

# 2020 Annual Report on Interbasin Transfers from the Catawba River Basin

North Carolina Division of Water Resources



Department of Environmental Quality

September 2020

## **INTRODUCTION**

This report has been prepared in accordance with the Settlement Agreement signed on December 3, 2010 reached between the States of South Carolina and North Carolina, Duke Energy Carolinas LLC, and the Catawba River Water Supply Project. As a condition of that agreement, *“each State shall prepare an annual report of the average daily transfer amounts for each entity holding an [Interbasin Transfer] IBT certificate and provide it to the other State.”* Therefore, this annual report is intended to be a summary of IBTs to and from the Catawba River Basin that are conducted by IBT certificate holders.

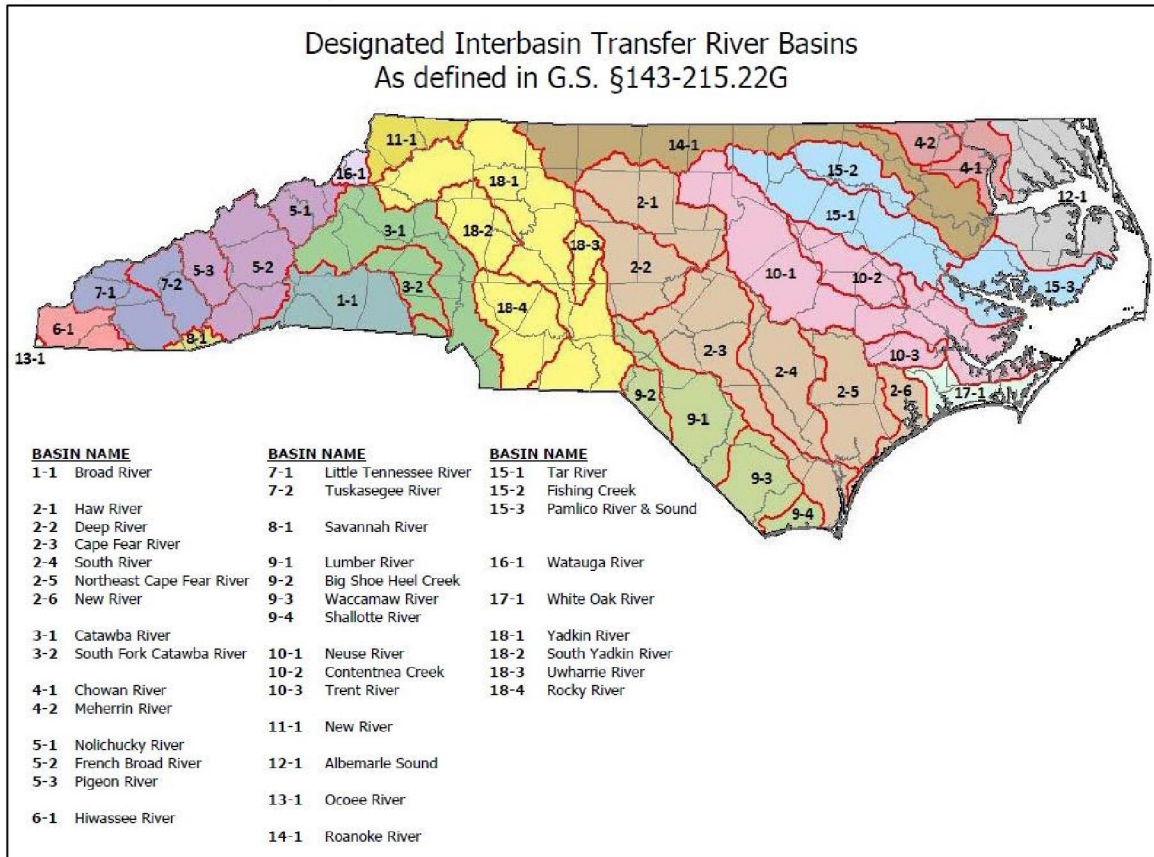
## **BACKGROUND: IBT LAW IN NORTH CAROLINA**

In 1993, the North Carolina Legislature enacted General Statute G.S. §143-215.22I as part of An Act to Regulate Interbasin Transfers (Session Law 1993-348). This law regulated large surface water transfers between river basins by requiring a certificate from the Environmental Management Commission (EMC). Following General Statute G.S. §143-215.22I, a transfer certificate was required for new surface water transfers of 2.0 million gallons per day (MGD) or more.

Due to the fact that the Surface Water Transfer Act was first adopted in 1993, many of the IBT rules and requirements reference a system’s daily flows and capacity at that time. Facilities that were in existence prior to 1993 are said to have Grandfathered Transfers up to either 25 percent above their average daily flow at that time, their maximum system capacity at that time, or 2 MGD - whichever is greater. If a facility existed or was under construction by July 1, 1993, a certificate is not required up to the full capacity of that facility to transfer water, regardless of the transfer amount.

An important point in North Carolina’s IBT law is that it creates its own, specific definition of a “river basin.” According to G.S. §143-215.22G, there are 38 designated river basins. An IBT certificate is required for any transfer, meeting the statutorily defined thresholds, between any of these defined river basins. Figure 1 illustrates the designated river basins.

**Figure 1: Statutorily designated IBT river basins**



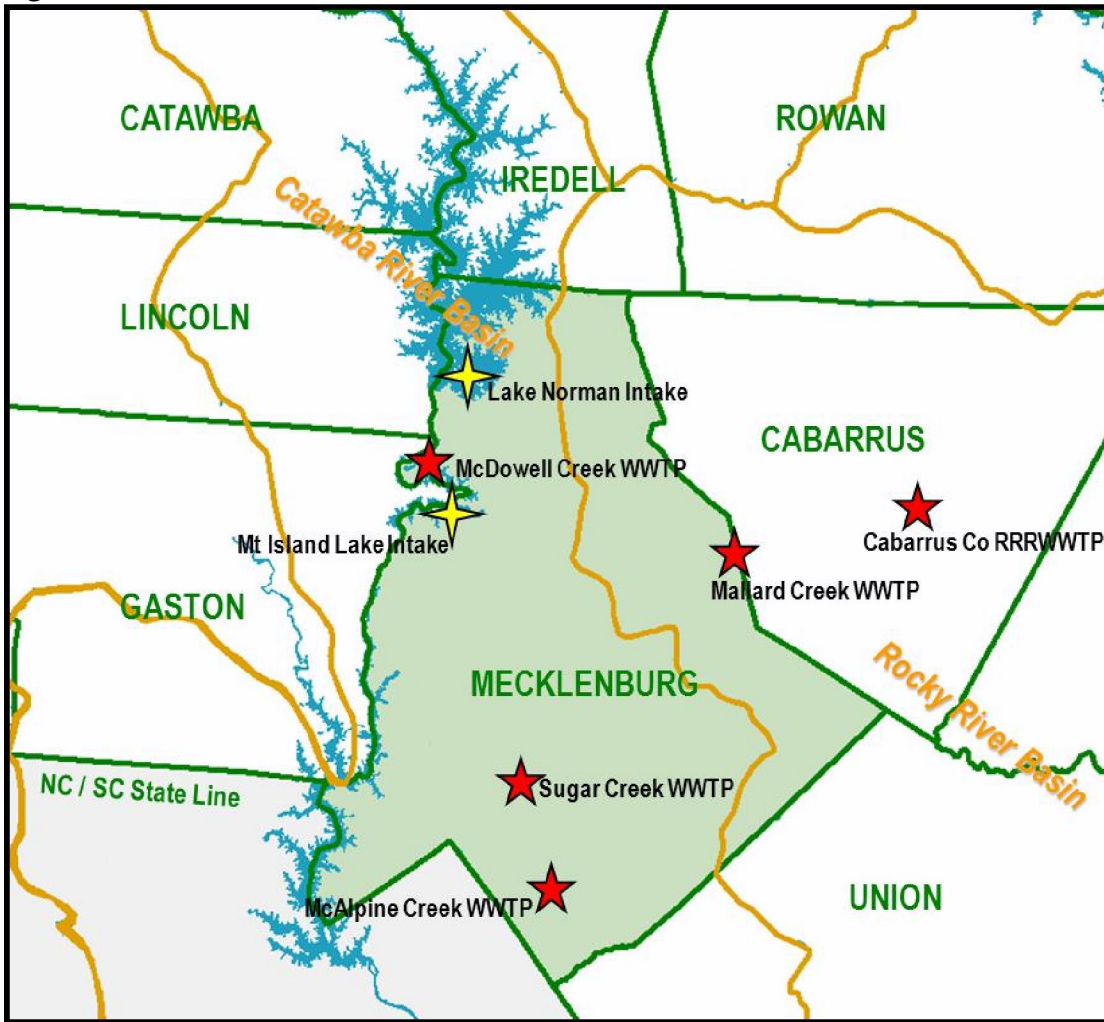
The current procedure for obtaining an IBT Certificate is specifically laid out in G.S. § 143-215.22L. The full process can take three to five years (or more), requires local and interstate notification, and offers a number of opportunities for public comment and review. The passage in 2013 of Session Law 2013-388 changed the way in which a proposed IBT is calculated, among other revisions. Instead of a maximum daily transfer, the revised calculation is based on an average daily transfer calculated over a calendar month. Even though the statistical calculation was changed, the 2.0 MGD threshold remained the same. The full text of IBT statute §143-215.22L is included as Appendix A in this report. Previous IBT statutes are available on the Division of Water Resources (DWR) website at: [DWR IBT Rules & Regulations](#).

As of September 2021, the North Carolina EMC has issued nine IBT certificates. Two of these certificates directly affect the Catawba River Basin. Those two certificates, Charlotte Water (formerly Charlotte Mecklenburg Utilities) and the Cities of Concord and Kannapolis, are further discussed in this report. Throughout North Carolina there are approximately 130 water systems that have surface water transfers, most of which transfer less than 2.0 MGD on a maximum day basis. These water systems are not required to obtain an IBT certificate until they exceed the statutory thresholds. Since these systems are not required to obtain an IBT certificate, they are not discussed in this document.

**CHARLOTTE WATER**

Charlotte Water, formerly Charlotte Mecklenburg Utilities, has held an IBT certificate since March 14, 2002. The certificate allows Charlotte Water to transfer up to 33.0 MGD from the Catawba River Basin to the Rocky River basin. Figure 2 illustrates Charlotte Water’s two water intakes (identified by yellow stars) in the Catawba River basin, and five wastewater treatment plants (identified by red stars) throughout the Catawba and Rocky River basins. The utility pursued this certificate in order to meet projected demands through 2030 in eastern Mecklenburg County. Specific details of Charlotte Water’s service area and sales are included in Appendix B, Charlotte Water 2020 IBT Annual Report.

**Figure 2: Charlotte Water Service Area**



In May 2013, Charlotte Water was granted a modification to the original IBT Certificate from the EMC, which removed Condition 3 from the Certificate. Condition 3 stated that, *“the Goose Creek subbasin in Mecklenburg County is removed from the area to be served by the IBT. A moratorium on the installation of new interbasin transfer water lines (water lines crossing the ridgeline) into Goose Creek subbasin is in effect until the impacts of additional urban growth on the endangered species are fully evaluated.”* This condition was removed after the EMC determined that the Town of Mint Hill’s 2010 Post-Construction Ordinance (PCO) permanently implemented appropriate mitigation measures for impacts to the Carolina Heelsplitter (*Lasmigona decorata*) in the Goose Creek watershed. Removal of this condition allows Charlotte Water to provide water service to customers in the Goose Creek watershed.

Charlotte Water provides water to retail customers in the Rocky River basin, including customers in the City of Concord and Town of Harrisburg, in neighboring Cabarrus County. Charlotte Water can transfer treated potable water to the Town of Harrisburg through two metered connections to their water system. Harrisburg’s service area is entirely within the Rocky River basin and is included in Charlotte Water’s IBT amounts. Water is only provided to Concord as an emergency backup to Concord’s primary supply consisting of Lake Howell and several smaller reservoirs. All of these reservoirs are within the Rocky River basin. The Cities of Concord and Kannapolis received an IBT Certificate in January 2007 for the transfer of up to 10.0 MGD from the Catawba River basin to the Rocky River basin; therefore, any water sold to Concord is not applied to Charlotte Water’s IBT amount.

Charlotte Water’s IBT calculation methodology was approved by DWR in June 2006. Per the certificate, Charlotte Water reports the maximum daily IBT amounts annually to DWR until such time as the transfer amount exceeds 80 percent of the authorized amount. Once that amount is exceeded, Charlotte Water is required to report monthly. To date, Charlotte Water has not exceeded 80 percent of the authorized IBT amount. Charlotte Water’s IBT certificate requires an annual report listing the maximum daily transfer for the calendar year. The average daily and maximum daily transfers for 2020 are presented below in Table 1. Charlotte Water’s 2020 IBT annual report is included in Appendix B. Annual reports from 2002-2020 are available on the division’s website at, [Charlotte Water IBT Page](#).

**Table 1: Charlotte Water 2020 Interbasin Transfers**

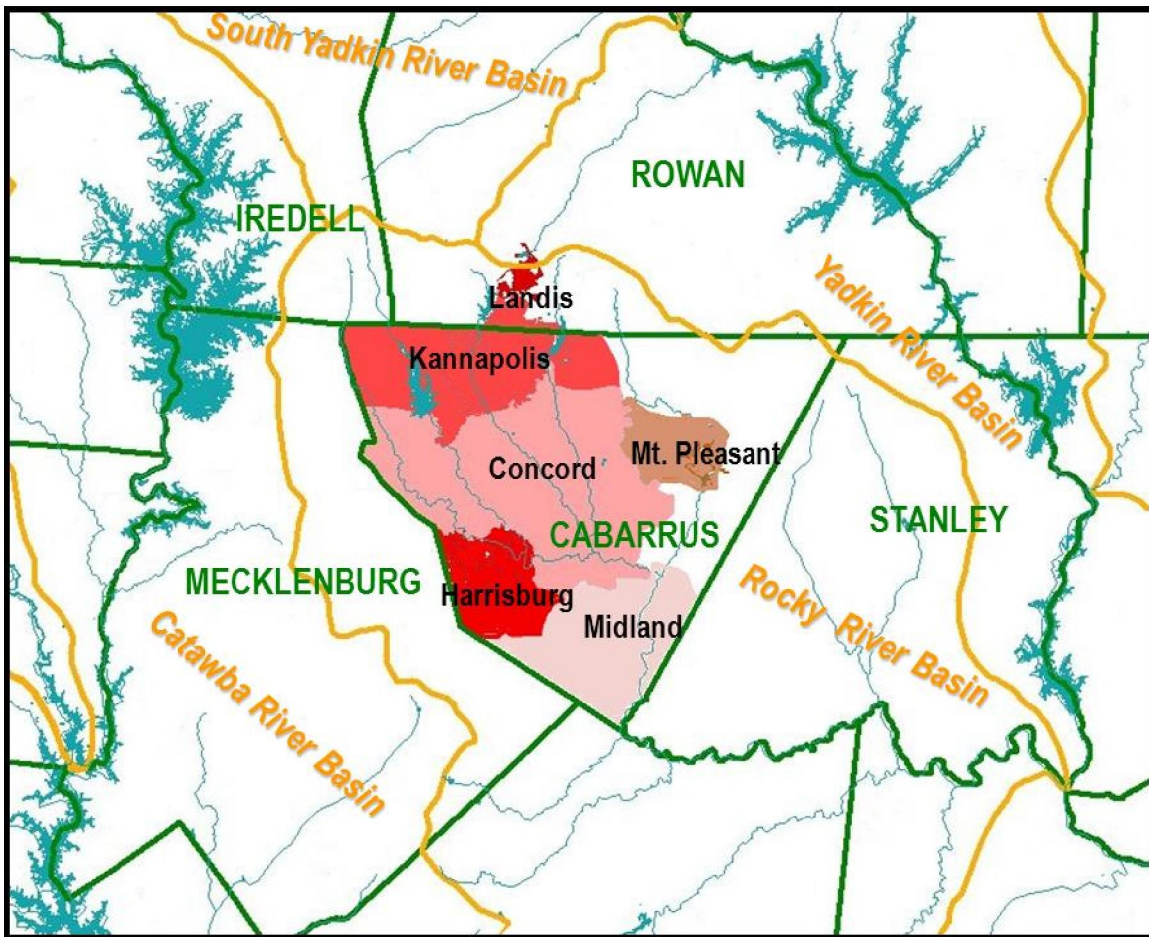
Calendar Year	Avg. Annual IBT (MGD)	Max. Day IBT (MGD)
2020	17.74 (53.7%)	23.66 (71.7%)

Values in parentheses represent the percentage of the total allowable transfer per the IBT Certificate.

### CONCORD AND KANNAPOLIS

The Cities of Concord and Kannapolis (the cities) have held an IBT certificate since January 2007. This certificate authorizes the transfer of up to 10.0 MGD from the Catawba River basin to the Rocky River basin and 10.0 MGD from the Yadkin River basin to the Rocky River basin. These amounts were authorized based on the cities' needs through 2035 and an analysis of the yield of available water sources. In addition, the cities have a grandfathered transfer capacity (based on infrastructure in place prior to 1993) of 6.0 MGD from the South Yadkin River basin to the Rocky River basin. Figure 3 illustrates the cities' service area and interbasin transfers. Specific details of the cities' service area and sales are included in Appendix C, Concord and Kannapolis' 2020 IBT Annual Report.

**Figure 3: Concord and Kannapolis Service Area**



In 2010, the cities reached a settlement in a lawsuit filed by the Catawba River Foundation, Inc. and the Protect the Catawba Coalition. While this settlement agreement does not affect the IBT Certificate, its conditions, or required reporting, the

cities did agree to several operational conditions in the Catawba River basin. Until July 1, 2015, the cities agreed to transfer no more than 3.0 MGD (on a maximum day basis) 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. Further details about this agreement, including the water use reduction goals after July 2015, can be found in Appendix C.

The cities’ IBT certificate requires an annual report listing the maximum daily transfer for the calendar year. The average daily and maximum daily transfers for 2020 are summarized below in Table 2.

**Table 2: Concord and Kannapolis 2020 Interbasin Transfers**

Calendar Year	Catawba to Rocky <sup>1</sup>		Yadkin to Rocky <sup>2</sup>		Second Creek (South Yadkin) to Rocky <sup>3</sup>	
	Avg. Daily (MGD)	Max. Day (MGD)	Avg. Daily (MGD)	Max. Day (MGD)	Avg. Daily (MGD)	Max. Day (MGD)
2020	0.006 (0.06%) <sup>4</sup>	1.83 (18.3%)	3.46 (34.6%)	4.49 (44.9%)	-0.27 (-4.5%)	-0.19 (-3.17%)

<sup>1</sup> Maximum Day IBT of 10 MGD from the Catawba River Basin to the Rocky River Basin.

