

Catawba River Interbasin Transfers Update

Caldwell County Board of Commissioners

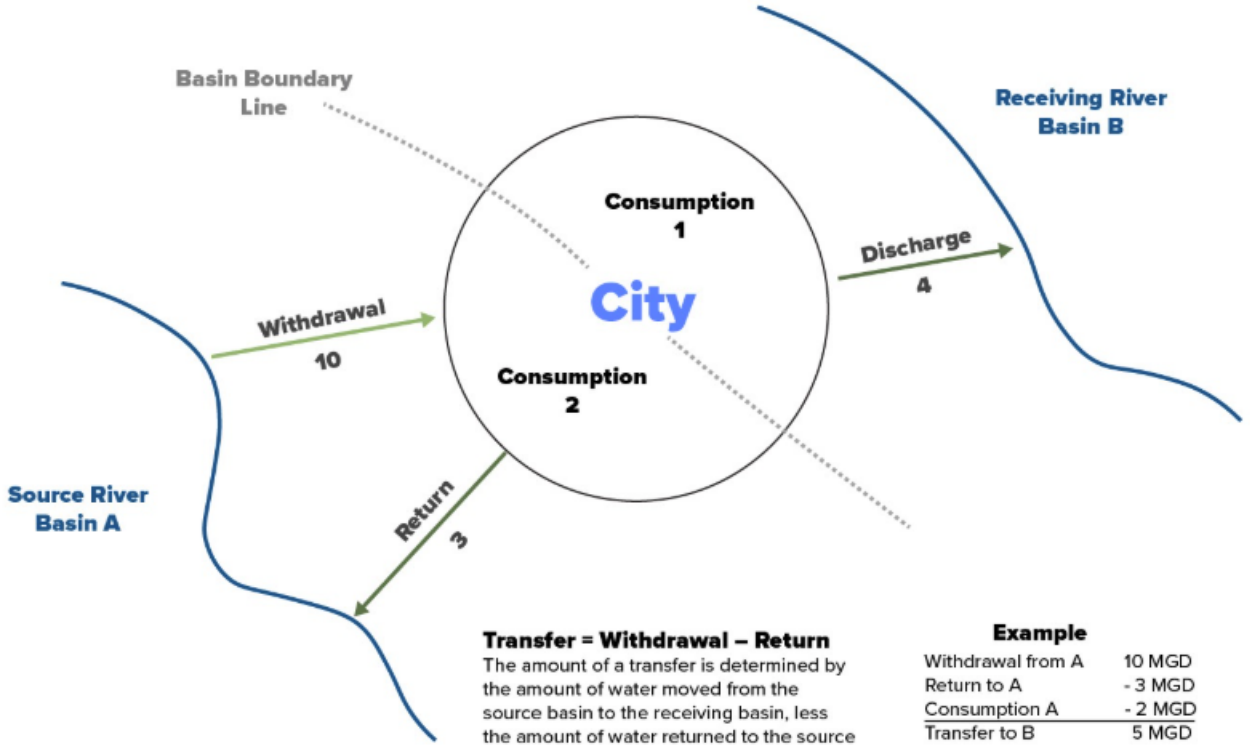
January 26, 2026

Presentation Agenda

1. **Background: Interbasin Transfers**
2. The Catawba River Basin
3. Charlotte Water's Request + Impacts
4. Alternatives Available to Charlotte
5. Catawba River Coalition
6. Legislative Study
7. Questions

What is an interbasin transfer?

- Water is removed from one basin, consumed/used in a jurisdiction, and then discharged into another basin.
- IBTs can be **harmful** to the jurisdiction losing water and beneficial to jurisdiction getting water.



What the experts say about IBTs

Interbasin Water Transfers in the Western United States
(David Getches, Univ. of Colorado)

"When water is removed from an area it almost invariably causes **economic and environmental impacts**. These impacts are the greatest in the case of transfers from one basin to another. . ."

"When water supplies are committed to exports, it **discourages investments in new businesses** that require water. The transfer of water to another watershed therefore deprives the area of origin of water that could be used for economic growth in that area of origin."

"Less economically advantaged areas. . .rarely have sufficient political power to prevent or alter plans to de-water their watersheds."

Are intra- and inter-basin water transfers a sustainable policy intervention for addressing water scarcity?
(Ariel Dinar, Univ. of California - Riverside)

"One of the most **extreme** policy interventions is to build infrastructure to move water from locations where it is abundant to locations facing scarcity."

