential neighborhood. Only monthly total volume purchased quantities are available.

^c In 2010, no water was transferred from the Second Creek raw water pump station to Kannapolis Lake.

2.2 Interbasin Transfers

Daily IBT amounts for the Certificate Holders are included in the Appendix. Data are provided for the period January 1, 2010 through December 31, 2010. *There was a small IBT from the Catawba River Basin during the calendar year 2010 averaging 0.005 mgd. The maximum day IBT from the Yadkin River Basin during the calendar year 2008 was 0.3 mgd, which was consistent daily throughout 2010 due to contract agreements between Salisbury and Kannapolis.* This represents 3.0 percent of the permitted maximum day, 10-mgd IBT from the Yadkin River Basin under the Certificate approved by the EMC in January 2007. There were no transfers of raw water from Second Creek due to pump maintenance and electrical improvements in this system. Table 2-2 shows the IBT use for the Certificate Holders and the percentage of use from the Catawba and Yadkin River Basins.

TABLE 2-2
 2010 IBT Average Annual & Maximum Day Demands for Concord and Kannapolis Service Areas
Annual Report on Interbasin Transfers for the Cities of Concord and Kannapolis

Year	Catawba River Basin			Yadkin River Basin			Second Creek ^d (South Yadkin River Basin)		
	Water Purchase (mgd) ^a		IBT as % of Certificate ^b	Water Purchase (mgd)		IBT as % of Certificate ^{c,d}	Water Transfer (mgd)		IBT as % of Certificate ^e
	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day
2010	0.005	-	0.0%	0.3	0.3	3.0%	0.20	0.54	27.1%

^a Concord purchases water from CMU for a residential neighborhood. Only monthly total volume purchased quantities are available.

^b Maximum Day IBT of 10 mgd from the Catawba River Basin.

^c Maximum Day IBT of 10 mgd from the Yadkin River Basin.

^d The grandfathered 6-mgd Maximum Day IBT limit from Second Creek (South Yadkin River Basin) into the Rocky River Basin is not included in the 10-mgd Maximum Day IBT limit for the Yadkin River Basin.

^e Second Creek was not used as a water source in 2010. No transfer from the South Yadkin River Basin to the Rocky River Basin occurred. Water sales to Landis resulted in a positive water transfer to the South Yadkin River Basin.

Figure 2-1 displays the daily IBT amounts for water purchases from the Catawba and Yadkin River Basins.