<sup>2</sup> Maximum Day IBT of 10 MGD from the Yadkin River Basin to the Rocky River Basin.

<sup>3</sup> The grandfathered 6 MGD Max-Day IBT from the South Yadkin into the Rocky is not included in the 10 MGD IBT limit from the Yadkin.

<sup>4</sup> Values in parentheses represent the percentage of the total allowable transfer per the Concord Kannapolis IBT Certificate. No value listed is effectively zero.

In 2020, the maximum day IBT from the Catawba River Basin was 1.83 MGD, which represents 18.3 percent of the permitted maximum day transfer of 10 MGD under the IBT Certificate approved by the EMC in January 2007. The maximum day IBT from the Yadkin River Basin during the calendar year 2020 was 4.49 MGD, which represents 44.9 percent of the permitted maximum day of 10 MGD IBT from the Yadkin River Basin under the IBT Certificate.

The average day IBT from the Catawba River Basin was 0.006 MGD, which represents 0.06 percent of the permitted maximum day transfer of 10 MGD. The average day IBT from the Yadkin River Basin was 3.46 MGD, which represents 34.6 percent of the permitted maximum day transfer of 10 MGD. There was a transfer of raw water from Second Creek with a maximum day of -0.19 MGD, which represents -3.17 percent of the allowable maximum day transfer of 6 MGD from the South Yadkin River Basin under the grandfathered transfer. The 2020 annual report is included in Appendix C. Annual reports from 2007-2020 are available on the division’s website at, [Concord & Kannapolis IBT Page](#).

## **CONCLUSION**

Based on the information previously discussed in this report, the Division of Water Resources estimates that IBT certificate holders transferred approximately 21.21 MGD, on an average daily basis, from the Catawba River basin in 2020. On a maximum day basis, approximately 29.98 MGD was transferred from the Catawba River basin in 2020. None of the transfers from the Catawba River basin exceeded 80 percent of the allowable transfer; therefore, annual reports will continue to be the required monitoring procedure. For any questions concerning these IBTs please contact Kim Nimmer with the NC Division of Water Resources at (919)707-9019. Further information about North Carolina's Interbasin Transfer program can be found on DWR's website at, [DWR IBT Page](#). Past annual reports on the interbasin transfers from the Catawba River Basin, as well as the South Carolina vs. North Carolina Settlement Agreement can be found at, [Catawba Settlement Agreement](#).



**Appendix A:**

North Carolina General Statute §143-215.22L

**§ 143-215.22L. Regulation of surface water transfers.**

(a) Certificate Required. – No person, without first obtaining a certificate from the Commission, may:

- (1) Initiate a transfer of 2,000,000 gallons of water or more per day, calculated as a daily average of a calendar month and not to exceed 3,000,000 gallons per day in any one day, from one river basin to another.
- (2) Increase the amount of an existing transfer of water from one river basin to another by twenty-five percent (25%) or more above the average daily amount transferred during the year ending 1 July 1993 if the total transfer including the increase is 2,000,000 gallons or more per day.
- (3) Increase an existing transfer of water from one river basin to another above the amount approved by the Commission in a certificate issued under G.S. 162A-7 prior to 1 July 1993.

(b) Exception. – Notwithstanding the provisions of subsection (a) of this section, a certificate shall not be required to transfer water from one river basin to another up to the full capacity of a facility to transfer water from one basin to another if the facility was in existence or under construction on 1 July 1993.

(c) Notice of Intent to File a Petition. – An applicant shall prepare a notice of intent to file a petition that includes a nontechnical description of the applicant's request and an identification of the proposed water source. Within 90 days after the applicant files a notice of intent to file a petition, the applicant shall hold at least one public meeting in the source river basin upstream from the proposed point of withdrawal, at least one public meeting in the source river basin downstream from the proposed point of withdrawal, and at least one public meeting in the receiving river basin to provide information to interested parties and the public regarding the nature and extent of the proposed transfer and to receive comment on the scope of the environmental documents. Written notice of the public meetings shall be provided at least 30 days before the public meetings. At the time the applicant gives notice of the public meetings, the applicant shall request comment on the alternatives and issues that should be addressed in the environmental documents required by this section. The applicant shall accept written comment on the scope of the environmental documents for a minimum of 30 days following the last public meeting. Notice of the public meetings and opportunity to comment on the scope of the environmental documents shall be provided as follows:

- (1) By publishing notice in the North Carolina Register.
- (2) By publishing notice in a newspaper of general circulation in:
  - a. Each county in this State located in whole or in part of the area of the source river basin upstream from the proposed point of withdrawal.
  - b. Each city or county located in a state located in whole or in part of the surface drainage basin area of the source river basin that also falls within, in whole or in part, the area denoted by one of the following eight-digit cataloging units as organized by the United States Geological Survey:
    - 03050105 (Broad River: NC and SC);
    - 03050106 (Broad River: SC);
    - 03050107 (Broad River: SC);
    - 03050108 (Broad River: SC);
    - 05050001 (New River: NC and VA);
    - 05050002 (New River: VA and WV);
    - 03050101 (Catawba River: NC and SC);
    - 03050103 (Catawba River: NC and SC);
    - 03050104 (Catawba River: SC);

03010203 (Chowan River: NC and VA);  
 03010204 (Chowan River: NC and VA);  
 06010105 (French Broad River: NC and TN);  
 06010106 (French Broad River: NC and TN);  
 06010107 (French Broad River: TN);  
 06010108 (French Broad River: NC and TN);  
 06020001 (Hiwassee River: AL, GA, TN);  
 06020002 (Hiwassee River: GA, NC, TN);  
 06010201 (Little Tennessee River: TN);  
 06010202 (Little Tennessee River: TN, GA, and NC);  
 06010204 (Little Tennessee River: NC and TN);  
 03060101 (Savannah River: NC and SC);  
 03060102 (Savannah River: GA, NC, and SC);  
 03060103 (Savannah River: GA and SC);  
 03060104 (Savannah River: GA);  
 03060105 (Savannah River: GA);  
 03040203 (Lumber River: NC and SC);  
 03040204 (Lumber River: NC and SC);  
 03040206 (Lumber River: NC and SC);  
 03040207 (Lumber River: NC and SC);  
 03010205 (Albemarle Sound: NC and VA);  
 06020003 (Ocoee River: GA, NC, and TN);  
 03010101 (Roanoke River: VA);  
 03010102 (Roanoke River: NC and VA);  
 03010103 (Roanoke River: NC and VA);  
 03010104 (Roanoke River: NC and VA);  
 03010105 (Roanoke River: VA);  
 03010106 (Roanoke River: NC and VA);  
 06010102 (Watauga River: TN and VA);  
 06010103 (Watauga River: NC and TN);  
 03040101 (Yadkin River: VA and NC);  
 03040104 (Yadkin River: NC and SC);  
 03040105 (Yadkin River: NC and SC);  
 03040201 (Yadkin River: NC and SC);  
 03040202 (Yadkin River: NC and SC).

- c. Each county in this State located in whole or in part of the area of the source river basin downstream from the proposed point of withdrawal.
  - d. Any area in the State in a river basin for which the source river basin has been identified as a future source of water in a local water supply plan prepared pursuant to G.S. 143-355(l).
  - e. Each county in the State located in whole or in part of the receiving river basin.
- (3) By giving notice by first-class mail or electronic mail to each of the following:
- a. The board of commissioners of each county in this State or the governing body of any county or city that is politically independent of a county in any state that is located entirely or partially within the source river basin of the proposed transfer and that also falls within, in whole or in part, the area denoted by one of the eight-digit

cataloging units listed in sub-subdivision b. of subdivision (2) of this subsection.

- b. The board of commissioners of each county in this State or the governing body of any county or city that is politically independent of a county in any state that is located entirely or partially within the receiving river basin of the proposed transfer and that also falls within, in whole or in part, the area denoted by one of the eight-digit cataloging units listed in sub-subdivision b. of subdivision (2) of this subsection.
- c. The governing body of any public water system that withdraws water upstream or downstream from the withdrawal point of the proposed transfer.
- d. If any portion of the source or receiving river basins is located in another state, all state water management or use agencies, environmental protection agencies, and the office of the governor in that state upstream or downstream from the withdrawal point of the proposed transfer.
- e. All persons who have registered a water withdrawal or transfer from the proposed source river basin under this Part or under similar law in an another state.
- f. All persons who hold a certificate for a transfer of water from the proposed source river basin under this Part or under similar law in an another state.
- g. All persons who hold a National Pollutant Discharge Elimination System (NPDES) wastewater discharge permit for a discharge of 100,000 gallons per day or more upstream or downstream from the proposed point of withdrawal.
- h. To any other person who submits to the applicant a written request to receive all notices relating to the petition.

(d) Environmental Documents. – Except as provided in this subsection, the definitions set out in G.S. 113A-9 apply to this section. Notwithstanding the thresholds for significant expenditure of public monies or use of public land set forth in G.S. 113A-9, the Department shall conduct a study of the environmental impacts of any proposed transfer of water for which a certificate is required under this section. The study shall meet all of the requirements set forth in G.S. 113A-4 and rules adopted pursuant to G.S. 113A-4. Notwithstanding G.S. 113A-4(2), the study shall include secondary and cumulative impacts. An environmental assessment shall be prepared for any petition for a certificate under this section. The determination of whether an environmental impact statement shall also be required shall be made in accordance with the provisions of Article 1 of Chapter 113A of the General Statutes; except that an environmental impact statement shall be prepared for every proposed transfer of water from one major river basin to another for which a certificate is required under this section. The applicant who petitions the Commission for a certificate under this section shall pay the cost of special studies necessary to comply with Article 1 of Chapter 113A of the General Statutes. An environmental impact statement prepared pursuant to this subsection shall include all of the following:

- (1) A comprehensive analysis of the impacts that would occur in the source river basin and the receiving river basin if the petition for a certificate is granted.
- (2) An evaluation of alternatives to the proposed interbasin transfer, including water supply sources that do not require an interbasin transfer and use of water conservation measures.

- (3) A description of measures to mitigate any adverse impacts that may arise from the proposed interbasin transfer.

(e) Public Hearing on the Draft Environmental Document. – The Commission shall hold a public hearing on the draft environmental document for a proposed interbasin transfer after giving at least 30 days' written notice of the hearing in the Environmental Bulletin and as provided in subdivisions (2) and (3) of subsection (c) of this section. The notice shall indicate where a copy of the environmental document can be reviewed and the procedure to be followed by anyone wishing to submit written comments and questions on the environmental document. The Commission shall prepare a record of all comments and written responses to questions posed in writing. The record shall include complete copies of scientific or technical comments related to the potential impact of the interbasin transfer. The Commission shall accept written comment on the draft environmental document for a minimum of 30 days following the last public hearing. The applicant who petitions the Commission for a certificate under this section shall pay the costs associated with the notice and public hearing on the draft environmental document.

(f) Determination of Adequacy of Environmental Document. – The Commission shall not act on any petition for an interbasin transfer until the Commission has determined that the environmental document is complete and adequate. A decision on the adequacy of the environmental document is subject to review in a contested case on the decision of the Commission to issue or deny a certificate under this section.

(g) Petition. – An applicant for a certificate shall petition the Commission for the certificate. The petition shall be in writing and shall include all of the following:

- (1) A general description of the facilities to be used to transfer the water, including current and projected areas to be served by the transfer, current and projected capacities of intakes, and other relevant facilities.
- (2) A description of all the proposed consumptive and nonconsumptive uses of the water to be transferred.
- (3) A description of the water quality of the source river and receiving river, including information on aquatic habitat for rare, threatened, and endangered species; in-stream flow data for segments of the source and receiving rivers that may be affected by the transfer; and any waters that are impaired pursuant to section 303(d) of the federal Clean Water Act (33 U.S.C. § 1313(d)).
- (4) A description of the water conservation measures used by the applicant at the time of the petition and any additional water conservation measures that the applicant will implement if the certificate is granted.
- (5) A description of all sources of water within the receiving river basin, including surface water impoundments, groundwater wells, reinjection storage, and purchase of water from another source within the river basin, that is a practicable alternative to the proposed transfer that would meet the applicant's water supply needs. The description of water sources shall include sources available at the time of the petition for a certificate and any planned or potential water sources.
- (6) A description of water transfers and withdrawals registered under G.S. 143-215.22H or included in a local water supply plan prepared pursuant to G.S. 143-355(l) from the source river basin, including transfers and withdrawals at the time of the petition for a certificate and any planned or reasonably foreseeable transfers or withdrawals by a public water system with service area located within the source river basin.

- (7) A demonstration that the proposed transfer, if added to all other transfers and withdrawals required to be registered under G.S. 143-215.22H or included in any local water supply plan prepared by a public water system with service area located within the source basin pursuant to G.S. 143-355(l) from the source river basin at the time of the petition for a certificate, would not reduce the amount of water available for use in the source river basin to a degree that would impair existing uses, pursuant to the antidegradation policy set out in 40 Code of Federal Regulation § 131.12 (Antidegradation Policy) (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto, or existing and planned consumptive and nonconsumptive uses of the water in the source river basin. If the proposed transfer would impact a reservoir within the source river basin, the demonstration must include a finding that the transfer would not result in a water level in the reservoir that is inadequate to support existing uses of the reservoir, including recreational uses.
- (8) The applicant's future water supply needs and the present and reasonably foreseeable future water supply needs for public water systems with service area located within the source river basin. The analysis of future water supply needs shall include agricultural, recreational, and industrial uses, and electric power generation. Local water supply plans prepared pursuant to G.S. 143-355(l) for water systems with service area located within the source river basin shall be used to evaluate the projected future water needs in the source river basin that will be met by public water systems.
- (9) The applicant's water supply plan prepared pursuant to G.S. 143-355(l). If the applicant's water supply plan is more than two years old at the time of the petition, then the applicant shall include with the petition an updated water supply plan.
- (10) Any other information deemed necessary by the Commission for review of the proposed water transfer.

(h) Settlement Discussions. – Upon the request of the applicant, any interested party, or the Department, or upon its own motion, the Commission may appoint a mediation officer. The mediation officer may be a member of the Commission, an employee of the Department, or a neutral third party but shall not be a hearing officer under subsections (e) or (j) of this section. The mediation officer shall make a reasonable effort to initiate settlement discussions between the applicant and all other interested parties. Evidence of statements made and conduct that occurs in a settlement discussion conducted under this subsection, whether attributable to a party, a mediation officer, or other person shall not be subject to discovery and shall be inadmissible in any subsequent proceeding on the petition for a certificate. The Commission may adopt rules to govern the conduct of the mediation process.

(i) Draft Determination. – Within 90 days after the Commission determines that the environmental document prepared in accordance with subsection (d) of this section is adequate or the applicant submits its petition for a certificate, whichever occurs later, the Commission shall issue a draft determination on whether to grant the certificate. The draft determination shall be based on the criteria set out in this section and shall include the conditions and limitations, findings of fact, and conclusions of law that would be required in a final determination. Notice of the draft determination shall be given as provided in subsection (c) of this section.

(j) Public Hearing on the Draft Determination. – Within 60 days of the issuance of the draft determination as provided in subsection (i) of this section, the Commission shall hold public hearings on the draft determination. At least one hearing shall be held in the affected G.S. 143-215.22L

area of the source river basin, and at least one hearing shall be held in the affected area of the receiving river basin. In determining whether more than one public hearing should be held within either the source or receiving river basins, the Commission shall consider the differing or conflicting interests that may exist within the river basins, including the interests of both upstream and downstream parties potentially affected by the proposed transfer. The public hearings shall be conducted by one or more hearing officers appointed by the Chair of the Commission. The hearing officers may be members of the Commission or employees of the Department. The Commission shall give at least 30 days' written notice of the public hearing as provided in subsection (c) of this section. The Commission shall accept written comment on the draft determination for a minimum of 30 days following the last public hearing. The Commission shall prepare a record of all comments and written responses to questions posed in writing. The record shall include complete copies of scientific or technical comments related to the potential impact of the interbasin transfer. The applicant who petitions the Commission for a certificate under this section shall pay the costs associated with the notice and public hearing on the draft determination.

(k) Final Determination: Factors to be Considered. – In determining whether a certificate may be issued for the transfer, the Commission shall specifically consider each of the following items and state in writing its findings of fact and conclusions of law with regard to each item:

- (1) The necessity and reasonableness of the amount of surface water proposed to be transferred and its proposed uses.
- (2) The present and reasonably foreseeable future detrimental effects on the source river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans for public water systems with service area located within the source river basin prepared pursuant to G.S. 143-355(1) shall be used to evaluate the projected future water needs in the source river basin that will be met by public water systems. Information on projected future water needs for public water systems with service area located within the source river basin that is more recent than the local water supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the source river basin.
- (3) The cumulative effect on the source major river basin of any water transfer or consumptive water use that, at the time the Commission considers the petition for a certificate is occurring, is authorized under this section, or is projected in any local water supply plan for public water systems with service area located within the source river basin that has been submitted to the Department in accordance with G.S. 143-355(1).
- (4) The present and reasonably foreseeable future beneficial and detrimental effects on the receiving river basin, including present and future effects on public, industrial, economic, recreational, and agricultural water supply needs, wastewater assimilation, water quality, fish and wildlife habitat, electric power generation, navigation, and recreation. Local water supply plans prepared pursuant to G.S. 143-355(1) that affect the receiving river basin shall be used to evaluate the projected future water needs in the receiving river basin that will be met by public water systems. Information on projected future water needs that is more recent than the local water

supply plans may be used if the Commission finds the information to be reliable. The determination shall include a specific finding as to measures that are necessary or advisable to mitigate or avoid detrimental impacts on the receiving river basin.

- (5) The availability of reasonable alternatives to the proposed transfer, including the potential capacity of alternative sources of water, the potential of each alternative to reduce the amount of or avoid the proposed transfer, probable costs, and environmental impacts. In considering alternatives, the Commission is not limited to consideration of alternatives that have been proposed, studied, or considered by the applicant. The determination shall include a specific finding as to why the applicant's need for water cannot be satisfied by alternatives within the receiving basin, including unused capacity under a transfer for which a certificate is in effect or that is otherwise authorized by law at the time the applicant submits the petition. The determination shall consider the extent to which access to potential sources of surface water or groundwater within the receiving river basin is no longer available due to depletion, contamination, or the declaration of a capacity use area under Part 2 of Article 21 of Chapter 143 of the General Statutes. The determination shall consider the feasibility of the applicant's purchase of water from other water suppliers within the receiving basin and of the transfer of water from another sub-basin within the receiving major river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the Commission's determination as to reasonable alternatives shall give preference to alternatives that would involve a transfer from one sub-basin to another within the major receiving river basin over alternatives that would involve a transfer from one major river basin to another major river basin.
- (6) If applicable to the proposed project, the applicant's present and proposed use of impoundment storage capacity to store water during high-flow periods for use during low-flow periods and the applicant's right of withdrawal under G.S. 143-215.44 through G.S. 143-215.50.
- (7) If the water to be withdrawn or transferred is stored in a multipurpose reservoir constructed by the United States Army Corps of Engineers, the purposes and water storage allocations established for the reservoir at the time the reservoir was authorized by the Congress of the United States.
- (8) Whether the service area of the applicant is located in both the source river basin and the receiving river basin.
- (9) Any other facts and circumstances that are reasonably necessary to carry out the purposes of this Part.