"Compared with water conservation measures, IBTs involve **far more problems** that could arise along a more distant horizon."

Current Catawba River IBTs

- **Charlotte Water** has a 33 million gallons per day interbasin transfer certificate (2002).
- **Concord Kannapolis** has a 20 million gpd interbasin transfer certificate: 10 million gpd from the Catawba and 10 million gpd from the Yadkin (2007).
- The Town of **Mooresville** has a pre-existing interbasin transfer allowance of 9.54 million gpd.

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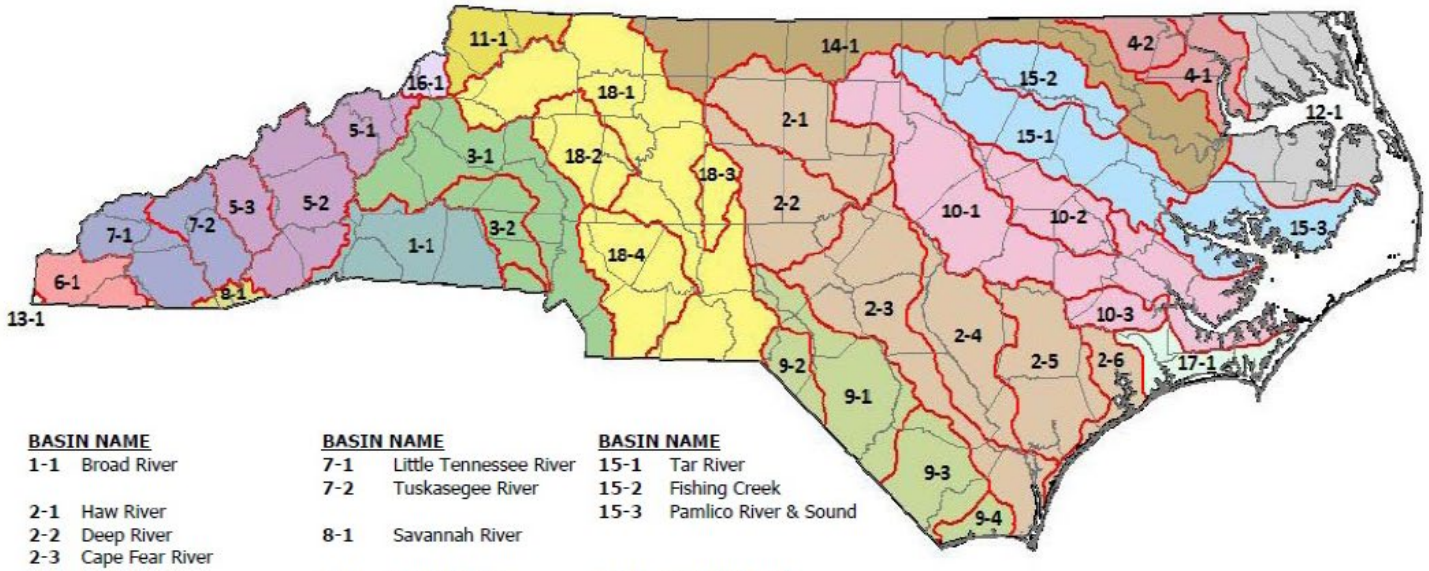
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*"Precipitation deficits during the 1998-2002 drought for some locations in North Carolina were among the **largest documented since the beginning of systematic collection** of weather data."*