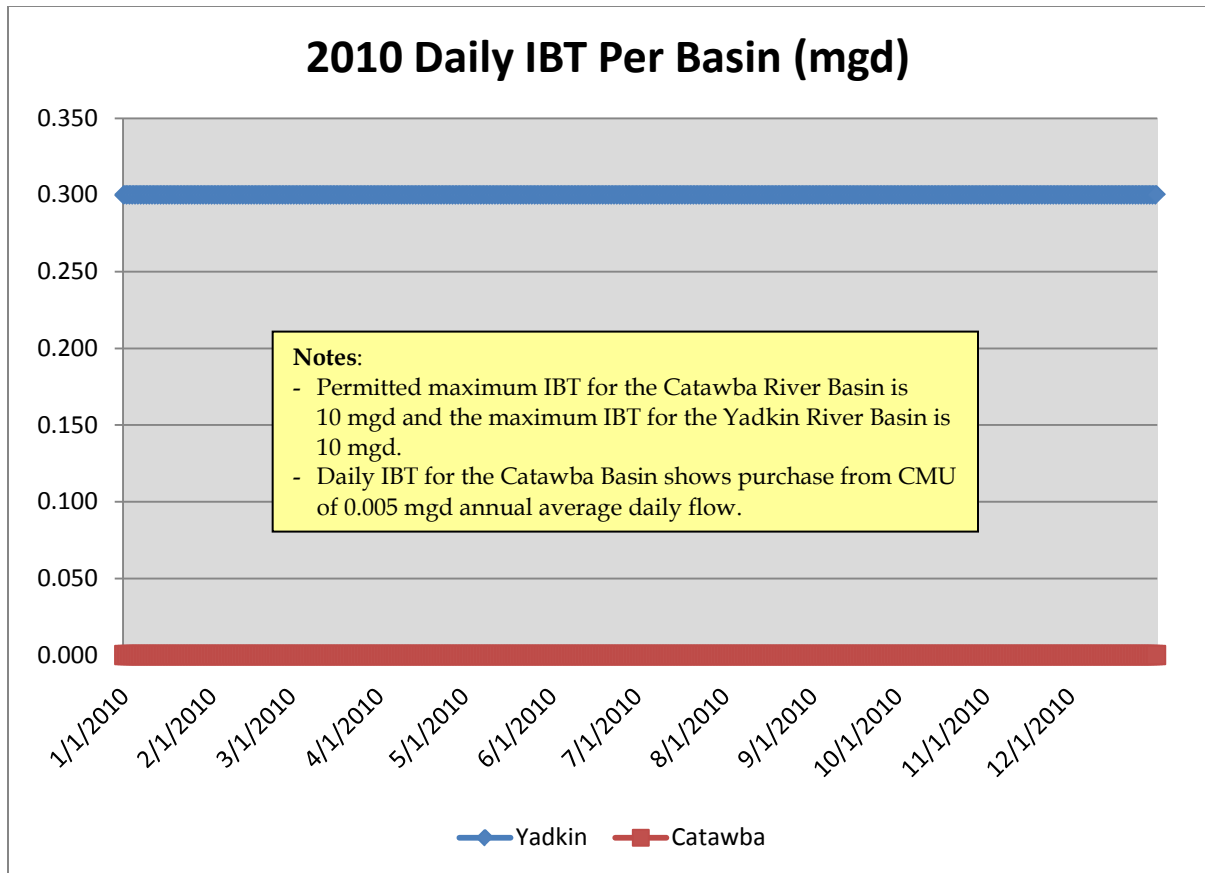


FIGURE 2-1
 Daily IBT Amounts by Basin

3.0 Other Related Information

In 2010, a settlement was reached in a lawsuit filed by the Catawba River Foundation, Inc. and the Protect the Catawba Coalition. While this does not affect the IBT Certificate, its conditions, or required reporting in any way, the Cities did agree to some operational conditions regarding the Catawba River Basin during times of drought.

Until July 1, 2015, the Cities have agreed to transfer no more than 3.0 mgd (maximum day) from the Catawba River Basin. Thereafter, the Cities must first transfer 5.0 mgd from the Yadkin River Basin before exceeding an IBT of 3.0 mgd from the Catawba River Basin.

During designated droughts beyond July 1, 2015, following either Low Inflow Protocol (LIP) or Drought Management Advisory Council (DMAC) Drought Stage declaration, the Cities have agreed to limit the Catawba River Basin IBT so that it corresponds to water use reduction goals. A summary of this agreement is presented in Table 3-1.

TABLE 3-1
Catawba River Basin IBT during Drought Conditions
Annual Report on Interbasin Transfers for the Cities of Concord and Kannapolis

LIP Stage or DMAC Drought Stage	Maximum Day Transfer (mgd)
0 / Abnormally Dry	10.0
1 / Moderate Drought	9.0
2 / Severe Drought	8.5
3 / Extreme Drought	7.0
4 / Exceptional Drought	6.0

4.0 Compliance with Certificate Conditions

A summary of the conditions of the IBT Certificate approved on January 10, 2007 along with the current status of compliance for each is provided below. Language from the certificate is followed by 2010 actions for each condition.

4.1 Condition 1 (Federal Energy Regulatory Commission [FERC] Licensure)

If at any time any legal requirement that (a) governs the operation of the hydroelectric facilities in the Catawba River Basin currently licensed as Federal Energy Regulatory Commission (FERC) Project No. P-2232 or in the Yadkin Pee-Dee River Basin currently licensed as FERC Project Nos. P-2206 and P-2197 and (b) governs or affects water use and/or quality, substantially differs from the actual or anticipated FERC license conditions or other legal requirement upon which the analysis underlying this Certificate is based, such as changes to minimum flow requirements or drought mitigation measures, the Commission may reopen and modify this Certificate.

This condition requires no action by the Certificate Holders.

4.2 Condition 2 (Drought Management Plan)

Each Certificate Holder shall prepare a Drought Management Plan. The Cities shall implement measures corresponding to the most severe level of drought conditions in either the Catawba or Yadkin River Basins. The Cities shall not transfer any water to any other jurisdictions unless that jurisdiction agrees to be bound by this condition in full.

The Cities submitted the Drought Management Plan on July 31, 2007; comments were received on November 11, 2007, and the revised plan was submitted on January 8, 2008. The Drought Management Plan was incorporated into an updated Water Shortage Response Plan (WSRP) in 2010. The WSRP, prepared as a joint document for the Certificate Holders, is available on the NCDWR website at the following web address:

http://www.ncwater.org/Water_Supply_Planning/Water_Shortage_Response_Plans/plan

Table 4-1 shows Normal and Drought Stages 0-4, the names of each, the date the Catawba River Basin managers implemented Draft LIP actions in response to drought monitoring, the Yadkin-Pee Dee River Basin drought monitor, and the associated actions taken by the Cities.

Beginning in the winter of 2008, drought conditions in the state began to decrease, permitting an easing of drought restrictions for both the Catawba and Yadkin River Basins. In April 2009, the Cities adopted a restricted irrigation schedule which allows irrigation on Tuesdays, Thursdays, and Saturdays only. This modified Level 0, Normal Responsible Water Use, was in place throughout 2010 (Figure 4-1). Other outdoor water use conservation measures are encouraged but not required. Both the Catawba and Yadkin River Basins began the year with Normal water levels. For brief periods during the spring and early summer, the drought level has switched to Stage 1 Abnormally Dry and back to Normal. In

the fall, rainfall decreased and both basins moved to Abnormally Dry. The Catawba River Basin progressed to D1, Moderate Drought, in October and fluctuated between Abnormally Dry and Moderate Drought for the remainder of the year, ending in Moderate Drought.