(1) Final Determination: Information to be Considered. – In determining whether a certificate may be issued for the transfer, the Commission shall consider all of the following sources of information:

- (1) The petition.
- (2) The environmental document prepared pursuant to subsection (d) of this section.
- (3) All oral and written comment and all accompanying materials or evidence submitted pursuant to subsections (e) and (j) of this section.
- (4) Information developed by or available to the Department on the water quality of the source river basin and the receiving river basin, including waters that are identified as impaired pursuant to section 303(d) of the



federal Clean Water Act (33 U.S.C. § 1313(d)), that are subject to a total maximum daily load (TMDL) limit under subsections (d) and (e) of section 303 of the federal Clean Water Act, or that would have their assimilative capacity impaired if the certificate is issued.

- (5) Any other information that the Commission determines to be relevant and useful.

(m) Final Determination: Burden and Standard of Proof; Specific Findings. – The Commission shall grant a certificate for a water transfer if the Commission finds that the applicant has established by a preponderance of the evidence all of the following:

- (1) The benefits of the proposed transfer outweigh the detriments of the proposed transfer. In making this determination, the Commission shall be guided by the approved environmental document and the policy set out in subsection (t) of this section.
- (2) The detriments have been or will be mitigated to the maximum degree practicable.
- (3) The amount of the transfer does not exceed the amount of the projected shortfall under the applicant's water supply plan after first taking into account all other sources of water that are available to the applicant.
- (4) There are no reasonable alternatives to the proposed transfer.

(n) Final Determination: Certificate Conditions and Limitations. – The Commission may grant the certificate in whole or in part, or deny the certificate. The Commission may impose any conditions or limitations on a certificate that the Commission finds necessary to achieve the purposes of this Part including a limit on the period for which the certificate is valid. The conditions and limitations shall include any mitigation measures proposed by the applicant to minimize any detrimental effects within the source and receiving river basins. In addition, the certificate shall require all of the following conditions and limitations:

- (1) A water conservation plan that specifies the water conservation measures that will be implemented by the applicant in the receiving river basin to ensure the efficient use of the transferred water. Except in circumstances of technical or economic infeasibility or adverse environmental impact, the water conservation plan shall provide for the mandatory implementation of water conservation measures by the applicant that equal or exceed the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin.
- (2) A drought management plan that specifies how the transfer shall be managed to protect the source river basin during drought conditions or other emergencies that occur within the source river basin. Except in circumstances of technical or economic infeasibility or adverse environmental impact, this drought management plan shall include mandatory reductions in the permitted amount of the transfer based on the severity and duration of a drought occurring within the source river basin and shall provide for the mandatory implementation of a drought management plan by the applicant that equals or exceeds the most stringent water conservation plan implemented by a public water system that withdraws water from the source river basin.
- (3) The maximum amount of water that may be transferred, calculated as a daily average of a calendar month, and methods or devices required to be installed and operated that measure the amount of water that is transferred.
- (4) A provision that the Commission may amend a certificate to reduce the maximum amount of water authorized to be transferred whenever it appears

that an alternative source of water is available to the certificate holder from within the receiving river basin, including, but not limited to, the purchase of water from another water supplier within the receiving basin or to the transfer of water from another sub-basin within the receiving major river basin.

- (5) A provision that the Commission shall amend the certificate to reduce the maximum amount of water authorized to be transferred if the Commission finds that the applicant's current projected water needs are significantly less than the applicant's projected water needs at the time the certificate was granted.
- (6) A requirement that the certificate holder report the quantity of water transferred during each calendar quarter. The report required by this subdivision shall be submitted to the Commission no later than 30 days after the end of the quarter.
- (7) Except as provided in this subdivision, a provision that the applicant will not resell the water that would be transferred pursuant to the certificate to another public water system. This limitation shall not apply in the case of a proposed resale or transfer among public water systems within the receiving river basin as part of an interlocal agreement or other regional water supply arrangement, provided that each participant in the interlocal agreement or regional water supply arrangement is a co-applicant for the certificate and will be subject to all the terms, conditions, and limitations made applicable to any lead or primary applicant.

(o) Administrative and Judicial Review. – Administrative and judicial review of a final decision on a petition for a certificate under this section shall be governed by Chapter 150B of the General Statutes.

(p) Certain Preexisting Transfers. – In cases where an applicant requests approval to increase a transfer that existed on 1 July 1993, the Commission may approve or disapprove only the amount of the increase. If the Commission approves the increase, the certificate shall be issued for the amount of the preexisting transfer plus any increase approved by the Commission. A certificate for a transfer approved by the Commission under G.S. 162A-7 shall remain in effect as approved by the Commission and shall have the same effect as a certificate issued under this Part. A certificate for the increase of a preexisting transfer shall contain all of the conditions and limitations required by subsection (m) of this section.

(q) Emergency Transfers. – In the case of water supply problems caused by drought, a pollution incident, temporary failure of a water plant, or any other temporary condition in which the public health, safety, or welfare requires a transfer of water, the Secretary of Environmental Quality may grant approval for a temporary transfer. Prior to approving a temporary transfer, the Secretary shall consult with those parties listed in subdivision (3) of subsection (c) of this section that are likely to be affected by the proposed transfer. However, the Secretary shall not be required to satisfy the public notice requirements of this section or make written findings of fact and conclusions of law in approving a temporary transfer under this subsection. If the Secretary approves a temporary transfer under this subsection, the Secretary shall specify conditions to protect other water users. A temporary transfer shall not exceed six months in duration, but the approval may be renewed for a period of six months by the Secretary based on demonstrated need as set forth in this subsection.

(r) Relationship to Federal Law. – The substantive restrictions, conditions, and limitations upon surface water transfers authorized in this section may be imposed pursuant to any federal law that permits the State to certify, restrict, or condition any new or continuing transfers or related activities licensed, relicensed, or otherwise authorized by the federal

government. This section shall govern the transfer of water from one river basin to another unless preempted by federal law.

(s) Planning Requirements. – When any transfer for which a certificate was issued under this section equals or exceeds eighty percent (80%) of the maximum amount authorized in the certificate, the applicant shall submit to the Department a detailed plan that specifies how the applicant intends to address future foreseeable water needs. If the applicant is required to have a local water supply plan, then this plan shall be an amendment to the local water supply plan required by G.S.143-355(l). When the transfer equals or exceeds ninety percent (90%) of the maximum amount authorized in the certificate, the applicant shall begin implementation of the plan submitted to the Department.

(t) Statement of Policy. – It is the public policy of the State to maintain, protect, and enhance water quality within North Carolina. It is the public policy of this State that the reasonably foreseeable future water needs of a public water system with its service area located primarily in the receiving river basin are subordinate to the reasonably foreseeable future water needs of a public water system with its service area located primarily in the source river basin. Further, it is the public policy of the State that the cumulative impact of transfers from a source river basin shall not result in a violation of the antidegradation policy set out in 40 Code of Federal Regulations § 131.12 (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto.

(u) Repealed by Session Laws 2013-388, s. 2, effective August 23, 2013.

(v) Modification of Certificate. – A certificate may be modified as provided in this subsection:

- (1) The Commission or the Department may make any of the following modifications to a certificate after providing electronic notice to persons who have identified themselves in writing as interested parties:
  - a. Correction of typographical errors.
  - b. Clarification of existing conditions or language.
  - c. Updates, requested by the certificate holder, to a conservation plan, drought management plan, or compliance and monitoring plan.
  - d. Modifications requested by the certificate holder to reflect altered requirements due to the amendment of this section.
- (2) A person who holds a certificate for an interbasin transfer of water may request that the Commission modify the certificate. The request shall be considered and a determination made according to the following procedures:
  - a. The certificate must have been issued pursuant to G.S. 162A-7, 143-215.22I, or 143-215.22L and the certificate holder must be in substantial compliance with the certificate.
  - b. The certificate holder shall file a notice of intent to file a request for modification that includes a nontechnical description of the certificate holder's request and identification of the proposed water source.
  - c. The certificate holder shall prepare an environmental document pursuant to subsection (d) of this section, except that an environmental impact statement shall not be required for the modification of a certificate unless it would otherwise be required by Article 1 of Chapter 113A of the General Statutes.
  - d. Upon determining that the documentation submitted by the certificate holder is adequate to satisfy the requirements of this subsection, the Department shall publish a notice of the request for modification in the North Carolina Register and shall hold a public hearing at a

location convenient to both the source and receiving river basins. The Department shall provide written notice of the request for the modification and the public hearing in the Environmental Bulletin, a newspaper of general circulation in the source river basin, a newspaper of general circulation in the receiving river basin, and as provided in subdivision (3) of subsection (c) of this section. The certificate holder who petitions the Commission for a modification under this subdivision shall pay the costs associated with the notice and public hearing.

- e. The Department shall accept comments on the requested modification for a minimum of 30 days following the public hearing.
- f. The Commission or the Department may require the certificate holder to provide any additional information or documentation it deems reasonably necessary in order to make a final determination.
- g. The Commission shall make a final determination whether to grant the requested modification based on the factors set out in subsection (k) of this section, information provided by the certificate holder, and any other information the Commission deems relevant. The Commission shall state in writing its findings of fact and conclusions of law with regard to each factor.
- h. The Commission shall grant the requested modification if it finds that the certificate holder has established by a preponderance of the evidence that the requested modification satisfies the requirements of subsection (m) of this section. The Commission may grant the requested modification in whole or in part, or deny the request, and may impose such limitations and conditions on the modified certificate as it deems necessary and relevant to the modification.
- i. The Commission shall not grant a request for modification if the modification would result in the transfer of water to an additional major river basin.
- j. The Commission shall not grant a request for modification if the modification would be inconsistent with the December 3, 2010 Settlement Agreement entered into between the State of North Carolina, the State of South Carolina, Duke Energy Carolinas, and the Catawba River Water Supply Project.

(w) Requirements for Coastal Counties and Reservoirs Constructed by the United States Army Corps of Engineers. – A petition for a certificate (i) to transfer surface water to supplement ground water supplies in the 15 counties designated as the Central Capacity Use Area under 15A NCAC 2E.0501, (ii) to transfer surface water withdrawn from the mainstem of a river to provide service to one of the coastal area counties designated pursuant to G.S. 113A-103, or (iii) to withdraw or transfer water stored in any multipurpose reservoir constructed by the United States Army Corps of Engineers and partially located in a state adjacent to North Carolina, provided the United States Army Corps of Engineers approved the withdrawal or transfer on or before July 1, 2014, shall be considered and a determination made according to the following procedures:

- (1) The applicant shall file a notice of intent that includes a nontechnical description of the applicant's request and identification of the proposed water source.
- (2) The applicant shall prepare an environmental document pursuant to subsection (d) of this section, except that an environmental impact statement

shall not be required unless it would otherwise be required by Article 1 of Chapter 113A of the General Statutes.

- (3) Upon determining that the documentation submitted by the applicant is adequate to satisfy the requirements of this subsection, the Department shall publish a notice of the petition in the North Carolina Register and shall hold a public hearing at a location convenient to both the source and receiving river basins. The Department shall provide written notice of the petition and the public hearing in the Environmental Bulletin, a newspaper of general circulation in the source river basin, a newspaper of general circulation in the receiving river basin, and as provided in subdivision (3) of subsection (c) of this section. The applicant who petitions the Commission for a certificate under this subdivision shall pay the costs associated with the notice and public hearing.
- (4) The Department shall accept comments on the petition for a minimum of 30 days following the public hearing.
- (5) The Commission or the Department may require the applicant to provide any additional information or documentation it deems reasonably necessary in order to make a final determination.
- (6) The Commission shall make a final determination whether to grant the certificate based on the factors set out in subsection (k) of this section, information provided by the applicant, and any other information the Commission deems relevant. The Commission shall state in writing its findings of fact and conclusions of law with regard to each factor.
- (7) The Commission shall grant the certificate if it finds that the applicant has established by a preponderance of the evidence that the petition satisfies the requirements of subsection (m) of this section. The Commission may grant the certificate in whole or in part, or deny the request, and may impose such limitations and conditions on the certificate as it deems necessary and relevant. (1993, c. 348, s. 1; 1997-443, ss. 11A.119(a), 15.48(c); 1997-524, s. 1; 1998-168, s. 4; 2001-474, s. 28; 2007-484, s. 43.7C; 2007-518, s. 3; 2008-125, s. 1; 2008-198, s. 11.5; 2010-155, ss. 2, 3; 2011-398, s. 50; 2013-388, s. 2; 2014-120, s. 37; 2015-90, s. 7; 2015-241, s. 14.30(v).)

**Appendix B:**

Charlotte Water's 2020 IBT Annual Report



July 26, 2021

Ms. Kim Nimmer  
Water Supply Planning Branch  
N.C. Division of Water Resources  
1611 Mail Service Center  
Raleigh, North Carolina 27699-1611

Subject: IBT Report for 2020

Dear Ms. Nimmer:

We are sending our calendar year 2020 IBT Annual Report. We are also transmitting this report to you electronically. The report follows the format of earlier reports and includes a narrative section with background and program progress reports along with spreadsheets detailing the IBT amount calculation.

For calendar year 2020, we experienced an actual maximum day IBT based in July billing data of 23.66 mgd. Of our authorized 33 mgd IBT, this value was approximately 71.7%. The average IBT was 17.74 mgd, approximately 53.7% of authorized IBT.

As of December 31, 2020, there were additional outstanding IBT commitments of 3.66 mgd. This total takes into account permitted donated projects (largely subdivisions) and non-activated master metered connections. We are aware of the impact of these additional flows on our current IBT.

Please let me know if you have any questions.

Sincerely,

CHARLOTTE WATER

A handwritten signature in black ink, appearing to read "Alan H. Gaines".

Alan Gaines, PE  
Senior Engineer – Engineering Planning Section



*Charlotte Water  
Annual Report on Interbasin Transfer  
Calendar Year 2020*

## **INTRODUCTION**

The North Carolina Environmental Management Commission (EMC) approved Charlotte Water's (CLTWater's) petition to increase the amount of water transferred from the Catawba River basin to the Rocky River basin. An interbasin transfer (IBT) Certificate was issued on March 14, 2002, that authorizes CLTWater to transfer up to 33 million gallons per day (mgd) between the river basins.

The IBT Certificate requires CLTWater to report maximum daily IBT amounts annually to the North Carolina Division of Water Resources (NC DWR) until such time as the transfer amount exceeds 80% of the authorized amount. Once that amount is exceeded, CLTWater is required to report monthly. CLTWater has not exceeded 80% of the authorized IBT amount.

## **SYSTEM OVERVIEW**

CLTWater operates the water and wastewater systems that serve Charlotte, Cornelius, Davidson, Huntersville, Mint Hill, Matthews, Pineville, and much of the unincorporated areas of Mecklenburg County. This system is divided between two river basins designated by NC General Statutes for regulation of IBT water. The western portion of the system is within the Catawba River basin and the eastern portion is within the Rocky River basin. Water transferred from the Catawba River basin to the Rocky River basin that is not returned to the Catawba river basin is regulated IBT.

Water for distribution to CLTWater's customers is withdrawn from the Catawba River basin at two locations. An intake at Lake Norman sends water to the Lee S. Dukes Water Treatment Plant. A second intake at Mountain Island Lake sends water to the Walter M. Franklin Water Treatment Plant and to the Vest Water Treatment Plant. Potable water from these three plants is delivered through an interconnected distribution system to retail customers throughout CLTWater's service area in Mecklenburg County and in small areas of Iredell, Cabarrus, and Union Counties. CLTWater also provides wholesale water to municipal systems for resale including: City of Concord (NC), Town of Harrisburg (NC), Union County (NC), Lancaster County Water and Sewer District (SC), and Lue Granite – Lake Wylie (SC).

CLTWater treats wastewater at five advanced wastewater treatment plants (WWTP's) that discharge into small streams in Mecklenburg County. Four of the streams are tributary to the Catawba River basin and one (Mallard Creek) is tributary to the Rocky River basin. CLTW also treats wastewater at two smaller package plants that discharge into streams tributary to the Rocky River Basin. CLTWater also conveys wastewater generated in portions of Mecklenburg County to the Rocky River Regional Wastewater Treatment Plant (RRRWWTP) operated by the Water and





Sewer Authority of Cabarrus County (WSACC). The RRRWWTP discharges treated effluent to the Rocky River.

## **IBT MONITORING**

Water supplied to CLTWater's retail customers in the Rocky River Basin, that is not returned to the Catawba basin, is included in the reported IBT amounts. Water provided to municipalities with service areas in the Rocky River basin includes the City of Concord and the Town of Harrisburg.

CLTWater can transfer treated potable water to the City of Concord through three metered connections to their water system. All of Concord's service area is within the Rocky River basin; therefore, any water purchased by them becomes an IBT. Water service is only provided as an emergency back-up to Concord's routine supply, which are Lake Howell and several smaller reservoirs. All of these reservoirs are within the Rocky River basin. Wastewater from Concord is treated at the RRRWWTP. CLTWater's agreement with Concord is that water will be supplied to them subject to availability and subject to regulatory constraints including IBT and Federal Energy Regulatory Commission (FERC) limitations.

Concord received an IBT Certificate in January 2007 for the transfer of up to 10 mgd from the Catawba River basin to the Rocky River basin. NC DWR advised CLTWater that water sold to Concord should not be applied to CLTWater's IBT amount. For calendar year 2020, Concord did purchase water for 54 days at an average of 0.4030 MGD. Therefore, the average day IBT estimate was adjusted to reflect this potential consumption.

CLTWater can transfer treated potable water to the Town of Harrisburg through three metered connections to their water system. Harrisburg's service area is entirely within the Rocky River basin and is included in CLTWater's IBT amounts.

Table 1 summarizes actual IBT amounts for calendar years 2002 through 2020 (all amounts were calculated using the methodology approved by NC DWR in June of 2006). The table considers the daily amounts of water transferred from the Catawba River basin to customers within the Rocky River basin that is not returned to the Catawba River basin.