– US Geological Survey

The river basins of North Carolina

Designated Interbasin Transfer River Basins
As defined in G.S. §143-215.22G

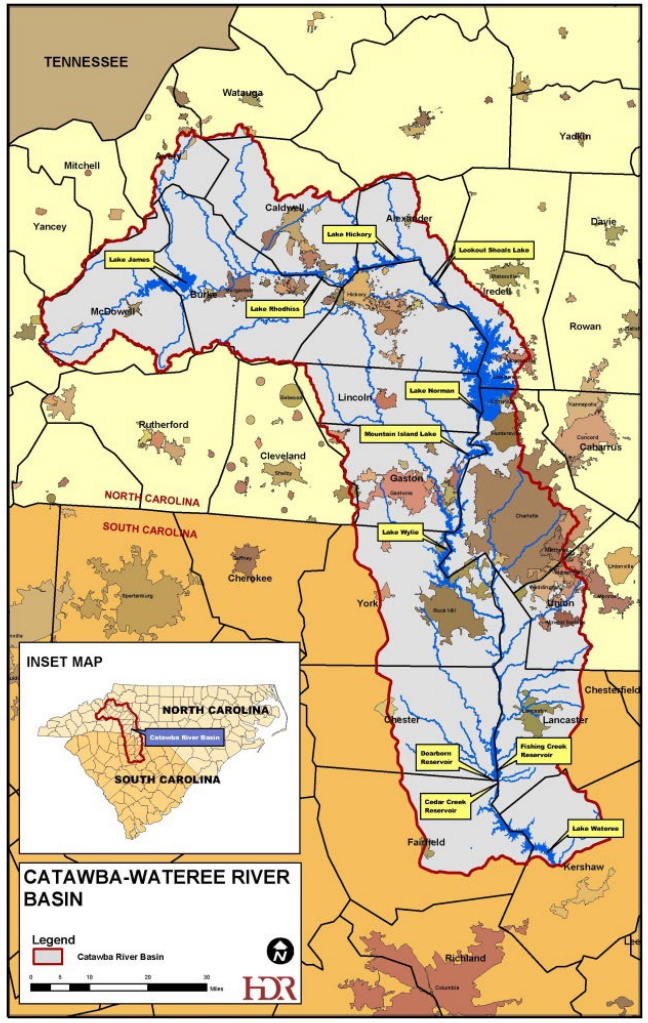


BASIN NAME		BASIN NAME		BASIN NAME	
1-1	Broad River	7-1	Little Tennessee River	15-1	Tar River
		7-2	Tuskasegee River	15-2	Fishing Creek
2-1	Haw River			15-3	Pamlico River & Sound
2-2	Deep River	8-1	Savannah River		
2-3	Cape Fear River				
2-4	South River	9-1	Lumber River	16-1	Watauga River
2-5	Northeast Cape Fear River	9-2	Big Shoe Heel Creek		
2-6	New River	9-3	Waccamaw River	17-1	White Oak River
		9-4	Shallotte River		
3-1	Catawba River			18-1	Yadkin River
3-2	South Fork Catawba River	10-1	Neuse River	18-2	South Yadkin River
		10-2	Contentnea Creek	18-3	Uwharrie River
4-1	Chowan River	10-3	Trent River	18-4	Rocky River
4-2	Meherrin River				
		11-1	New River		
5-1	Nolichucky River				
5-2	French Broad River	12-1	Albemarle Sound		
5-3	Pigeon River				
		13-1	Ocoee River		
6-1	Hiwassee River				
		14-1	Roanoke River		

NORTH CAROLINA
Department of Environmental Quality

The Catawba River basin

- **First river in the US completely planned/developed for electricity production**
- **11 interconnected reservoirs licensed by the Federal Energy Regulatory Commission (FERC)**
  - Completed 1904-1963 (spanning 225 river miles)
  - 79,895 surface acres, 1,795 miles shoreline
- **Modest water availability**
  - Avg. inflow – 3,752 million gallons per day (MGD)
  - Avg. annual precipitation – 42 inches
  - **Usable Storage = 776,747 acre-feet = 252 billion gallons ≈ 7% of annual basin precipitation**
- **Duke Energy electric generation – Supports 20% of Duke Energy's generating capacity in the Carolinas**
  - 789 MW clean, renewable, flexible hydropower
  - Cooling water for 7,063 MW coal/nuclear
- **Lots of people**
  - Most densely populated river basin in NC
  - 2 states, 17 counties, 30+ cities
  - Over 25,000 lake neighbors (property values)
  - Over 16 million recreation visits per year
  - Several large industrial water intakes
- **Reservoirs serve as the raw water source for 18 public water systems (2 million customers)**