During the year, Drought Monitor stages and the minimum state reduction goals never reached the water conservation measures the Cities have in place; hence the Cities have remained in their Normal Responsible Water Use Level 0. The Cities issued a joint press release on October 8, 2010 to remind customers of the irrigation limitations and promote conservation efforts.

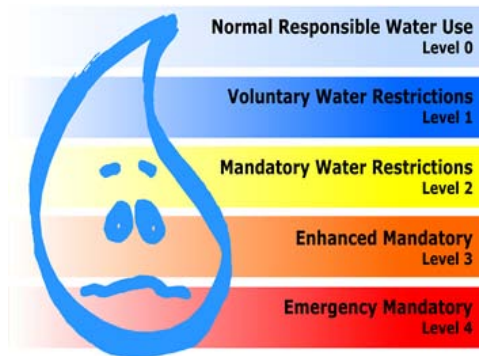


Figure 4-1
The Cities' Water Restriction Levels

The Cities have agreements in place that include enforcement policies with other systems that purchase water from them.

TABLE 4-1
 Concord and Kannapolis 2010 Normal and Drought Stages
Annual Report on Interbasin Transfers for the Cities of Concord and Kannapolis

Drought Stage	Drought Monitor Classification	2010 Period of Drought			Cities' Actions Taken
		Catawba River Basin ^a (Draft LIP)	Yadkin River Basin ^b (NC Drought Monitor)	Action by Cities	
	Normal	January 1 – July 6; August 17 – September 14	January 1 – April 4; May 18 - September 14; October 5 – October 12	Level 0 on April 11, 2009 ^c	Lawn irrigation allowed only on Tuesday, Thursday, & Saturday. Other voluntary conservation efforts encouraged.
0	Abnormally Dry	July 6 – August 17; September 14 – October 19; November 2 – November 23	April 4 - May 18; September 14 – September 28; October 12 – December 31	Level 0 on April 11, 2009 ^c	Lawn irrigation allowed only on Tuesday, Thursday, & Saturday. Other voluntary conservation efforts encouraged.
1	Moderate Drought	October 19 – November 2; November 23 – December 31	-	Level 0 on April 11, 2009 ^c	Lawn irrigation allowed only on Tuesday, Thursday, & Saturday. Other voluntary conservation efforts encouraged.
2	Severe Drought	-	-		
3	Extreme Drought	-	-		
4	Exceptional Drought	-	-		

^a The Catawba River Basin is listed as the highest classification within the basin at a given date. Portions of the basin may be in a lower category.

^b The Yadkin River Basin is listed as the highest classification within the basin at a given date. Portions of the basin may be in a lower category.

^c Level 0 Normal Responsible Water Use as defined by the Cities includes mandatory irrigation restrictions, limiting watering to 3 days per week. These restrictions continued from 2009 through 2010.

4.3 Condition 3 (Disaggregation of IBT Amount)

If the Certificate Holders discontinue their cooperative service agreement, then the permitted IBT amount will be allocated amongst the Certificate Holders based on their projected 2030 needs.

The cooperative service agreement between the Certificate Holders remained in effect throughout 2010.

The Cities and local municipalities cooperatively and effectively communicate and manage their respective water distribution systems. The Cities sell water to each other and reconcile billing monthly. Additionally, Concord owns and operates the water distribution system for Midland, providing water service to all Midland customers. Harrisburg purchases water from Concord, measured by five meters. Concord also provides water service to unincorporated areas of Cabarrus County. Mount Pleasant did not purchase water from the City of Concord in 2010. Further emphasizing the interconnected nature of the Cities and local municipalities, Kannapolis provides water to Landis, located in the South Yadkin River Basin, which is not subject to this IBT Certificate.

4.4 Condition 4 (Compliance and Monitoring Plan)

In cooperation with the Division of Water Resources, the Certificate Holders shall develop an IBT Compliance and Monitoring Plan.

The Cities submitted the Compliance and Monitoring Plan on July 31, 2007. This plan was finalized in December 2007.

4.5 Condition 5 (EMC Consideration of Impacts)

The EMC may reopen the Certificate and adjust existing or require new conditions to ensure detrimental impacts are mitigated if environmental impacts are found to be substantially different from those projected in the EMC's Findings of Fact.

This condition requires no action by the Certificate Holders. The EMC did not take action on this condition in 2010.

4.6 Condition 6 (20-Year Certificate Evaluation)

In twenty years from the date of the Certificate, the Cities shall submit a written report to the EMC to include: (a) summary of transfers for the previous twenty years, (b) discussion of any changes to the environmental impacts assessment from IBT transfers, (c) summary of all actions to address actual or potential drought conditions, (d) recommendations for any changes to the Certificate, (e) details on consultation with interested stakeholders, and (f) certification of compliance with Certificate. This will continue at 20-year intervals.

The IBT Certificate was approved on January 10, 2007 and signed into effect on January 25, 2007; therefore, the first 20-year certificate evaluation report will be completed in 2027.

4.7 Condition 7 (Limit of Certificate)

The Certificate does not exempt the Cities from compliance with any other requirements of law.

This condition requires no action by the Cities.

APPENDIX

Daily Interbasin Transfer Amounts for 2010