The maximum daily IBT for calendar year 2020 was 23.66 mgd in July, which was 71.7% of the authorized IBT of 33 mgd. The average IBT for 2020 was 17.74 mgd, 53.7% of the authorized IBT. In addition to the actual amount of IBT reported in Table 1, CLTWater has committed to provide IBT to development that has been proposed but has not yet been activated within the Rocky River basin. As of December 31, 2020, 2.379 mgd was committed to permitted donated projects (subdivisions) that have not been activated and 1.278 mgd was committed to master meter connections (generally commercial or multi-family developments) that have not been activated; both commitments are based on maximum day estimates. The combined actual plus committed maximum day IBT for 2020 was 27.32 mgd, approximately 82.8% of the authorized IBT.



*Table 1: Actual IBT Summary*

<b>Calendar Year</b>	<b>Avg. Annual IBT (mgd)</b>	<b>Max. Day IBT (mgd)</b>
2002	6.74	11.97
2003	6.91	9.82
2004	7.79	12.56
2005	8.66	13.79
2006	9.56	14.35
2007	9.96	17.22
2008	11.39	17.42
2009	12.04	16.00
2010	13.33	18.33
2011	13.11	18.82
2012	12.18	17.67
2013	12.99	16.80
2014	15.02	21.44
2015	16.59	24.19
2016	17.32	22.39
2017	16.27	21.97
2018	19.13	25.81
2019	18.06	25.26
2020	17.74	23.66

**COMPLIANCE WITH CERTIFICATE CONDITIONS**

***Condition 1: S.W.I.M. Program Summary***

Mecklenburg County is required to annually summarize progress in implementation of watershed management approaches of the Surface Water Improvement and Management (S.W.I.M.) Program. Provided below is the summary of progress made during calendar year (CY) 2020. The Division of Water Resources shall have the authority to approve modifications to and need for continued reporting as necessary.

During CY2020, watershed management approaches continued to be implemented by Charlotte-Mecklenburg Storm Water Services (CMSWS) as part of Mecklenburg County’s S.W.I.M. Program. Efforts continued to focus on McDowell and Goose Creeks, as initiated in 2007, as well as on the West Branch of the Rocky River in Davidson that began in 2009. During calendar year 2020, the following work was completed in the three (3) watersheds by CMSWS:

McDowell Creek (including the Torrence Creek Tributary to McDowell Creek)

1. CMSWS is working with Cornelius on the Willow Pond Project. The pond has been dewatered and bid documents for construction of the free-flowing stream and downstream stream restoration project have been released.
2. CMSWS in partnership with the Town of Huntersville has begun construction of a stream restoration project downstream of North Mecklenburg Park through the Hamptons Neighborhood to Statesville Road.

Goose Creek (including the Stevens Creek Tributary to Goose Creek)

1. Freshwater mussels were reintroduced to the completed Stevens Creek stream restoration project area by US Fish and Wildlife.

Rocky River

1. Construction began on Phase I of the restoration of a tributary of the South Prong of the West Branch of the Rocky River. The remaining two (2) phases of the project, which are on the South Prong of the Rocky River, will be constructed as funding allows.
2. Easement acquisition was underway for the restoration of approximately 1.5 miles of a tributary of the South Prong West Branch of the Rocky River. The project is awaiting allocation of funding prior to hiring a design consultant

**Condition 2: Stakeholder Process (Completed)**

A stakeholder process is required to investigate, develop, adopt, and implement storm water ordinances that control water quantity from single-family development and water quality for all development until completed. The requirements of Condition 2 were completed in 2007.

**Condition 3: Goose Creek Subbasin (Completed)**

The IBT Certificate removed the Goose Creek subbasin from the area to be served by the IBT, and imposed a moratorium on the installation of new IBT water lines (water lines crossing the ridgeline) into Goose Creek subbasin until the impacts of additional growth on the endangered species were fully evaluated.

*CLTWater submitted the final Environmental Assessment of new development in the Goose Creek basin (Mint Hill area) to the NC Division of Water Resources (DWR) in February of 2013. The Environmental Management Commission approved the Environmental Assessment in May of 2013 and has removed the requirements under Condition 3.*



***Condition 4: Environmental Management Commission***

The IBT Certificate provides that the Environmental Management Commission may reopen the Certificate under certain circumstances. This did not occur in 2020.

***Condition 5: Compliance and Monitoring Plan***

The IBT Certificate requires CLTWater to develop a compliance and monitoring plan for reporting maximum daily transfer amounts, compliance with certificate conditions, and progress on mitigation measures, and drought management activities. CLTWater's monitoring plan and reporting format were approved in June of 2006 by NC DWR and continue to be used for 2020.

*Charlotte Water monitored water treatment plant pump rates, streamflow and lake storage indicators, the US Drought Monitor, and other factors in accordance with the CLTWater Water Shortage Response Plan. Measurements were assessed monthly to identify designated triggers that could indicate developing drought conditions. All appropriate planning, communication and preparation were in place to respond as needed to changing conditions.*

*In coordination with 17 other utilities in the Catawba-Wateree river basin, CLTWater participated in regional drought response planning and response activities as directed by the Catawba Basin Low Inflow Protocol.*

**SUMMARY**

The actual maximum day amount of water transferred from the Catawba River basin to the Rocky River basin was 23.66 mgd, which was 71.7% of the authorized maximum day value of 33 mgd. The combined total of actual and outstanding IBT volumes was 27.32 mgd, which was approximately 82.8% of the authorized maximum day value. CLTWater was in full compliance with IBT authorizations and compliance conditions for calendar year 2020.

**INTERBASIN TRANSFER WATER BALANCE TABLE  
- AVERAGE DAILY TRANSFER ESTIMATES -**

Water System: Charlotte Water

Date: July 23, 2021

Source Basin: Catawba River

Prepared By: Alan Gaines, PE

Receiving Basin(s): Rocky River

Year <sup>2</sup> (A)	Water System (B)	Withdrawal from Source <sup>1</sup> (MGD) (C)	Consumptive Loss <sup>1</sup>		Wastewater Discharge <sup>1</sup>		Total Return to Source Basin <sup>1</sup> (MGD) (H)=(D)+(F)	Total Surface Water Transfer <sup>1</sup> (MGD) (I)=(C)-(H)
			Source Basin (MGD) (D)	Receiving Basin <sup>3</sup> (MGD) (E)	Source Basin (MGD) (F)	Receiving Basin <sup>3</sup> (MGD) (G)		
2010	Charlotte Water	101.83	14.72	6.40	72.74	10.13	87.46	14.37
2017	Charlotte Water	104.04	17.36	7.21	69.85	13.42	87.21	16.83
2018	Charlotte Water	107.37	13.99	5.16	74.23	13.99	88.22	19.15
2019	Charlotte Water	110.29	14.40	5.16	78.12	13.95	92.51	17.78
2020	Charlotte Water	104.54	6.47	2.96	80.66	14.46	87.13	17.41
2030	Charlotte Water	132.31	8.19	3.74	102.08	18.30	110.27	22.04
2040	Charlotte Water	157.59	9.76	4.46	121.58	21.79	131.34	26.25
2050	Charlotte Water	182.87	11.32	5.17	141.08	25.29	152.41	30.46
2060	Charlotte Water	208.15	12.89	5.89	160.59	28.78	173.47	34.67
2070	Charlotte Water	233.42	14.45	6.60	180.09	32.28	194.54	38.88

Notes:

1. All numbers are expressed in million gallons per day (MGD) rounded to two decimal places.
2. The row marked 2010 should be used to estimate current data (change date to reflect current year). Future years should account for a 50-year planning timeframe (consistent with LWSP projections). Additional rows may be added to mark system milestones or critical planning timeframes (planned expansions, increased industrial user contributions, etc.)
3. If there is more than one receiving basin, you may add additional columns for each basin.

**INTERBASIN TRANSFER WATER BALANCE TABLE**  
**- MAXIMUM DAILY TRANSFER ESTIMATES -**

Water System: Charlotte Water

Date: July 23, 2020

Source Basin: Catawba River

Prepared By: Alan Gaines, PE

Receiving Basin(s): Rocky River

Year <sup>2</sup> (A)	Water System (B)	Withdrawal from Source <sup>1</sup> (MGD) (C)	Consumptive Loss <sup>1</sup>		Wastewater Discharge <sup>1</sup>		Total Return to Source Basin <sup>1</sup> (MGD) (H)=(D)+(F)	Total Surface Water Transfer <sup>1</sup> (MGD) (I)=(C)-(H)
			Source Basin (MGD) (D)	Receiving Basin <sup>3</sup> (MGD) (E)	Source Basin (MGD) (F)	Receiving Basin <sup>3</sup> (MGD) (G)		
2010	Charlotte Water	126.91	33.26	6.48	76.22	10.95	109.48	17.43
2017	Charlotte Water	134.11	31.64	10.11	81.17	11.18	112.82	21.29
2018	Charlotte Water	149.44	43.40	14.76	80.23	11.05	123.63	25.81
2019	Charlotte Water	148.24	36.74	10.19	86.59	14.72	123.32	24.92
2020	Charlotte Water	137.28	36.75	9.99	77.11	13.42	113.87	23.41
2030	Charlotte Water	173.73	46.51	12.64	97.59	16.98	144.11	29.63
2040	Charlotte Water	206.93	55.40	15.06	116.24	20.23	171.64	35.29
2050	Charlotte Water	240.12	64.29	17.48	134.88	23.47	199.17	40.95
2060	Charlotte Water	273.32	73.18	19.89	153.53	26.72	226.71	46.61
2070	Charlotte Water	306.52	82.07	22.31	172.18	29.97	254.24	52.27

Notes:

1. All numbers are expressed in million gallons per day (MGD) rounded to two decimal places.
2. The row marked 2010 should be used to estimate current data (change date to reflect current year). Future years should account for a 50-year planning timeframe (consistent with LWSP projections). Additional rows may be added to mark system milestones or critical planning timeframes (planned expansions, increased industrial user contributions, etc.).
3. If there is more than one receiving basin, you may add additional columns for each basin.

**Appendix C:**

Concord and Kannapolis' 2020 IBT Annual Report

**2020 Annual Report on Interbasin Transfers  
for  
The Cities of Concord and Kannapolis**

Prepared for and by:

**City of Concord**



**City of Kannapolis**



Submitted to:

**North Carolina Division of Water Resources**

February 2021



# Executive Summary

The 2020 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 through 2019 and are available on the North Carolina Division of Water Resources (NCDWR) website. The reports for earlier years can be found at the following website: <https://deq.nc.gov/node/82755>.

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 2020, the Certificate Holders complied with all conditions of their IBT Certificate. The Cities of Concord and Kannapolis had a maximum daily transfer from the Catawba River Basin of 1.83 mgd during 2020. The maximum daily transfer from the Yadkin River Basin was 4.49 mgd.

In 2020, the City of Kannapolis pumped water from Second Creek to Kannapolis Lake under its South Yadkin River Basin grandfathered IBT. The maximum daily transfer under the grandfathered IBT from the South Yadkin River Basin to the Rocky River Basin in 2020 was -0.19 mgd. The 2020 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**

2020 IBT Average Annual & Maximum Day Demands for Concord and Kannapolis Service Areas

Year	Catawba River Basin			Yadkin River Basin			Second Creek <sup>c,d</sup> (South Yadkin River Basin)		
	Water Purchase (mgd)		IBT as % of Certificate <sup>a</sup>	Water Purchase (mgd)		IBT as % of Certificate <sup>b,c</sup>	Water Transfer (mgd)		IBT as % of Grand- fathered amount
	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day
2020	0.006	1.83	18.32%	3.46	4.49	44.90%	-0.27	-0.19	-3.10%

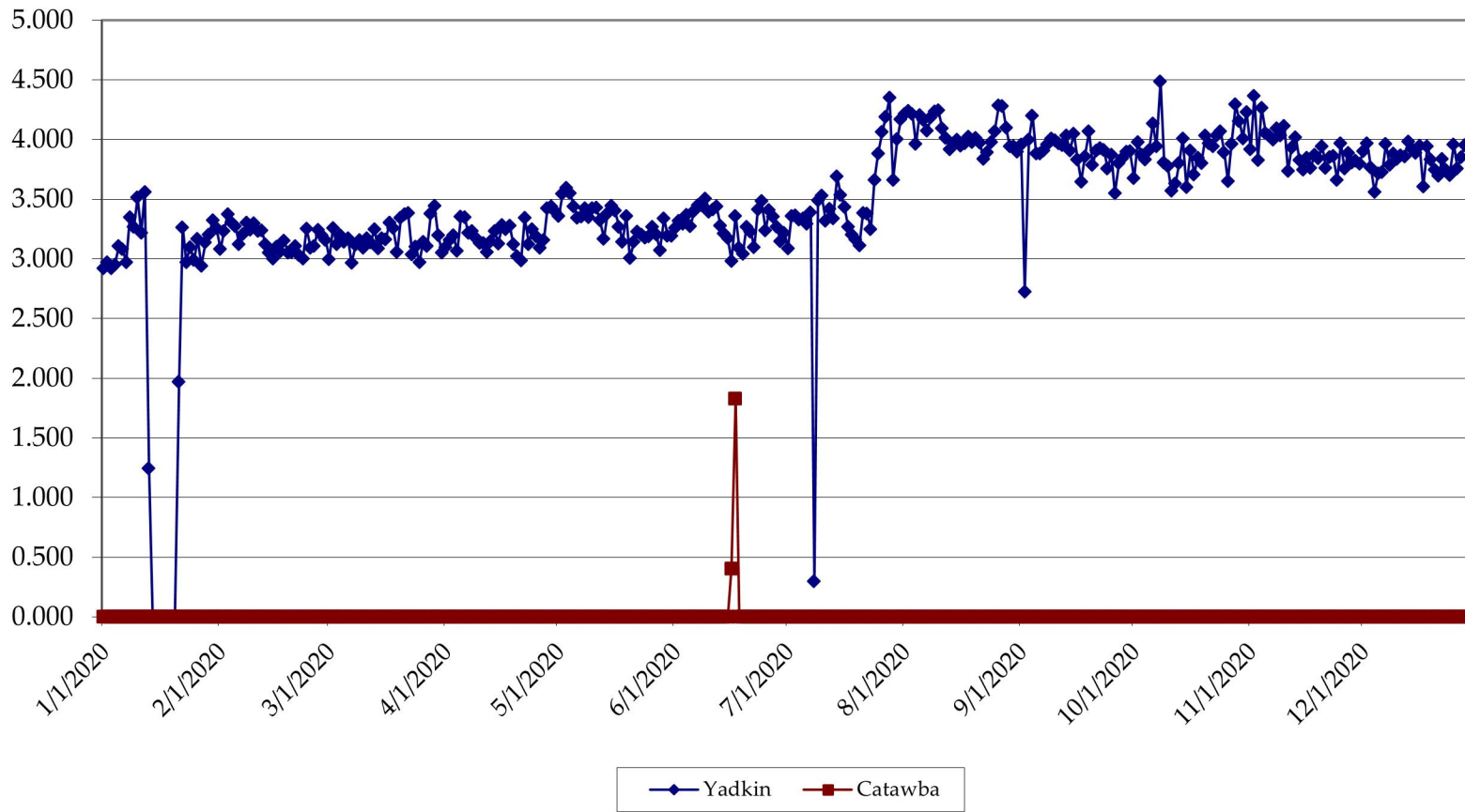
<sup>a</sup> Maximum Day IBT of 10 mgd from the Catawba River Basin.

<sup>b</sup> Maximum Day IBT of 10 mgd from the Yadkin River Basin.

<sup>c</sup> 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.

<sup>d</sup> There was no transfer from Second Creek, therefore these numbers are negative.

### 2020 Daily IBT Per Basin (mgd)



**Figure ES-1**  
2020 Daily Interbasin Transfers by Basin

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## Appendix

Daily Interbasin Transfer Amounts for 2020

# Acronyms and Abbreviations

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

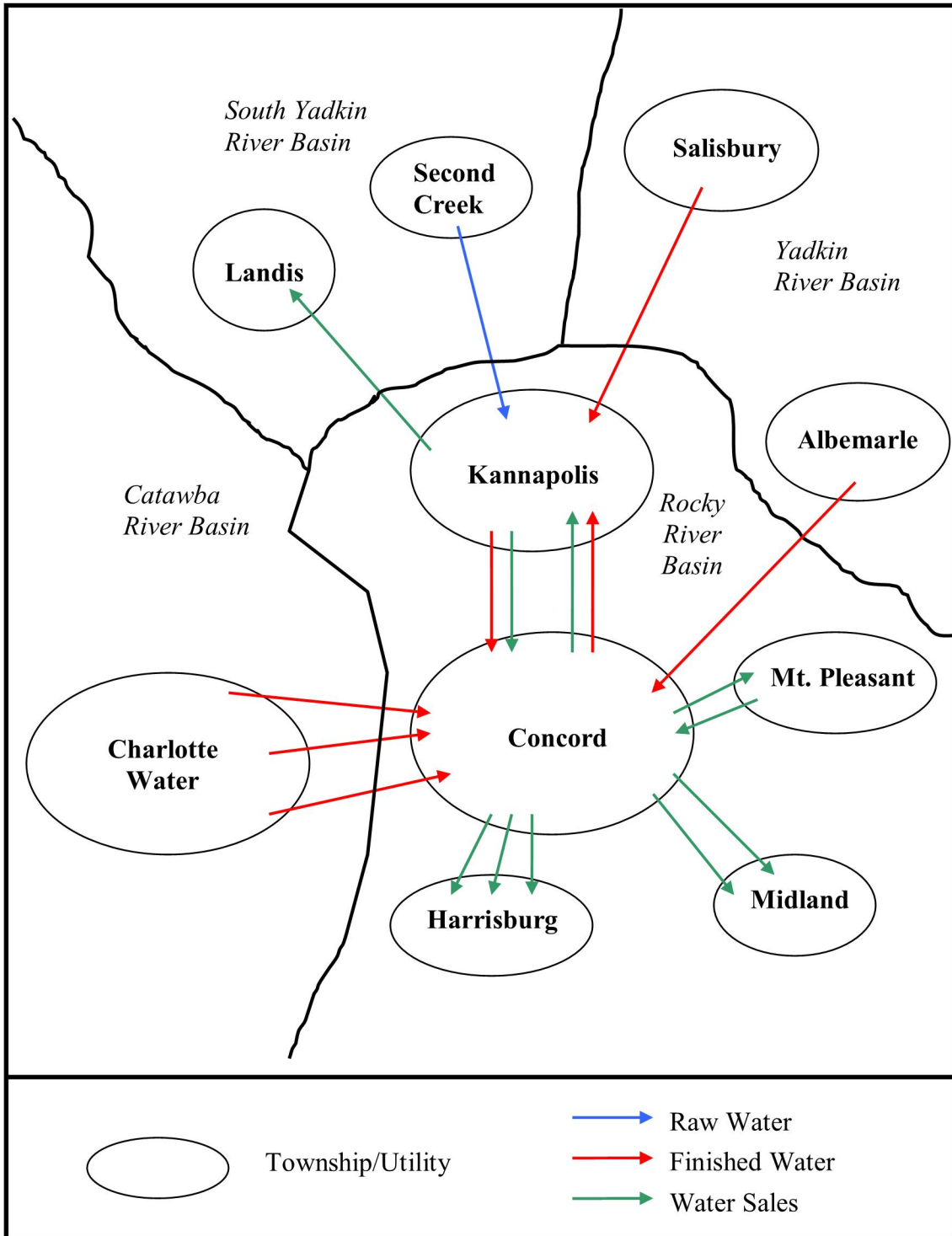
The Cities of Concord and Kannapolis (Cities) received an interbasin transfer (IBT) Certificate, which was originally approved on January 10, 2007, and signed into effect on January 25, 2007. The North Carolina Environmental Management Commission (EMC) has authorized transfers of up to 10 million gallons 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 through 2019 and are available on the North Carolina Division of Water Resources (NCDWR) website. The reports for earlier years can be found at the following website: <https://deq.nc.gov/node/82755>.