The Catawba: A threatened river

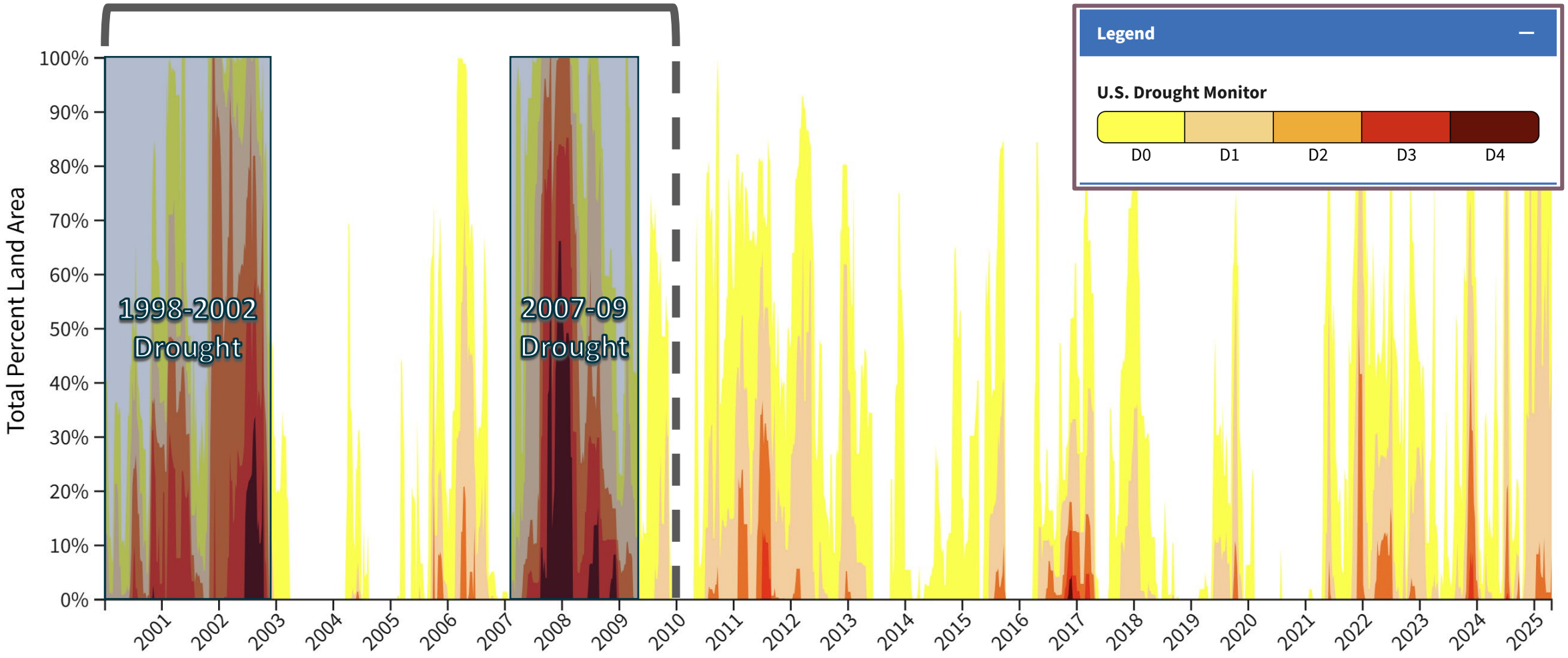
- "The Catawba-Wateree River basin is experiencing **unprecedented demand for clean water** due to exponential population growth of the Charlotte metropolitan area, which spans several counties in both North and South Carolina."
- "These threats, combined with predictions of more frequent droughts. . .impair the river's health and its ability to provide for residents in the future is **at risk**."
- "Without adequate river flows, utility companies, mills, and manufacturing facilities that depend on the Catawba River **will founder**."



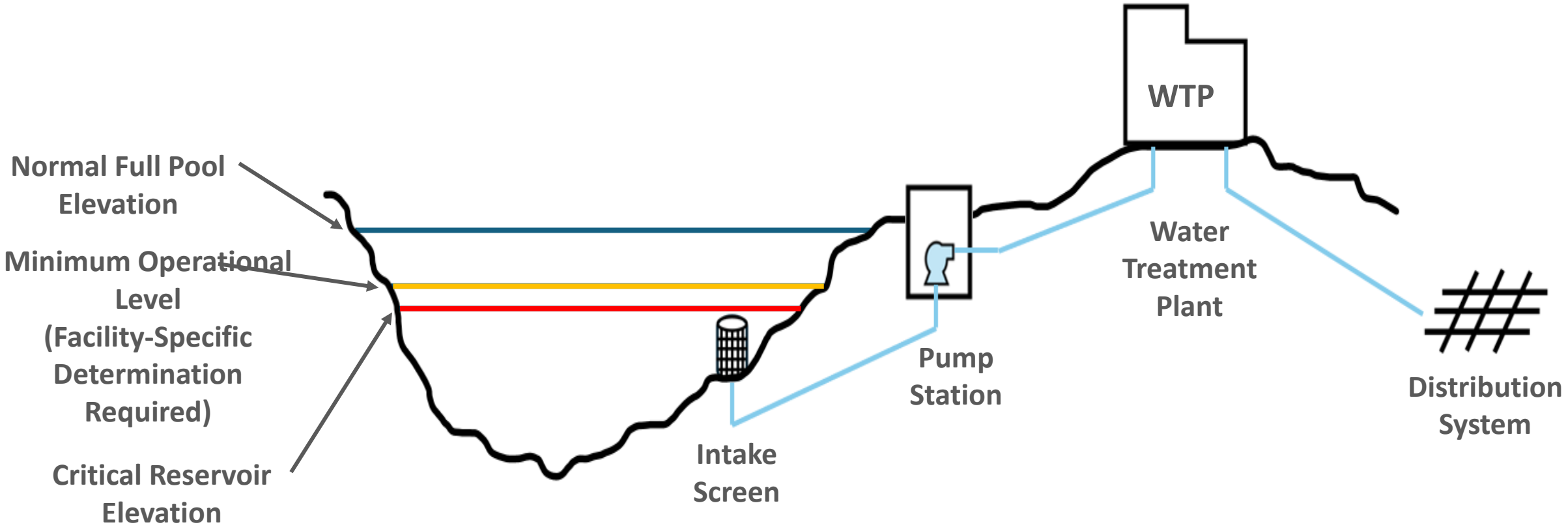
Source: American Rivers: America's Most Endangered Rivers™

The Catawba: A threatened river

Graph retrieved from US Drought Monitor – North Carolina



Technical impacts of a drought



The 1998 - 2002 drought

- USGS: “Precipitation deficits during the 1998-2002 drought for some locations in North Carolina were among the **largest documented since the beginning of systematic collection** of weather data.”

- Catawba River Basin suffers the worst of it: “The largest deficits occurred **primarily in the western Piedmont** and were as much as 60 to 70 inches in some locations during the 4-year period,” with Hickory leading the entire state in reduced precipitation.

- 2001-02: Lake James cannot reach target elevations necessary to sustain downstream water needs

- Summer 2002: Duke Energy says water intakes in some reservoirs will be exposed if drought lasted another year