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 Water and the City of Salisbury currently have contracts to provide water to the Cities from the Catawba and Yadkin River Basins, respectively.

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 2020 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 Charlotte Water, the City of Salisbury and the City of Albemarle, if they occurred. Additionally, Table 2-1 presents the 2020 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 2020, finished water production averaged 12.87 mgd, purchased IBT finished water averaged 0.006 mgd for Catawba River Basin, 3.46 mgd for the Yadkin River Basin and -0.27 mgd for Second Creek. The combined 2020 annual average water use for the Certificate Holders was 16.07 mgd.

**Table 2-1**

2020 Water Production or Purchases by River Basin

Certificate Holders	Annual Average Finished Water Produced <sup>a</sup> (mgd)	2020			Annual Average Combined Water Use (mgd)
		Annual Average Purchased Water (mgd)			
		Catawba River Basin <sup>b</sup>	Yadkin River Basin	Second Creek	
Concord & Kannapolis	12.87	0.006	3.46	-0.27	16.07

<sup>a</sup> Water produced within Rocky River Basin; may include water from Second Creek transferred directly into Kannapolis Lake.

### 2.2 - Interbasin Transfers

Daily IBT amounts for the Certificate Holders are included in the Appendix. Data is provided for the period January 1, 2020 through December 31, 2020. The maximum day IBT from the Catawba River Basin during the calendar year 2020 was 1.83 mgd. This represents 18.32% of the permitted maximum day, 10 mgd IBT from the Catawba River Basin under the Certificate approved by the EMC in January 2007. The maximum day IBT from the Yadkin River Basin during the calendar year 2020 was 4.49 mgd. This represents 44.90% of the permitted maximum day, 10 mgd IBT from the Yadkin River Basin under the Certificate. There were transfers of water to Second Creek with a maximum day IBT -0.19 mgd, which represents -3.10% of the permitted maximum day, 6 mgd IBT from the South Yadkin River Basin under the grandfathered Certificate. 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**

2020 IBT Average Annual & Maximum Day Demands for Concord and Kannapolis Service Areas

Year	Catawba River Basin			Yadkin River Basin			Second Creek <sup>c,d</sup> (South Yadkin River Basin)		
	Water Purchase (mgd)		IBT as % of Certificate <sup>a</sup>	Water Purchase (mgd)		IBT as % of Certificate <sup>b,c</sup>	Water Transfer (mgd)		IBT as % of Grand-fathered amount
	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day	Average Annual	Max. Day	Max. Day
2020	0.006	1.83	18.32%	3.46	4.49	44.90%	-0.27	-0.19	-3.10%

<sup>a</sup> Maximum Day IBT of 10 mgd from the Catawba River Basin.

<sup>b</sup> Maximum Day IBT of 10 mgd from the Yadkin River Basin.

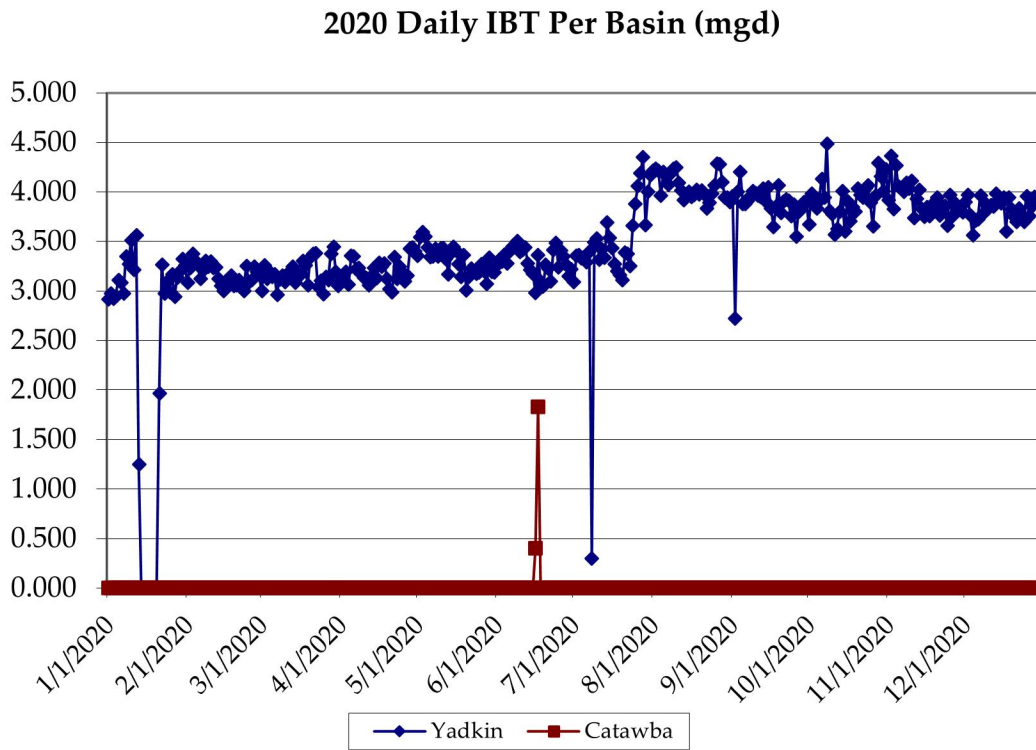
<sup>c</sup> The grandfathered 6-mgd Maximum Day IBT limit from Second Creek (South Yadkin River Basin) into the Rocky River Basin is not included in the 10-mgd Maximum Day IBT limit for the Yadkin River Basin.

<sup>d</sup> There was no transfer from Second Creek, therefore these numbers are negative.

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

**Figure 2-1**

2020 Daily Interbasin Transfers 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.

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

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 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.*

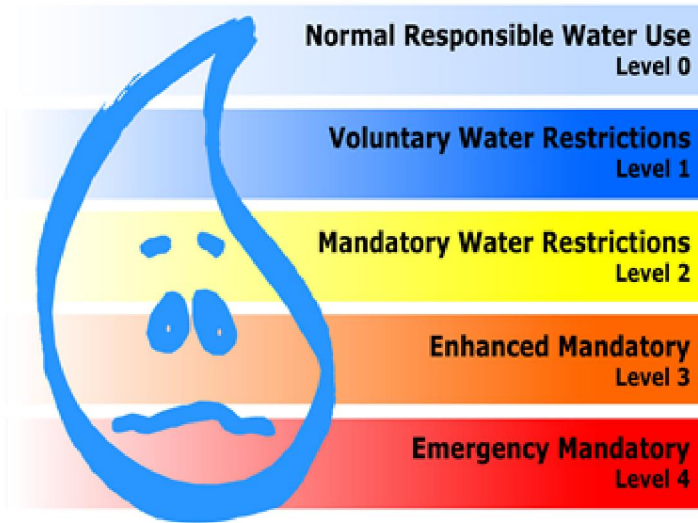
The Cities submitted the Drought Management Plan on July 31, 2007; comments were received on November 11, 2007, and the revised plan was submitted on January 8, 2008. The Drought Management Plan was incorporated into an updated Water Shortage Response Plan (WSRP) in 2010. The WSRP, prepared as a joint 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](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. Level 0, Normal Responsible Water Use, was in place from January 1 through December 31 of 2020 (Figure 4-1). Other outdoor water use conservation measures are encouraged but not required.

During the year, the Cities drought stages follow the drought stages of the Catawba-Wataree Water Management Group; hence the Cities stayed in Normal Responsible Water Use Level.



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

**Table 4-1**

Concord and Kannapolis 2020 Normal and Drought Stages

Drought Stage	Drought Monitor Classification	2020 Period of Drought			
		Catawba River Basin <sup>a</sup> (NC Drought Monitor)	Yadkin River Basin <sup>b</sup> (NC Drought Monitor)	Action by Cities	Cities' Actions Taken
	Normal				
0	Abnormally Dry				
1	Moderate Drought				
2	Severe Drought				
3	Extreme Drought				
4	Exceptional Drought				

<sup>a</sup> The Catawba River Basin is listed as the drought stage declared by the Catawba-Wateree Water Management Group.

<sup>b</sup> 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.

### **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 2020.

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 six meters. Concord also provides water service to unincorporated areas of Cabarrus County. Mount Pleasant did not purchase water from the City of Concord in 2020. 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 2020.

### **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 2020**

**2020 Concord-Kannapolis IBT Tracking**

Condition of IBT Certificate (January 25, 2007)

- Maximum day transfer from the Catawba River Basin 10 MGD
- Maximum day transfer from the Yadkin Pee-Dee River Basin 10 MGD
- Maximum day transfer from the South Yadkin River Basin (grandfather) 6 MGD
- Maximum day transfer to the South Yadkin River Basin (cannot exceed transfer from South Yadkin by more than 1.99 MGD)

Calculated Fields

Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin				Water Sales (MGD)				IBT Totals Per Basin				Interbasin Transfer												
	Salisbury 1		Albemarle 1		Charlotte 1-3		South Yadkin	South Yadkin	Yadkin	Catawba	NOTE: All Wastewater discharge is to the Rocky River from RRWWTP, excluding water sales to Landis (subtracted from Total South Yadkin IBT).						Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin to South Yadkin River Basin	% of Permitted MDD Transfer	
	South Yadkin	Yadkin	Yadkin	Catawba	Kannapolis	Finished water sales to Landis					Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer									IBT from Second Creek - South Yadkin River Basin
DATE	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Interconnections with Concord																					
1/1/2020	0.000	0.000	2.921		0.186	-0.186	2.921	0.000	0.000	0.000%	2.921	29.210%	-0.186	-3.100%	0.186	9.347%									
1/2/2020	0.000	0.000	2.975		0.248	-0.248	2.975	0.000	0.000	0.000%	2.975	29.750%	-0.248	-4.133%	0.248	12.462%									
1/3/2020	0.000	0.000	2.922		0.211	-0.211	2.922	0.000	0.000	0.000%	2.922	29.220%	-0.211	-3.517%	0.211	10.603%									
1/4/2020	0.000	0.000	2.952		0.253	-0.253	2.952	0.000	0.000	0.000%	2.952	29.520%	-0.253	-4.217%	0.253	12.714%									
1/5/2020	0.000	0.000	3.110		0.210	-0.210	3.110	0.000	0.000	0.000%	3.110	31.100%	-0.210	-3.500%	0.210	10.553%									
1/6/2020	0.000	0.000	3.083		0.250	-0.250	3.083	0.000	0.000	0.000%	3.083	30.830%	-0.250	-4.167%	0.250	12.563%									
1/7/2020	0.000	0.000	2.973		0.252	-0.252	2.973	0.000	0.000	0.000%	2.973	29.730%	-0.252	-4.200%	0.252	12.663%									
1/8/2020	0.000	0.000	3.349		0.214	-0.214	3.349	0.000	0.000	0.000%	3.349	33.490%	-0.214	-3.567%	0.214	10.754%									
1/9/2020	0.000	0.000	3.271		0.249	-0.249	3.271	0.000	0.000	0.000%	3.271	32.705%	-0.249	-4.150%	0.249	12.513%									
1/10/2020	0.000	0.000	3.515		0.245	-0.245	3.515	0.000	0.000	0.000%	3.515	35.150%	-0.245	-4.083%	0.245	12.312%									
1/11/2020	0.000	0.000	3.217		0.212	-0.212	3.217	0.000	0.000	0.000%	3.217	32.170%	-0.212	-3.533%	0.212	10.653%									
1/12/2020	0.000	0.000	3.563		0.255	-0.255	3.563	0.000	0.000	0.000%	3.563	35.630%	-0.255	-4.250%	0.255	12.814%									
1/13/2020	0.000	0.000	1.248		0.222	-0.222	1.248	0.000	0.000	0.000%	1.248	12.480%	-0.222	-3.700%	0.222	11.156%									
1/14/2020	0.000	0.000	0.000		0.243	-0.243	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.243	-4.050%	0.243	12.211%									
1/15/2020	0.000	0.000	0.000		0.256	-0.256	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.256	-4.267%	0.256	12.864%									
1/16/2020	0.000	0.000	0.000		0.249	-0.249	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.249	-4.150%	0.249	12.513%									
1/17/2020	0.000	0.000	0.000		0.202	-0.202	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.202	-3.367%	0.202	10.151%									
1/18/2020	0.000	0.000	0.000		0.251	-0.251	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.251	-4.183%	0.251	12.613%									
1/19/2020	0.000	0.000	0.000		0.204	-0.204	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.204	-3.400%	0.204	10.251%									
1/20/2020	0.000	0.000	0.000		0.255	-0.255	0.000	0.000	0.000	0.000%	0.000	0.000%	-0.255	-4.250%	0.255	12.814%									
1/21/2020	0.000	0.000	1.969		0.251	-0.251	1.969	0.000	0.000	0.000%	1.969	19.690%	-0.251	-4.183%	0.251	12.613%									
1/22/2020	0.000	0.000	3.267		0.246	-0.246	3.267	0.000	0.000	0.000%	3.267	32.670%	-0.246	-4.100%	0.246	12.362%									
1/23/2020	0.000	0.000	2.975		0.22	-0.220	2.975	0.000	0.000	0.000%	2.975	29.750%	-0.220	-3.667%	0.220	11.055%									
1/24/2020	0.000	0.000	3.099		0.252	-0.252	3.099	0.000	0.000	0.000%	3.099	30.990%	-0.252	-4.200%	0.252	12.663%									
1/25/2020	0.000	0.000	2.992		0.262	-0.262	2.992	0.000	0.000	0.000%	2.992	29.920%	-0.262	-4.367%	0.262	13.186%									
1/26/2020	0.000	0.000	3.169		0.268	-0.268	3.169	0.000	0.000	0.000%	3.169	31.690%	-0.268	-4.467%	0.268	13.467%									
1/27/2020	0.000	0.000	2.944		0.259	-0.259	2.944	0.000	0.000	0.000%	2.944	29.440%	-0.259	-4.317%	0.259	13.015%									
1/28/2020	0.000	0.000	3.137		0.251	-0.251	3.137	0.000	0.000	0.000%	3.137	31.370%	-0.251	-4.183%	0.251	12.613%									
1/29/2020	0.000	0.000	3.202		0.260	-0.260	3.202	0.000	0.000	0.000%	3.202	32.020%	-0.260	-4.333%	0.260	13.065%									
1/30/2020	0.000	0.000	3.326		0.212	-0.212	3.326	0.000	0.000	0.000%	3.326	33.260%	-0.212	-3.533%	0.212	10.653%									
1/31/2020	0.000	0.000	3.262		0.251	-0.251	3.262	0.000	0.000	0.000%	3.262	32.620%	-0.251	-4.183%	0.251	12.613%									
2/1/2020	0.000	0.000	3.083		0.256	-0.256	3.083	0.000	0.000	0.000%	3.083	30.830%	-0.256	-4.267%	0.256	12.864%									
2/2/2020	0.000	0.000	3.236		0.269	-0.269	3.236	0.000	0.000	0.000%	3.236	32.360%	-0.269	-4.483%	0.269	13.518%									
2/3/2020	0.000	0.000	3.377		0.247	-0.247	3.377	0.000	0.000	0.000%	3.377	33.770%	-0.247	-4.117%	0.247	12.412%									
2/4/2020	0.000	0.000	3.307		0.216	-0.216	3.307	0.000	0.000	0.000%	3.307	33.070%	-0.216	-3.600%	0.216	10.854%									
2/5/2020	0.000	0.000	3.274		0.204	-0.204	3.274	0.000	0.000	0.000%	3.274	32.740%	-0.204	-3.400%	0.204	10.251%									
2/6/2020	0.000	0.000	3.122		0.246	-0.246	3.122	0.000	0.000	0.000%	3.122	31.220%	-0.246	-4.100%	0.246	12.362%									
2/7/2020	0.000	0.000	3.207		0.248	-0.248	3.207	0.000	0.000	0.000%	3.207	32.070%	-0.248	-4.133%	0.248	12.462%									
2/8/2020	0.000	0.000	3.307		0.25	-0.250	3.307	0.000	0.000	0.000%	3.307	33.070%	-0.250	-4.167%	0.250	12.563%									
2/9/2020	0.000	0.000	3.245		0.254	-0.254	3.245	0.000	0.000	0.000%	3.245	32.450%	-0.254	-4.233%	0.254	12.764%									
2/10/2020	0.000	0.000	3.301		0.242	-0.242	3.301	0.000	0.000	0.000%	3.301	33.010%	-0.242	-4.033%	0.242	12.161%									
2/11/2020	0.000	0.000	3.235		0.204	-0.204	3.235	0.000	0.000	0.000%	3.235	32.350%	-0.204	-3.400%	0.204	10.251%									
2/12/2020	0.000	0.000	3.241		0.258	-0.258	3.241	0.000	0.000	0.000%	3.241	32.410%	-0.258	-4.300%	0.258	12.965%									
2/13/2020	0.000	0.000	3.124		0.243	-0.243	3.124	0.000	0.000	0.000%	3.124	31.240%	-0.243	-4.050%	0.243	12.211%									
2/14/2020	0.000	0.000	3.051		0.203	-0.203	3.051	0.000	0.000	0.000%	3.051	30.510%	-0.203	-3.383%	0.203	10.201%									
2/15/2020	0.000	0.000	3.005		0.250	-0.250	3.005	0.000	0.000	0.000%	3.005	30.050%	-0.250	-4.167%	0.250	12.563%									
2/16/2020	0.000	0.000	3.105		0.207	-0.207	3.105	0.000	0.000	0.000%	3.105	31.050%	-0.207	-3.450%	0.207	10.402%									
2/17/2020	0.000	0.000	3.063		0.257	-0.257	3.063	0.000	0.000	0.000%	3.063	30.630%	-0.257	-4.283%	0.257	12.915%									
2/18/2020	0.000	0.000	3.155		0.229	-0.229	3.155	0.000	0.000	0.000%	3.155	31.550%	-0.229	-3.817%	0.229	11.508%									
2/19/2020	0.000	0.000	3.055		0.228	-0.228	3.055	0.000	0.000	0.000%	3.055	30.550%	-0.228	-3.800%	0.228	11.457%									
2/20/2020	0.000	0.000	3.057		0.266	-0.266	3.057	0.000	0.000	0.000%	3.057	30.570%	-0.266	-4.433%	0.266	13.367%									
2/21/2020	0.000	0.000	3.111		0.203	-0.203	3.111	0.000	0.000	0.000%	3.111	31.110%	-0.203	-3.383%	0.203	10.201%									
2/22/2020	0.000	0.000	3.031		0.255	-0.255	3.031	0.000	0.000	0.000%	3.031	30.310%	-0.255	-4.250%	0.255	12.814%									
2/23/2020	0.000	0.000	3.001		0.206	-0.206	3.001	0.000	0.000	0.000%	3.001	30.010%	-0.206	-3.433%	0.206	10.352%									
2/24/2020	0.000	0.000	3.254		0.225	-0.225	3.254	0.000	0.000	0.000%	3.254	32.540%	-0.225	-3.750%	0.225	11.307%									
2/25/2020	0.000	0.000	3.094		0.255	-0.255	3.094	0.000	0.000	0.000%	3.094	30.940%	-0.255	-4.250%	0.255	12.814%									
2/26/2020	0.000	0.000	3.110		0.254	-0.254	3.110	0.000	0.000	0.000%	3.110	31.100%	-0.254	-4.233%	0.254	12.764%									
2/27/2020	0.000	0.000	3.247		0.253	-0.253	3.247	0.000	0.000	0.000%	3.247	32.470%	-0.253	-4.217%	0.253	12.714%									
2/28/2020	0.000	0.000	3.198		0.247	-0.247	3.198	0.000	0.000	0.000%	3.198	31.980%	-0.247	-4.117%	0.247	12.412%									
2/29/2020	0.000	0.000	3.161		0.204	-0.204	3.161	0.000	0.000	0.000%	3.161	31.610%	-0.204	-3.400%	0.204	10.251%									
3/1/2020	0.000	0.000	2.999		0.256	-0.256	2.999	0.000	0.000	0.000%	2.999	29.990%	-0.256	-4.267%	0.256	12.864%									
3/2/2020	0.000	0.000	3.261		0.252	-0.252	3.261	0.000	0.000	0.000%	3.261	32.610%	-0.252	-4.200%	0.252	12.663%									



Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin			
	Salisbury 1	Albemarle 1	Charlotte 1-3	
	South Yadkin	Yadkin	Yadkin	Catawba
DATE	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Finished water Interconnections with Concord
3/3/2020	0.000	0.000	3.123	
3/4/2020	0.000	0.000	3.199	
3/5/2020	0.000	0.000	3.144	
3/6/2020	0.000	0.000	3.173	
3/7/2020	0.000	0.000	2.966	
3/8/2020	0.000	0.000	3.121	
3/9/2020	0.000	0.000	3.157	
3/10/2020	0.000	0.000	3.093	
3/11/2020	0.000	0.000	3.176	
3/12/2020	0.000	0.000	3.138	
3/13/2020	0.000	0.000	3.250	
3/14/2020	0.000	0.000	3.089	
3/15/2020	0.000	0.000	3.175	
3/16/2020	0.000	0.000	3.162	
3/17/2020	0.000	0.000	3.304	
3/18/2020	0.000	0.000	3.261	
3/19/2020	0.000	0.000	3.057	
3/20/2020	0.000	0.000	3.343	
3/21/2020	0.000	0.126	3.252	
3/22/2020	0.000	0.302	3.083	
3/23/2020	0.000	0.000	3.038	
3/24/2020	0.000	0.000	3.104	
3/25/2020	0.000	0.000	2.972	
3/26/2020	0.000	0.000	3.145	
3/27/2020	0.000	0.000	3.109	
3/28/2020	0.000	0.000	3.380	
3/29/2020	0.000	0.000	3.445	
3/30/2020	0.000	0.000	3.197	
3/31/2020	0.000	0.000	3.051	
4/1/2020	0.000	0.000	3.100	
4/2/2020	0.000	0.000	3.157	
4/3/2020	0.000	0.000	3.199	
4/4/2020	0.000	0.000	3.067	
4/5/2020	0.000	0.000	3.356	
4/6/2020	0.000	0.000	3.351	
4/7/2020	0.000	0.000	3.220	
4/8/2020	0.000	0.000	3.235	
4/9/2020	0.000	0.000	3.179	
4/10/2020	0.000	0.000	3.136	
4/11/2020	0.000	0.000	3.133	
4/12/2020	0.000	0.000	3.060	
4/13/2020	0.000	0.000	3.151	
4/14/2020	0.000	0.000	3.237	
4/15/2020	0.000	0.000	3.131	
4/16/2020	0.000	0.000	3.284	
4/17/2020	0.000	0.000	3.248	
4/18/2020	0.000	0.000	3.282	
4/19/2020	0.000	0.000	3.124	
4/20/2020	0.000	0.000	3.023	
4/21/2020	0.000	0.000	2.986	
4/22/2020	0.000	0.000	3.344	
4/23/2020	0.000	0.000	3.124	
4/24/2020	0.000	0.000	3.250	
4/25/2020	0.000	0.000	3.190	
4/26/2020	0.000	0.000	3.096	
4/27/2020	0.000	0.000	3.160	
4/28/2020	0.000	0.000	3.427	
4/29/2020	0.000	0.000	3.439	
4/30/2020	0.000	0.000	3.401	
5/1/2020	0.000	0.253	3.359	
5/2/2020	0.000	0.269	3.545	
5/3/2020	0.000	0.283	3.596	
5/4/2020	0.000	0.282	3.554	
5/5/2020	0.000	0.259	3.443	
5/6/2020	0.000	0.276	3.347	
5/7/2020	0.000	0.238	3.354	
5/8/2020	0.000	0.232	3.428	
5/9/2020	0.000	0.256	3.352	
5/10/2020	0.000	0.271	3.426	
5/11/2020	0.000	0.262	3.432	

Water Sales (MGD)	IBT Totals Per Basin		
	South Yadkin	Yadkin	Catawba
Kannapolis Finished water sales to Landis	Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT
0.213	-0.213	3.123	0.000
0.255	-0.255	3.199	0.000
0.234	-0.234	3.144	0.000
0.218	-0.218	3.173	0.000
0.235	-0.235	2.966	0.000
0.227	-0.227	3.121	0.000
0.257	-0.257	3.157	0.000
0.257	-0.257	3.093	0.000
0.217	-0.217	3.176	0.000
0.248	-0.248	3.138	0.000
0.246	-0.246	3.250	0.000
0.201	-0.201	3.089	0.000
0.248	-0.248	3.175	0.000
0.208	-0.208	3.162	0.000
0.302	-0.302	3.304	0.000
0.220	-0.220	3.261	0.000
0.204	-0.204	3.057	0.000
0.251	-0.251	3.343	0.000
0.260	-0.260	3.378	0.000
0.213	-0.213	3.385	0.000
0.237	-0.237	3.038	0.000
0.201	-0.201	3.104	0.000
0.242	-0.242	2.972	0.000
0.232	-0.232	3.145	0.000
0.252	-0.252	3.109	0.000
0.211	-0.211	3.380	0.000
0.260	-0.260	3.445	0.000
0.255	-0.255	3.197	0.000
0.286	-0.286	3.051	0.000
0.303	-0.303	3.100	0.000
0.272	-0.272	3.157	0.000
0.293	-0.293	3.199	0.000
0.303	-0.303	3.067	0.000
0.356	-0.356	3.356	0.000
0.301	-0.301	3.351	0.000
0.257	-0.257	3.220	0.000
0.303	-0.303	3.235	0.000
0.293	-0.293	3.179	0.000
0.263	-0.263	3.136	0.000
0.239	-0.239	3.133	0.000
0.279	-0.279	3.060	0.000
0.23	-0.230	3.151	0.000
0.233	-0.233	3.237	0.000
0.286	-0.286	3.131	0.000
0.241	-0.241	3.284	0.000
0.261	-0.261	3.248	0.000
0.242	-0.242	3.282	0.000
0.280	-0.280	3.124	0.000
0.228	-0.228	3.023	0.000
0.237	-0.237	2.986	0.000
0.295	-0.295	3.344	0.000
0.227	-0.227	3.124	0.000
0.27	-0.270	3.250	0.000
0.244	-0.244	3.190	0.000
0.283	-0.283	3.096	0.000
0.268	-0.268	3.160	0.000
0.242	-0.242	3.427	0.000
0.287	-0.287	3.439	0.000
0.231	-0.231	3.401	0.000
0.253	-0.253	3.359	0.000
0.269	-0.269	3.545	0.000
0.283	-0.283	3.596	0.000
0.282	-0.282	3.554	0.000
0.259	-0.259	3.443	0.000
0.276	-0.276	3.347	0.000
0.238	-0.238	3.354	0.000
0.232	-0.232	3.428	0.000
0.256	-0.256	3.352	0.000
0.271	-0.271	3.426	0.000
0.262	-0.262	3.432	0.000

NOTE: All Wastewater discharge is to the Rocky River from RRWWTP, excluding water sales to Landis (subtracted from Total South Yadkin IBT).

Interbasin Transfer							
Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin River Basin	
							% of Permitted MDD Transfer
0.000	0.000%	3.123	31.230%	-0.213	-3.550%	0.213	10.704%
0.000	0.000%	3.199	31.990%	-0.255	-4.250%	0.255	12.814%
0.000	0.000%	3.144	31.440%	-0.234	-3.900%	0.234	11.759%
0.000	0.000%	3.173	31.730%	-0.218	-3.633%	0.218	10.955%
0.000	0.000%	2.966	29.660%	-0.235	-3.917%	0.235	11.809%
0.000	0.000%	3.121	31.210%	-0.227	-3.783%	0.227	11.407%
0.000	0.000%	3.157	31.570%	-0.257	-4.283%	0.257	12.915%
0.000	0.000%	3.093	30.930%	-0.257	-4.283%	0.257	12.915%
0.000	0.000%	3.176	31.760%	-0.217	-3.617%	0.217	10.905%
0.000	0.000%	3.138	31.380%	-0.248	-4.133%	0.248	12.462%
0.000	0.000%	3.250	32.500%	-0.246	-4.100%	0.246	12.362%
0.000	0.000%	3.089	30.890%	-0.201	-3.350%	0.201	10.101%
0.000	0.000%	3.175	31.750%	-0.248	-4.133%	0.248	12.462%
0.000	0.000%	3.162	31.620%	-0.208	-3.467%	0.208	10.452%
0.000	0.000%	3.304	33.040%	-0.302	-5.033%	0.302	15.176%
0.000	0.000%	3.261	32.610%	-0.220	-3.667%	0.220	11.055%
0.000	0.000%	3.057	30.570%	-0.204	-3.400%	0.204	10.251%
0.000	0.000%	3.343	33.430%	-0.251	-4.183%	0.251	12.613%
0.000	0.000%	3.378	33.780%	-0.260	-4.333%	0.260	13.065%
0.000	0.000%	3.385	33.850%	-0.213	-3.550%	0.213	10.704%
0.000	0.000%	3.038	30.380%	-0.237	-3.950%	0.237	11.910%
0.000	0.000%	3.104	31.040%	-0.201	-3.350%	0.201	10.101%
0.000	0.000%	2.972	29.720%	-0.242	-4.033%	0.242	12.161%
0.000	0.000%	3.145	31.450%	-0.232	-3.867%	0.232	11.658%
0.000	0.000%	3.109	31.090%	-0.252	-4.200%	0.252	12.663%
0.000	0.000%	3.380	33.800%	-0.211	-3.517%	0.211	10.603%
0.000	0.000%	3.445	34.450%	-0.260	-4.333%	0.260	13.065%
0.000	0.000%	3.197	31.970%	-0.255	-4.250%	0.255	12.814%
0.000	0.000%	3.051	30.510%	-0.286	-4.767%	0.286	14.372%
0.000	0.000%	3.100	31.000%	-0.303	-5.050%	0.303	15.226%
0.000	0.000%	3.157	31.570%	-0.272	-4.533%	0.272	13.668%
0.000	0.000%	3.199	31.990%	-0.293	-4.883%	0.293	14.724%
0.000	0.000%	3.067	30.670%	-0.303	-5.050%	0.303	15.226%
0.000	0.000%	3.356	33.560%	-0.266	-4.433%	0.266	13.367%
0.000	0.000%	3.351	33.510%	-0.301	-5.017%	0.301	15.126%
0.000	0.000%	3.220	32.200%	-0.257	-4.283%	0.257	12.915%
0.000	0.000%	3.235	32.350%	-0.303	-5.050%	0.303	15.226%
0.000	0.000%	3.179	31.790%	-0.293	-4.883%	0.293	14.724%
0.000	0.000%	3.136	31.360%	-0.263	-4.383%	0.263	13.216%
0.000	0.000%	3.133	31.330%	-0.239	-3.983%	0.239	12.010%
0.000	0.000%	3.060	30.600%	-0.279	-4.650%	0.279	14.020%
0.000	0.000%	3.151	31.510%	-0.230	-3.833%	0.230	11.558%
0.000	0.000%	3.237	32.370%	-0.233	-3.883%	0.233	11.709%
0.000	0.000%	3.131	31.310%	-0.286	-4.767%	0.286	14.372%
0.000	0.000%	3.284	32.840%	-0.241	-4.017%	0.241	12.111%
0.000	0.000%	3.248	32.480%	-0.261	-4.350%	0.261	13.116%
0.000	0.000%	3.282	32.820%	-0.242	-4.033%	0.242	12.161%
0.000	0.000%	3.124	31.240%	-0.280	-4.667%	0.280	14.070%
0.000	0.000%	3.023	30.230%	-0.228	-3.800%	0.228	11.457%
0.000	0.000%	2.986	29.860%	-0.237	-3.950%	0.237	11.910%
0.000	0.000%	3.344	33.440%	-0.295	-4.917%	0.295	14.824%
0.000	0.000%	3.124	31.240%	-0.227	-3.783%	0.227	11.407%
0.000	0.000%	3.250	32.500%	-0.270	-4.500%	0.270	13.568%
0.000	0.000%	3.190	31.900%	-0.244	-4.067%	0.244	12.261%
0.000	0.000%	3.096	30.960%	-0.283	-4.717%	0.283	14.221%
0.000	0.000%	3.160	31.600%	-0.268	-4.		

Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin				Water Sales (MGD)		IBT Totals Per Basin				Interbasin Transfer								
	Salisbury 1		Albemarle 1	Charlotte 1-3	South Yadkin	South Yadkin	Yadkin	Catawba	NOTE: All Wastewater discharge is to the Rocky River from RRWWTP, excluding water sales to Landis (subtracted from Total South Yadkin IBT).			Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin River South Yadkin Basin	% of Permitted MDD Transfer
	South Yadkin	Yadkin	Yadkin	Catawba					Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT								
DATE	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Finished water Interconnections with Concord	Kannapolis water sales to Landis	Finished water sales to Landis	Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer	% of Permitted MDD Transfer
5/12/2020	0.000	0.000	3.327		0.279	-0.279	3.327	0.000	0.000	0.000%	0.000%	3.327	33.270%	-0.279	-4.650%	0.279	14.020%		
5/13/2020	0.000	0.000	3.170		0.231	-0.231	3.170	0.000	0.000	0.000%	0.000%	3.170	31.700%	-0.231	-3.850%	0.231	11.608%		
5/14/2020	0.000	0.000	3.382		0.335	-0.335	3.382	0.000	0.000	0.000%	0.000%	3.382	33.820%	-0.335	-5.583%	0.335	16.834%		
5/15/2020	0.000	0.000	3.448		0.294	-0.294	3.448	0.000	0.000	0.000%	0.000%	3.448	34.480%	-0.294	-4.900%	0.294	14.774%		
5/16/2020	0.000	0.000	3.408		0.301	-0.301	3.408	0.000	0.000	0.000%	0.000%	3.408	34.080%	-0.301	-5.017%	0.301	15.126%		
5/17/2020	0.000	0.000	3.271		0.278	-0.278	3.271	0.000	0.000	0.000%	0.000%	3.271	32.710%	-0.278	-4.633%	0.278	13.970%		
5/18/2020	0.000	0.000	3.146		0.305	-0.305	3.146	0.000	0.000	0.000%	0.000%	3.146	31.460%	-0.305	-5.083%	0.305	15.327%		
5/19/2020	0.000	0.000	3.362		0.363	-0.363	3.362	0.000	0.000	0.000%	0.000%	3.362	33.620%	-0.363	-6.050%	0.363	18.241%		
5/20/2020	0.000	0.000	3.006		0.247	-0.247	3.006	0.000	0.000	0.000%	0.000%	3.006	30.060%	-0.247	-4.117%	0.247	12.412%		
5/21/2020	0.000	0.000	3.146		0.274	-0.274	3.146	0.000	0.000	0.000%	0.000%	3.146	31.460%	-0.274	-4.567%	0.274	13.769%		
5/22/2020	0.000	0.000	3.231		0.264	-0.264	3.231	0.000	0.000	0.000%	0.000%	3.231	32.310%	-0.264	-4.400%	0.264	13.266%		
5/23/2020	0.000	0.000	3.203		0.243	-0.243	3.203	0.000	0.000	0.000%	0.000%	3.203	32.030%	-0.243	-4.050%	0.243	12.211%		
5/24/2020	0.000	0.000	3.178		0.273	-0.273	3.178	0.000	0.000	0.000%	0.000%	3.178	31.780%	-0.273	-4.550%	0.273	13.719%		
5/25/2020	0.000	0.000	3.190		0.204	-0.204	3.190	0.000	0.000	0.000%	0.000%	3.190	31.900%	-0.204	-3.400%	0.204	10.261%		
5/26/2020	0.000	0.000	3.272		0.269	-0.269	3.272	0.000	0.000	0.000%	0.000%	3.272	32.720%	-0.269	-4.483%	0.269	13.518%		
5/27/2020	0.000	0.000	3.202		0.231	-0.231	3.202	0.000	0.000	0.000%	0.000%	3.202	32.020%	-0.231	-3.850%	0.231	11.608%		
5/28/2020	0.000	0.000	3.074		0.328	-0.328	3.074	0.000	0.000	0.000%	0.000%	3.074	30.740%	-0.328	-5.467%	0.328	16.482%		
5/29/2020	0.000	0.000	3.339		0.299	-0.299	3.339	0.000	0.000	0.000%	0.000%	3.339	33.390%	-0.299	-4.983%	0.299	15.025%		
5/30/2020	0.000	0.000	3.195		0.331	-0.331	3.195	0.000	0.000	0.000%	0.000%	3.195	31.950%	-0.331	-5.517%	0.331	16.633%		
5/31/2020	0.000	0.000	3.192		0.275	-0.275	3.192	0.000	0.000	0.000%	0.000%	3.192	31.920%	-0.275	-4.583%	0.191	9.598%		
6/1/2020	0.000	0.000	3.261		0.345	-0.345	3.261	0.000	0.000	0.000%	0.000%	3.261	32.610%	-0.345	-5.750%	0.178	8.945%		
6/2/2020	0.000	0.000	3.321		0.319	-0.319	3.321	0.000	0.000	0.000%	0.000%	3.321	33.210%	-0.319	-5.317%	0.162	8.141%		
6/3/2020	0.000	0.000	3.297		0.298	-0.298	3.297	0.000	0.000	0.000%	0.000%	3.297	32.970%	-0.298	-3.883%	0.233	11.709%		
6/4/2020	0.000	0.000	3.368		0.304	-0.304	3.368	0.000	0.000	0.000%	0.000%	3.368	33.680%	-0.304	-5.067%	0.208	10.452%		
6/5/2020	0.000	0.000	3.277		0.270	-0.270	3.277	0.000	0.000	0.000%	0.000%	3.277	32.770%	-0.270	-4.500%	0.215	10.804%		
6/6/2020	0.000	0.000	3.401		0.329	-0.329	3.401	0.000	0.000	0.000%	0.000%	3.401	34.010%	-0.329	-5.483%	0.229	11.508%		
6/7/2020	0.000	0.000	3.449		0.259	-0.259	3.449	0.000	0.000	0.000%	0.000%	3.449	34.490%	-0.259	-4.317%	0.251	12.613%		
6/8/2020	0.000	0.000	3.451		0.280	-0.280	3.451	0.000	0.000	0.000%	0.000%	3.451	34.510%	-0.280	-4.667%	0.277	13.920%		
6/9/2020	0.000	0.000	3.508		0.310	-0.310	3.508	0.000	0.000	0.000%	0.000%	3.508	35.080%	-0.310	-5.167%	0.294	14.774%		
6/10/2020	0.000	0.000	3.398		0.295	-0.295	3.398	0.000	0.000	0.000%	0.000%	3.398	33.980%	-0.295	-4.917%	0.181	9.095%		
6/11/2020	0.000	0.000	3.417		0.283	-0.283	3.417	0.000	0.000	0.000%	0.000%	3.417	34.170%	-0.283	-4.717%	0.189	9.497%		
6/12/2020	0.000	0.000	3.442		0.311	-0.311	3.442	0.000	0.000	0.000%	0.000%	3.442	34.420%	-0.311	-5.183%	0.218	10.955%		
6/13/2020	0.000	0.000	3.279		0.286	-0.286	3.279	0.000	0.000	0.000%	0.000%	3.279	32.790%	-0.286	-4.767%	0.248	12.462%		
6/14/2020	0.000	0.000	3.216		0.307	-0.307	3.216	0.000	0.000	0.000%	0.000%	3.216	32.160%	-0.307	-5.117%	0.157	7.899%		
6/15/2020	0.000	0.000	3.174		0.320	-0.320	3.174	0.000	0.000	0.000%	0.000%	3.174	31.740%	-0.320	-5.333%	0.180	9.045%		
6/16/2020	0.000	0.000	2.983	0.405	0.293	-0.293	2.983	0.405	0.405	4.055%	0.000%	2.983	29.830%	-0.293	-4.883%	0.274	13.769%		
6/17/2020	0.000	0.000	3.361	1.832	0.330	-0.330	3.361	1.832	18.320%	0.000%	0.000%	3.361	33.610%	-0.330	-5.500%	0.288	14.472%		
6/18/2020	0.000	0.000	3.096		0.266	-0.266	3.096	0.000	0.000	0.000%	0.000%	3.096	30.960%	-0.266	-4.433%	0.138	6.935%		
6/19/2020	0.000	0.000	3.044		0.313	-0.313	3.044	0.000	0.000	0.000%	0.000%	3.044	30.440%	-0.313	-5.217%	0.206	10.352%		
6/20/2020	0.000	0.000	3.268		0.262	-0.262	3.268	0.000	0.000	0.000%	0.000%	3.268	32.680%	-0.262	-4.367%	0.325	16.332%		
6/21/2020	0.000	0.000	3.230		0.304	-0.304	3.230	0.000	0.000	0.000%	0.000%	3.230	32.300%	-0.304	-5.067%	0.324	16.281%		
6/22/2020	0.000	0.000	3.097		0.314	-0.314	3.097	0.000	0.000	0.000%	0.000%	3.097	30.970%	-0.314	-5.233%	0.225	11.307%		
6/23/2020	0.000	0.000	3.417		0.320	-0.320	3.417	0.000	0.000	0.000%	0.000%	3.417	34.170%	-0.320	-5.333%	0.173	8.693%		
6/24/2020	0.000	0.000	3.486		0.362	-0.362	3.486	0.000	0.000	0.000%	0.000%	3.486	34.860%	-0.362	-6.033%	0.257	12.915%		
6/25/2020	0.000	0.000	3.242		0.346	-0.346	3.242	0.000	0.000	0.000%	0.000%	3.242	32.420%	-0.346	-5.767%	0.251	12.613%		
6/26/2020	0.000	0.000	3.411		0.334	-0.334	3.411	0.000	0.000	0.000%	0.000%	3.411	34.110%	-0.334	-5.567%	0.193	9.698%		
6/27/2020	0.000	0.000	3.354		0.328	-0.328	3.354	0.000	0.000	0.000%	0.000%	3.354	33.540%	-0.328	-5.467%	0.251	12.613%		
6/28/2020	0.000	0.000	3.268		0.312	-0.312	3.268	0.000	0.000	0.000%	0.000%	3.268	32.680%	-0.312	-5.200%	0.239	12.010%		
6/29/2020	0.000	0.000	3.149		0.327	-0.327	3.149	0.000	0.000	0.000%	0.000%	3.149	31.490%	-0.327	-5.450%	0.295	14.824%		
6/30/2020	0.000	0.000	3.221		0.331	-0.331	3.221	0.000	0.000	0.000%	0.000%	3.221	32.210%	-0.331	-5.517%	0.291	14.623%		
7/1/2020	0.000	0.000	3.090		0.344	-0.344	3.090	0.000	0.000	0.000%	0.000%	3.090	30.900%	-0.344	-5.733%	0.291	14.623%		
7/2/2020	0.000	0.000	3.359		0.317	-0.317	3.359	0.000	0.000	0.000%	0.000%	3.359	33.590%	-0.317	-5.283%	0.442	22.211%		
7/3/2020	0.000	0.000	3.363		0.335	-0.335	3.363	0.000	0.000	0.000%	0.000%	3.363	33.630%	-0.335	-5.583%	0.356	17.889%		
7/4/2020	0.000	0.000	3.331		0.294	-0.294	3.331	0.000	0.000	0.000%	0.000%	3.331	33.310%	-0.294	-4.900%	0.194	9.749%		
7/5/2020	0.000	0.000	3.341		0.														

Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin				Water Sales (MGD)		IBT Totals Per Basin				Interbasin Transfer						
	Salisbury 1		Albemarle 1		Charlotte 1-3		South Yadkin	South Yadkin	Yadkin	Catawba	Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin River South Yadkin Basin
DATE	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Finished water Interconnections with Concord	Kannapolis water sales to Landis	Finished water sales to Landis	Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT	Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin River South Yadkin Basin	% of Permitted MDD Transfer
7/21/2020	0.000	0.000	3.387	0.000	0.321	-0.321	3.387	0.000	0.000	0.000	0.000%	3.387	33.870%	-0.321	-5.350%	0.223	11.206%
7/22/2020	0.000	0.000	3.380	0.000	0.334	-0.334	3.380	0.000	0.000	0.000	0.000%	3.380	33.800%	-0.334	-5.567%	0.235	11.809%
7/23/2020	0.000	0.000	3.252	0.000	0.350	-0.350	3.252	0.000	0.000	0.000	0.000%	3.252	32.520%	-0.350	-5.833%	0.250	12.563%
7/24/2020	0.000	0.000	3.663	0.000	0.312	-0.312	3.663	0.000	0.000	0.000	0.000%	3.663	36.630%	-0.312	-5.200%	0.243	12.211%
7/25/2020	0.000	0.000	3.884	0.000	0.384	-0.384	3.884	0.000	0.000	0.000	0.000%	3.884	38.840%	-0.384	-6.400%	0.280	14.070%
7/26/2020	0.000	0.000	4.065	0.000	0.316	-0.316	4.065	0.000	0.000	0.000	0.000%	4.065	40.650%	-0.316	-5.267%	0.381	19.146%
7/27/2020	0.000	0.000	4.193	0.000	0.371	-0.371	4.193	0.000	0.000	0.000	0.000%	4.193	41.930%	-0.371	-6.183%	0.265	13.317%
7/28/2020	0.000	0.000	4.350	0.000	0.348	-0.348	4.350	0.000	0.000	0.000	0.000%	4.350	43.500%	-0.348	-5.800%	0.266	13.367%
7/29/2020	0.000	0.000	3.665	0.000	0.314	-0.314	3.665	0.000	0.000	0.000	0.000%	3.665	36.650%	-0.314	-5.233%	0.250	12.563%
7/30/2020	0.000	0.000	4.005	0.000	0.315	-0.315	4.005	0.000	0.000	0.000	0.000%	4.005	40.050%	-0.315	-5.250%	0.245	12.312%
7/31/2020	0.000	0.000	4.170	0.000	0.342	-0.342	4.170	0.000	0.000	0.000	0.000%	4.170	41.700%	-0.342	-5.700%	0.300	15.075%
8/1/2020	0.000	0.000	4.215	0.000	0.322	-0.322	4.215	0.000	0.000	0.000	0.000%	4.215	42.150%	-0.322	-5.367%	0.279	14.020%
8/2/2020	0.000	0.000	4.239	0.000	0.348	-0.348	4.239	0.000	0.000	0.000	0.000%	4.239	42.390%	-0.348	-5.800%	0.262	13.166%
8/3/2020	0.000	0.000	4.217	0.000	0.305	-0.305	4.217	0.000	0.000	0.000	0.000%	4.217	42.170%	-0.305	-5.083%	0.316	15.879%
8/4/2020	0.000	0.000	3.964	0.000	0.375	-0.375	3.964	0.000	0.000	0.000	0.000%	3.964	39.640%	-0.375	-6.250%	0.218	10.955%
8/5/2020	0.000	0.000	4.207	0.000	0.312	-0.312	4.207	0.000	0.000	0.000	0.000%	4.207	42.070%	-0.312	-5.200%	0.245	12.312%
8/6/2020	0.000	0.000	4.166	0.000	0.392	-0.392	4.166	0.000	0.000	0.000	0.000%	4.166	41.660%	-0.392	-6.533%	0.274	13.769%
8/7/2020	0.000	0.000	4.077	0.000	0.415	-0.415	4.077	0.000	0.000	0.000	0.000%	4.077	40.770%	-0.415	-6.917%	0.235	11.809%
8/8/2020	0.000	0.000	4.188	0.000	0.342	-0.342	4.188	0.000	0.000	0.000	0.000%	4.188	41.880%	-0.342	-5.700%	0.230	11.558%
8/9/2020	0.000	0.000	4.236	0.000	0.334	-0.334	4.236	0.000	0.000	0.000	0.000%	4.236	42.360%	-0.334	-5.567%	0.251	12.613%
8/10/2020	0.000	0.000	4.248	0.000	0.368	-0.368	4.248	0.000	0.000	0.000	0.000%	4.248	42.480%	-0.368	-6.133%	0.219	11.005%
8/11/2020	0.000	0.000	4.093	0.000	0.411	-0.411	4.093	0.000	0.000	0.000	0.000%	4.093	40.930%	-0.411	-6.850%	0.237	11.910%
8/12/2020	0.000	0.000	4.014	0.000	0.386	-0.386	4.014	0.000	0.000	0.000	0.000%	4.014	40.140%	-0.386	-6.433%	0.215	10.804%
8/13/2020	0.000	0.000	3.920	0.000	0.355	-0.355	3.920	0.000	0.000	0.000	0.000%	3.920	39.200%	-0.355	-5.917%	0.220	11.055%
8/14/2020	0.000	0.000	3.971	0.000	0.381	-0.381	3.971	0.000	0.000	0.000	0.000%	3.971	39.710%	-0.381	-6.350%	0.190	9.548%
8/15/2020	0.000	0.000	4.001	0.000	0.326	-0.326	4.001	0.000	0.000	0.000	0.000%	4.001	40.010%	-0.326	-5.433%	0.225	11.307%
8/16/2020	0.000	0.000	3.951	0.000	0.267	-0.267	3.951	0.000	0.000	0.000	0.000%	3.951	39.510%	-0.267	-4.450%	0.273	13.719%
8/17/2020	0.000	0.000	3.972	0.000	0.355	-0.355	3.972	0.000	0.000	0.000	0.000%	3.972	39.720%	-0.355	-5.917%	0.235	11.809%
8/18/2020	0.000	0.000	4.023	0.000	0.325	-0.325	4.023	0.000	0.000	0.000	0.000%	4.023	40.230%	-0.325	-5.417%	0.242	12.161%
8/19/2020	0.000	0.000	3.980	0.000	0.329	-0.329	3.980	0.000	0.000	0.000	0.000%	3.980	39.800%	-0.329	-5.483%	0.175	8.794%
8/20/2020	0.000	0.000	4.014	0.000	0.281	-0.281	4.014	0.000	0.000	0.000	0.000%	4.014	40.140%	-0.281	-4.683%	0.260	13.065%
8/21/2020	0.000	0.000	3.975	0.000	0.329	-0.329	3.975	0.000	0.000	0.000	0.000%	3.975	39.750%	-0.329	-5.483%	0.180	9.045%
8/22/2020	0.000	0.000	3.838	0.000	0.320	-0.320	3.838	0.000	0.000	0.000	0.000%	3.838	38.380%	-0.320	-5.333%	0.236	11.859%
8/23/2020	0.000	0.000	3.893	0.000	0.294	-0.294	3.893	0.000	0.000	0.000	0.000%	3.893	38.930%	-0.294	-4.900%	0.261	13.161%
8/24/2020	0.000	0.000	3.982	0.000	0.274	-0.274	3.982	0.000	0.000	0.000	0.000%	3.982	39.820%	-0.274	-4.567%	0.248	12.462%
8/25/2020	0.000	0.000	4.071	0.000	0.322	-0.322	4.071	0.000	0.000	0.000	0.000%	4.071	40.710%	-0.322	-5.367%	0.234	11.759%
8/26/2020	0.000	0.000	4.288	0.000	0.307	-0.307	4.288	0.000	0.000	0.000	0.000%	4.288	42.880%	-0.307	-5.117%	0.269	13.518%
8/27/2020	0.000	0.000	4.284	0.000	0.302	-0.302	4.284	0.000	0.000	0.000	0.000%	4.284	42.840%	-0.302	-5.033%	0.295	14.824%
8/28/2020	0.000	0.000	4.102	0.000	0.311	-0.311	4.102	0.000	0.000	0.000	0.000%	4.102	41.020%	-0.311	-5.183%	0.200	10.050%
8/29/2020	0.000	0.000	3.944	0.000	0.349	-0.349	3.944	0.000	0.000	0.000	0.000%	3.944	39.440%	-0.349	-5.817%	0.170	8.543%
8/30/2020	0.000	0.000	3.946	0.000	0.303	-0.303	3.946	0.000	0.000	0.000	0.000%	3.946	39.460%	-0.303	-5.050%	0.374	18.794%
8/31/2020	0.000	0.000	3.899	0.000	0.287	-0.287	3.899	0.000	0.000	0.000	0.000%	3.899	38.990%	-0.287	-4.783%	0.454	22.814%
9/1/2020	0.000	0.000	3.960	0.000	0.319	-0.319	3.960	0.000	0.000	0.000	0.000%	3.960	39.600%	-0.319	-5.317%	0.319	16.030%
9/2/2020	0.000	0.000	2.727	0.000	0.252	-0.252	2.727	0.000	0.000	0.000	0.000%	2.727	27.270%	-0.252	-4.200%	0.252	12.663%
9/3/2020	0.000	0.000	4.002	0.000	0.304	-0.304	4.002	0.000	0.000	0.000	0.000%	4.002	40.020%	-0.304	-5.067%	0.304	15.276%
9/4/2020	0.000	0.000	4.203	0.000	0.313	-0.313	4.203	0.000	0.000	0.000	0.000%	4.203	42.030%	-0.313	-5.217%	0.313	15.729%
9/5/2020	0.000	0.000	3.882	0.000	0.278	-0.278	3.882	0.000	0.000	0.000	0.000%	3.882	38.820%	-0.278	-4.633%	0.278	13.970%
9/6/2020	0.000	0.000	3.882	0.000	0.307	-0.307	3.882	0.000	0.000	0.000	0.000%	3.882	38.820%	-0.307	-5.117%	0.307	15.427%
9/7/2020	0.000	0.000	3.911	0.000	0.284	-0.284	3.911	0.000	0.000	0.000	0.000%	3.911	39.110%	-0.284	-4.733%	0.284	14.271%
9/8/2020	0.000	0.000	3.961	0.000	0.300	-0.300	3.961	0.000	0.000	0.000	0.000%	3.961	39.610%	-0.300	-5.000%	0.300	15.075%
9/9/2020	0.000	0.000	4.012	0.000	0.302	-0.302	4.012	0.000	0.000	0.000	0.000%	4.012	40.120%	-0.302	-5.033%	0.302	15.176%
9/10/2020	0.000	0.000	3.993	0.000	0.271	-0.271	3.993	0.000	0.000	0.000	0.000%	3.993	39.930%	-0.271	-4.517%	0.271	13.618%
9/11/2020	0.000	0.000	3.968	0.000	0.279	-0.279	3.968	0.000	0.000	0.000	0.000%	3.968	39.680%	-0.279	-4.650%	0.279	14.020%
9/12/2020	0.000	0.000	3.953	0.000	0.307	-0.307	3.953	0.000	0.000	0.000	0.000%	3.953	39.530%	-0.307	-5.117%	0.307	15.427%
9/13/2020	0.000	0.000	4.033	0.000	0.321	-0.321	4.033	0.000	0.000	0.000	0.000%	4.033	40.330%	-0.321	-5.350%	0.321	16.131%
9/14/2020	0.000	0.000	3.908	0.000	0.330	-0.330	3.908	0.000	0.000	0.000	0.000%	3.908	39.080%	-0.330	-5.500%	0.330	16.583%
9/15/2020	0.000	0.000	4.048	0.000	0.259	-0.259	4.048	0.000	0.000	0.000	0.000%	4.048	40.480%	-0.259	-4.317%	0.259	13.015%
9/16/2020	0.000	0.000	3.833	0.000	0.330	-0.330	3.833	0.000	0.000	0.000	0.000%	3.833	38.330%	-0.330	-5.500%	0.330	16.583%
9/17/2020	0.000	0.000	3.649	0.000	0.241	-0.241	3.649	0.000	0.000	0.000	0.000%	3.649	36.490%	-0.241	-4.017%	0.241	12.111%
9/18/2020	0.000	0.000	3.857	0.000	0.289	-0.289	3.857	0.000	0.000	0.000	0.000%	3.857	38.570%	-0.289	-4.817%	0.289	14.523%
9/19/2020	0.000	0.000	4.068	0.000	0.306	-0.306	4.068	0.000	0.000	0.000	0.000%	4.068	40.680%	-0.306	-5.100%	0.306	15.377%
9/20/2020	0.000	0.000	3.790	0.000	0.281	-0.281	3.790	0.000	0.000	0.000	0.000%	3.790	37.900%	-0.281	-4.683%	0.281	14.121%
9/21/20																	

Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin				Water Sales (MGD)		IBT Totals Per Basin			Interbasin Transfer							
	Salisbury 1		Albemarle 1	Charlotte 1-3	South Yadkin	South Yadkin	Yadkin	Catawba	NOTE: All Wastewater discharge is to the Rocky River from RRWWTP, excluding water sales to Landis (subtracted from Total South Yadkin IBT).								
	South Yadkin	Yadkin	Yadkin	Catawba													
DATE	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Finished water Interconnections with Concord	Kannapolis water sales to Landis	Finished water sales to Landis	Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT	Total Catawba IBT	Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin to South Yadkin River Basin	% of Permitted MDD Transfer
9/29/2020	0.000	0.000	3.900		0.295	-0.295	3.900	0.000	0.000	0.000	0.000%	3.900	39.000%	-0.295	-4.917%	0.295	14.824%
9/30/2020	0.000	0.000	3.904		0.281	-0.281	3.904	0.000	0.000	0.000	0.000%	3.904	39.040%	-0.281	-4.683%	0.281	14.121%
10/1/2020	0.000	0.000	3.677		0.265	-0.265	3.677	0.000	0.000	0.000	0.000%	3.677	36.770%	-0.265	-4.417%	0.265	13.317%
10/2/2020	0.000	0.000	3.982		0.292	-0.292	3.982	0.000	0.000	0.000	0.000%	3.982	39.820%	-0.292	-4.867%	0.292	14.673%
10/3/2020	0.000	0.000	3.873		0.313	-0.313	3.873	0.000	0.000	0.000	0.000%	3.873	38.730%	-0.313	-5.217%	0.313	15.729%
10/4/2020	0.000	0.000	3.834		0.272	-0.272	3.834	0.000	0.000	0.000	0.000%	3.834	38.340%	-0.272	-4.533%	0.272	13.668%
10/5/2020	0.000	0.000	3.911		0.305	-0.305	3.911	0.000	0.000	0.000	0.000%	3.911	39.110%	-0.305	-5.083%	0.305	15.327%
10/6/2020	0.000	0.000	4.136		0.287	-0.287	4.136	0.000	0.000	0.000	0.000%	4.136	41.360%	-0.287	-4.783%	0.287	14.422%
10/7/2020	0.000	0.000	3.943		0.306	-0.306	3.943	0.000	0.000	0.000	0.000%	3.943	39.430%	-0.306	-5.100%	0.306	15.377%
10/8/2020	0.000	0.000	4.490		0.308	-0.308	4.490	0.000	0.000	0.000	0.000%	4.490	44.900%	-0.308	-5.133%	0.308	15.477%
10/9/2020	0.000	0.000	3.810		0.266	-0.266	3.810	0.000	0.000	0.000	0.000%	3.810	38.100%	-0.266	-4.433%	0.266	13.367%
10/10/2020	0.000	0.000	3.778		0.282	-0.282	3.778	0.000	0.000	0.000	0.000%	3.778	37.780%	-0.282	-4.700%	0.282	14.171%
10/11/2020	0.000	0.000	3.571		0.295	-0.295	3.571	0.000	0.000	0.000	0.000%	3.571	35.710%	-0.295	-4.917%	0.295	14.824%
10/12/2020	0.000	0.000	3.630		0.232	-0.232	3.630	0.000	0.000	0.000	0.000%	3.630	36.300%	-0.232	-3.867%	0.232	11.658%
10/13/2020	0.000	0.000	3.804		0.275	-0.275	3.804	0.000	0.000	0.000	0.000%	3.804	38.040%	-0.275	-4.583%	0.275	13.819%
10/14/2020	0.000	0.000	4.008		0.321	-0.321	4.008	0.000	0.000	0.000	0.000%	4.008	40.080%	-0.321	-5.350%	0.321	16.131%
10/15/2020	0.000	0.000	3.801		0.251	-0.251	3.801	0.000	0.000	0.000	0.000%	3.801	38.010%	-0.251	-4.183%	0.251	12.613%
10/16/2020	0.000	0.000	3.908		0.283	-0.283	3.908	0.000	0.000	0.000	0.000%	3.908	39.080%	-0.283	-4.717%	0.283	14.221%
10/17/2020	0.000	0.000	3.708		0.303	-0.303	3.708	0.000	0.000	0.000	0.000%	3.708	37.080%	-0.303	-5.050%	0.303	15.226%
10/18/2020	0.000	0.000	3.850		0.288	-0.288	3.850	0.000	0.000	0.000	0.000%	3.850	38.500%	-0.288	-4.800%	0.288	14.472%
10/19/2020	0.000	0.000	3.805		0.255	-0.255	3.805	0.000	0.000	0.000	0.000%	3.805	38.050%	-0.255	-4.250%	0.255	12.814%
10/20/2020	0.000	0.000	4.034		0.317	-0.317	4.034	0.000	0.000	0.000	0.000%	4.034	40.340%	-0.317	-5.283%	0.317	15.930%
10/21/2020	0.000	0.000	3.969		0.257	-0.257	3.969	0.000	0.000	0.000	0.000%	3.969	39.690%	-0.257	-4.283%	0.257	12.915%
10/22/2020	0.000	0.000	3.944		0.318	-0.318	3.944	0.000	0.000	0.000	0.000%	3.944	39.440%	-0.318	-5.300%	0.318	15.980%
10/23/2020	0.000	0.000	4.036		0.296	-0.296	4.036	0.000	0.000	0.000	0.000%	4.036	40.360%	-0.296	-4.933%	0.296	14.874%
10/24/2020	0.000	0.000	4.070		0.291	-0.291	4.070	0.000	0.000	0.000	0.000%	4.070	40.700%	-0.291	-4.850%	0.291	14.623%
10/25/2020	0.000	0.000	3.896		0.271	-0.271	3.896	0.000	0.000	0.000	0.000%	3.896	38.960%	-0.271	-4.517%	0.271	13.618%
10/26/2020	0.000	0.000	3.654		0.271	-0.271	3.654	0.000	0.000	0.000	0.000%	3.654	36.540%	-0.271	-4.517%	0.271	13.618%
10/27/2020	0.000	0.000	3.964		0.277	-0.277	3.964	0.000	0.000	0.000	0.000%	3.964	39.640%	-0.277	-4.617%	0.277	13.920%
10/28/2020	0.000	0.000	4.296		0.257	-0.257	4.296	0.000	0.000	0.000	0.000%	4.296	42.960%	-0.257	-4.283%	0.257	12.915%
10/29/2020	0.000	0.000	4.156		0.261	-0.261	4.156	0.000	0.000	0.000	0.000%	4.156	41.560%	-0.261	-4.350%	0.261	13.116%
10/30/2020	0.000	0.000	4.012		0.283	-0.283	4.012	0.000	0.000	0.000	0.000%	4.012	40.120%	-0.283	-4.717%	0.283	14.221%
10/31/2020	0.000	0.000	4.232		0.231	-0.231	4.232	0.000	0.000	0.000	0.000%	4.232	42.320%	-0.231	-3.850%	0.231	11.608%
11/1/2020	0.000	0.000	3.920		0.284	-0.284	3.920	0.000	0.000	0.000	0.000%	3.920	39.200%	-0.284	-4.733%	0.284	14.271%
11/2/2020	0.000	0.000	4.365		0.251	-0.251	4.365	0.000	0.000	0.000	0.000%	4.365	43.650%	-0.251	-4.183%	0.251	12.613%
11/3/2020	0.000	0.000	3.831		0.250	-0.250	3.831	0.000	0.000	0.000	0.000%	3.831	38.310%	-0.250	-4.167%	0.250	12.563%
11/4/2020	0.000	0.000	4.267		0.241	-0.241	4.267	0.000	0.000	0.000	0.000%	4.267	42.670%	-0.241	-4.017%	0.241	12.111%
11/5/2020	0.000	0.000	4.056		0.241	-0.241	4.056	0.000	0.000	0.000	0.000%	4.056	40.560%	-0.241	-4.017%	0.241	12.111%
11/6/2020	0.000	0.000	4.037		0.250	-0.250	4.037	0.000	0.000	0.000	0.000%	4.037	40.370%	-0.250	-4.167%	0.250	12.563%
11/7/2020	0.000	0.000	4.002		0.256	-0.256	4.002	0.000	0.000	0.000	0.000%	4.002	40.020%	-0.256	-4.267%	0.256	12.864%
11/8/2020	0.000	0.000	4.094		0.254	-0.254	4.094	0.000	0.000	0.000	0.000%	4.094	40.940%	-0.254	-4.233%	0.254	12.764%
11/9/2020	0.000	0.000	4.034		0.311	-0.311	4.034	0.000	0.000	0.000	0.000%	4.034	40.340%	-0.311	-5.183%	0.311	15.628%
11/10/2020	0.000	0.000	4.116		0.280	-0.280	4.116	0.000	0.000	0.000	0.000%	4.116	41.160%	-0.280	-4.667%	0.280	14.070%
11/11/2020	0.000	0.000	3.736		0.252	-0.252	3.736	0.000	0.000	0.000	0.000%	3.736	37.360%	-0.252	-4.200%	0.252	12.663%
11/12/2020	0.000	0.000	3.934		0.215	-0.215	3.934	0.000	0.000	0.000	0.000%	3.934	39.340%	-0.215	-3.583%	0.215	10.804%
11/13/2020	0.000	0.000	4.020		0.268	-0.268	4.020	0.000	0.000	0.000	0.000%	4.020	40.200%	-0.268	-4.467%	0.268	13.467%
11/14/2020	0.000	0.000	3.830		0.254	-0.254	3.830	0.000	0.000	0.000	0.000%	3.830	38.300%	-0.254	-4.233%	0.254	12.764%
11/15/2020	0.000	0.000	3.750		0.219	-0.219	3.750	0.000	0.000	0.000	0.000%	3.750	37.500%	-0.219	-3.850%	0.219	11.005%
11/16/2020	0.000	0.000	3.849		0.309	-0.309	3.849	0.000	0.000	0.000	0.000%	3.849	38.490%	-0.309	-5.150%	0.309	15.528%
11/17/2020	0.000	0.000	3.761		0.206	-0.206	3.761	0.000	0.000	0.000	0.000%	3.761	37.610%	-0.206	-3.433%	0.206	10.352%
11/18/2020	0.000	0.000	3.875		0.252	-0.252	3.875	0.000	0.000	0.000	0.000%	3.875	38.750%	-0.252	-4.200%	0.252	12.663%
11/19/2020	0.000	0.000	3.843		0.247	-0.247	3.843	0.000	0.000	0.000	0.000%	3.843	38.430%	-0.247	-4.117%	0.247	12.412%
11/20/2020	0.000	0.000	3.946		0.206	-0.206	3.946	0.000	0.000	0.000	0.000%	3.946	39.460%	-0.206	-3.433%	0.206	10.352%
11/21/2020	0.000	0.000	3.762		0.252	-0.252	3.762	0.000	0.000	0.000	0.000%	3.762	37.620%	-0.252	-4.200%	0.252	12.663%
11/22/2020	0.000	0.000	3.853		0.204	-0.204	3.853	0.000	0.000	0.000	0.000%	3.853	38.530%	-0.204	-3.400%	0.204	10.251%
11/23/2020	0.000	0.000	3.862		0.250	-0.250	3.862	0.000	0.000	0.000	0.000%	3.862	38.620%	-0.250	-4.167%	0.250	12.563%
11/24/2020	0.000	0.000	3.664		0.202	-0.202	3.664	0.000	0.000	0.000	0.000%	3.664	36.640%	-0.202	-3.367%	0.202	10.151%
11/25/2020	0.000	0.000	3.972		0.254	-0.254	3.972	0.000	0.000								

Map Code Source Basin	Water Transfer (MGD) to Rocky River Basin			
	South Yadkin	Yadkin	Yadkin	Catawba
	Raw Water to Kannapolis Lake from Second Creek	Salisbury Finished water Interconnection with Kannapolis	Albemarle Finished water Interconnection with Concord	Charlotte Water Finished water Interconnections with Concord
DATE				
12/8/2020	0.000	0.000	3.786	
12/9/2020	0.000	0.000	3.882	
12/10/2020	0.000	0.000	3.837	
12/11/2020	0.000	0.000	3.869	
12/12/2020	0.000	0.000	3.857	
12/13/2020	0.000	0.000	3.984	
12/14/2020	0.000	0.000	3.925	
12/15/2020	0.000	0.000	3.888	
12/16/2020	0.000	0.000	3.947	
12/17/2020	0.000	0.000	3.605	
12/18/2020	0.000	0.000	3.943	
12/19/2020	0.000	0.000	3.832	
12/20/2020	0.000	0.000	3.749	
12/21/2020	0.000	0.000	3.697	
12/22/2020	0.000	0.000	3.837	
12/23/2020	0.000	0.000	3.749	
12/24/2020	0.000	0.000	3.701	
12/25/2020	0.000	0.000	3.961	
12/26/2020	0.000	0.000	3.759	
12/27/2020	0.000	0.000	3.856	
12/28/2020	0.000	0.000	3.953	
12/29/2020	0.000	0.000	3.934	
12/30/2020	0.000	0.000	3.924	
12/31/2020	0.000	0.000	3.196	
<b>AVG 2019</b>	0.000	0.001	3.465	1.119
<b>MAX 2019</b>	0.000	0.302	4.490	1.832

Water Sales (MGD)	IBT Totals Per Basin		
	NOTE: All Wastewater discharge is to the Rocky River from RRWWTP, excluding water sales to Landis (subtracted from Total South Yadkin IBT).		
South Yadkin	South Yadkin	Yadkin	Catawba
	Kannapolis Finished water sales to Landis	Total South Yadkin IBT <sup>1</sup>	Total Yadkin IBT
	Total Catawba IBT		
0.247	-0.247	3.786	0.000
0.206	-0.206	3.882	0.000
0.200	-0.200	3.837	0.000
0.247	-0.247	3.869	0.000
0.206	-0.206	3.857	0.000
0.248	-0.248	3.984	0.000
0.208	-0.208	3.925	0.000
0.246	-0.246	3.888	0.000
0.206	-0.206	3.947	0.000
0.204	-0.204	3.605	0.000
0.248	-0.248	3.943	0.000
0.210	-0.210	3.832	0.000
0.249	-0.249	3.749	0.000
0.211	-0.211	3.697	0.000
0.275	-0.275	3.837	0.000
0.253	-0.253	3.749	0.000
0.223	-0.223	3.701	0.000
0.196	-0.196	3.961	0.000
0.244	-0.244	3.759	0.000
0.212	-0.212	3.856	0.000
0.203	-0.203	3.953	0.000
0.250	-0.250	3.934	0.000
0.210	-0.210	3.924	0.000
0.199	-0.199	3.196	0.000
0.272	0.208	3.458	0.006
0.415	0.449	4.490	1.832

Interbasin Transfer						
Catawba	% of Permitted MDD Transfer	Yadkin	% of Permitted MDD Transfer	Grandfathered IBT from Second Creek - South Yadkin River Basin	% of Permitted MDD Transfer	IBT from Yadkin to South Yadkin River Basin
0.000	0.000%	3.786	37.860%	-0.247	-4.117%	0.247
0.000	0.000%	3.882	38.820%	-0.206	-3.433%	0.206
0.000	0.000%	3.837	38.370%	-0.200	-3.333%	0.200
0.000	0.000%	3.869	38.690%	-0.247	-4.117%	0.247
0.000	0.000%	3.857	38.570%	-0.206	-3.433%	0.206
0.000	0.000%	3.984	39.840%	-0.248	-4.133%	0.248
0.000	0.000%	3.925	39.250%	-0.208	-3.467%	0.208
0.000	0.000%	3.888	38.880%	-0.246	-4.100%	0.246
0.000	0.000%	3.947	39.470%	-0.206	-3.433%	0.206
0.000	0.000%	3.605	36.050%	-0.204	-3.400%	0.204
0.000	0.000%	3.943	39.430%	-0.248	-4.133%	0.248
0.000	0.000%	3.832	38.320%	-0.210	-3.500%	0.210
0.000	0.000%	3.749	37.490%	-0.249	-4.150%	0.249
0.000	0.000%	3.697	36.970%	-0.211	-3.517%	0.211
0.000	0.000%	3.837	38.370%	-0.275	-4.583%	0.275
0.000	0.000%	3.749	37.490%	-0.253	-4.217%	0.253
0.000	0.000%	3.701	37.010%	-0.223	-3.717%	0.223
0.000	0.000%	3.961	39.610%	-0.196	-3.267%	0.196
0.000	0.000%	3.759	37.590%	-0.244	-4.067%	0.244
0.000	0.000%	3.856	38.560%	-0.212	-3.533%	0.212
0.000	0.000%	3.953	39.530%	-0.203	-3.383%	0.203
0.000	0.000%	3.934	39.340%	-0.250	-4.167%	0.250
0.000	0.000%	3.924	39.240%	-0.210	-3.500%	0.210
0.000	0.000%	3.196	31.960%	-0.199	-3.317%	0.199
0.006	0.061%	3.458	34.581%	-0.272	-4.532%	0.253
1.832	18.320%	4.490	44.900%	-0.186	-3.100%	0.454
						12.707%
						22.814%

<sup>1</sup> Transfers from Second Creek to Kannapolis Lake (South Yadkin Basin to Rocky River Basin) shall not exceed 6 MGD; positive numbers represent this direction of transfer as dominate  
Transfers from Kannapolis (via purchase from Salisbury) to Landis (Yadkin Basin to South Yadkin Basin) shall not exceed 2 MGD; negative numbers represent this direction of transfer as the dominate