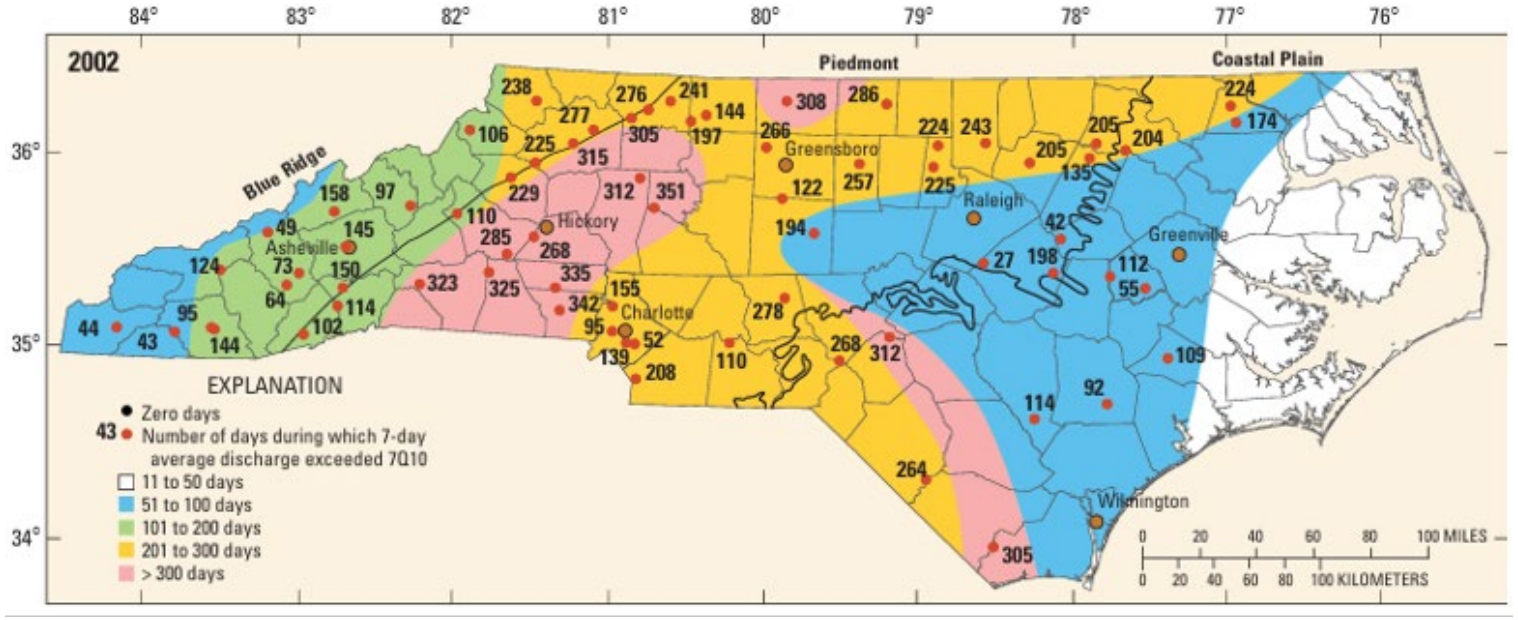


Image from USGS, “The Drought of 1998–2002 in North Carolina — Precipitation and Hydrologic Conditions.”

The 2007-2009 drought

- Most severe North Carolina drought in recorded history
- October 2007 Hickory press release: “The goal in August and September was to reduce water use by five to ten percent, and now there is a need to reduce water consumption by more **than 20 percent**.”
- NC DEQ: Portions of the basin dropped below normal levels **by 8-10 *feet***
- Low Inflow Protocol (LIP) Stage 3 declared (second-highest stage); aspects of LIP 4 were implemented
- Lake Norman dropped to just 3.1 feet above cooling intake for nuclear power plant
- Meanwhile, Charlotte continued pulling water from the Catawba and **lost more than 19%** of every gallon it took (source: Charlotte Water) – 23 mgd lost each day



Charlotte IBT and Conservation Targets

- Charlotte Water published its water conservation goals for **extreme** droughts as a **10-20% reduction**
- Charlotte Water uses about 124.55 million gallons per day
- A 10-20% conservation reduction is about 12.5 to 25 mgd for Charlotte Water
- The potential Charlotte Water IBT is 63 mgd
- Charlotte is proposing to transfer 2.5 to 5 times more water than it hopes to conserve during extreme droughts



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Charlotte Water's request + impacts

- Charlotte has existing approval for an interbasin transfer of 33 mgd
  - This IBT was originally projected to meet demands until 2030

- In 2024, Charlotte announced its intent to request an increase of 30 million gpd, bringing the **total transfer to 63 mgd**

- **The 30 mgd IBT increase will serve about 300,000 more people in eastern Mecklenburg**

- Charlotte Water's request has **economic, financial, and legal consequences** for community that rely exclusively on the Catawba River Basin for their water needs



CHARLOTTE WATER

Notice of Intent

JD Solomon, Chair
North Carolina Environmental Management Commission
c/o EMC Recording Clerk
Robin Smith Law Office PLLC
P.O. Box 2343
Chapel Hill, N.C. 27515

February 22, 2024

Subject: Charlotte Water Notice of Intent to Request Increase to Interbasin Transfer Certificate

Charlotte Water respectfully submits this correspondence as our Notice of Intent (NOI) to submit a request to the Environmental Management Commission (EMC) to modify our existing Interbasin Transfer (IBT) Certificate dated 2002. Our projections of future water needs indicate that approval of an increased IBT will be needed soon, and we are beginning the process to meet that need. We are refining the projections and will provide them as part of future correspondence. This request also includes a change from a maximum day basis to a maximum month basis is requested to be consistent with the current statute and regulations. As required by the December 3, 2010, Settlement Agreement between North Carolina and South Carolina, Charlotte Water will prepare a state Environmental Impact Statement (EIS) in support of its application to the EMC. We will work closely with the North Carolina Department of Environmental Quality (NCDEQ) throughout that process. The IBT rate will be refined during that process.

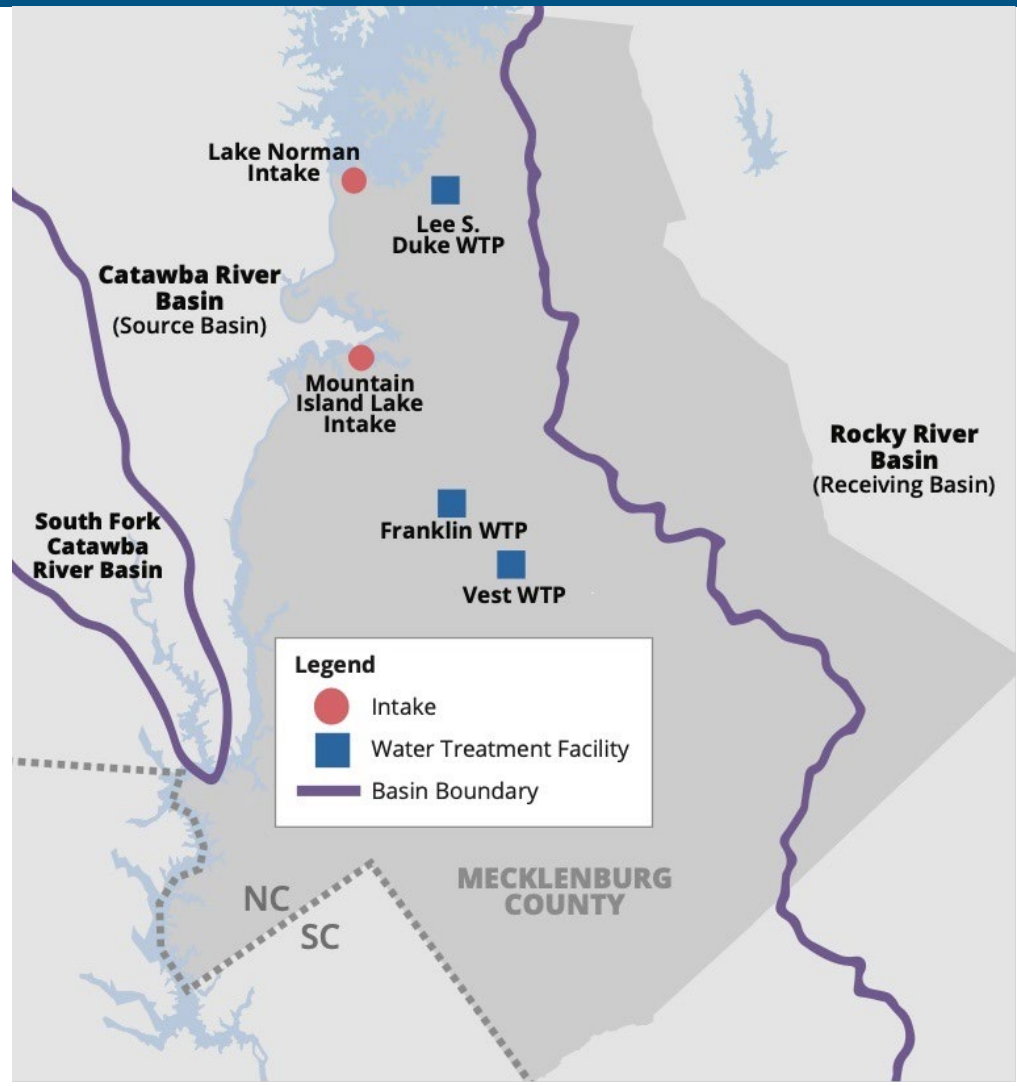
Charlotte Water is a regional leader in water resource management - extending its impact beyond Mecklenburg County, delivering essential water and sewer services to the region. We also actively collaborate with regional partners to ensure the sustainable management and preservation of water resources.

Charlotte is rapidly growing metropolitan area, and the service areas contributing most to the IBT, such as the Mallard Creek basin, are growing at an even faster rate. To address the growing need for water and wastewater services, Charlotte Water engages in long-term planning and water infrastructure development. Charlotte Water has been in the process of planning for water and wastewater infrastructure in these areas over the past few years and has been refining its estimates of the required IBT rate to meet these growing needs.

Charlotte Water has reviewed the statutory requirements at §143-215.22L and we are committed to following the required process and working cooperatively with the NCDEQ and the EMC throughout the process.

Charlotte Water 4222 Westmont Drive, Charlotte, NC 28217 charlottewater.org

Operated by the City of Charlotte



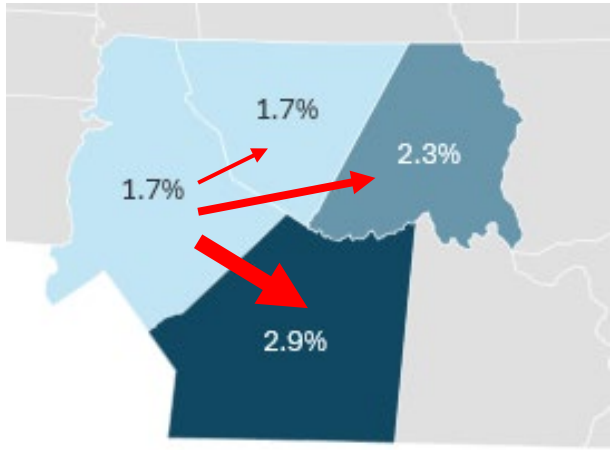
Charlotte Water's request: Economic impacts

- Charlotte's request would **harm basin communities** economically and **benefit Charlotte**:

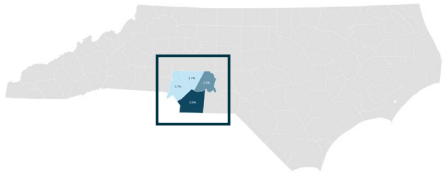
  1. WNC needs water capacity for commercial and industrial growth. But that **growth can't happen** if WNC's only water source is transferred to Charlotte.

  2. Charlotte population is migrating to adjacent counties, especially Union County (fifth-highest growth in NC). **WNC cannot accommodate its own residential growth** if its water is used to accommodate Charlotte's instead.

- "When water supplies are committed to exports, it discourages investments in new businesses that require water. The transfer of water to another watershed therefore **deprives the area of origin of water that could be used for economic growth** in that area of origin." (Univ. of Colorado)



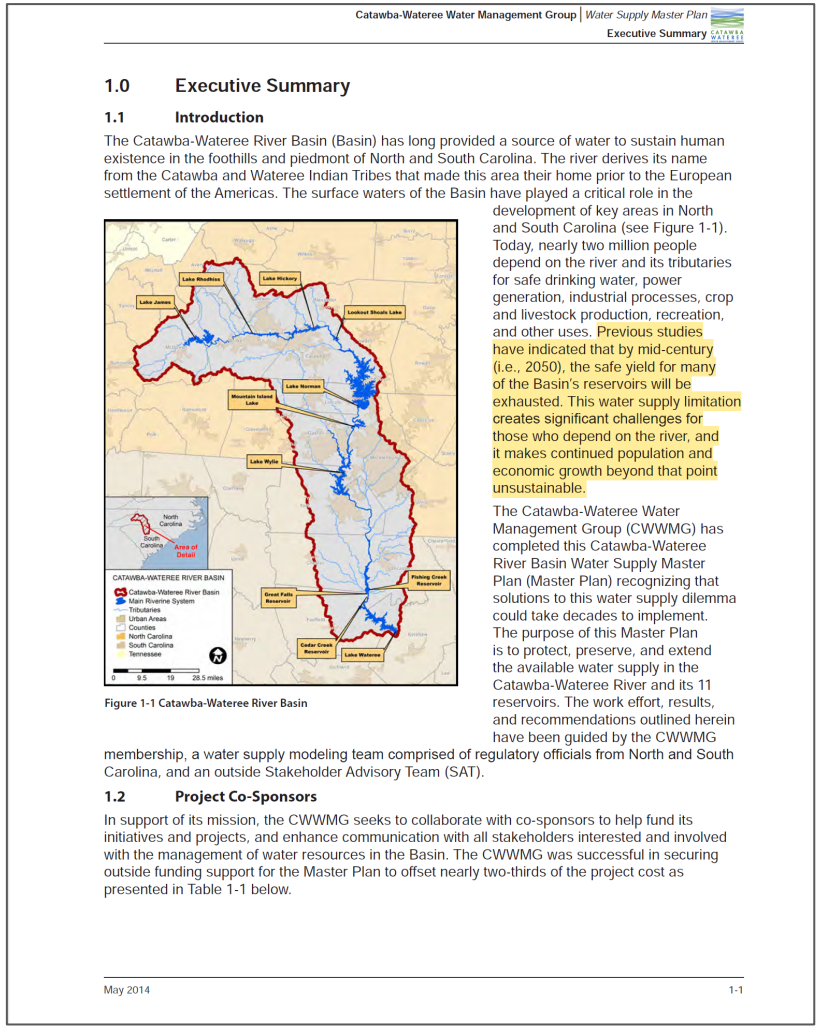
Population growth, 2022-23. *Carolina Demography*.



Charlotte Water's request: Economic impacts

"Previous studies have indicated that by mid-century (i.e., 2050), the **safe yield for many of the Basin's reservoirs will be exhausted**. This water supply limitation creates significant challenges for those who depend on the river, and it makes **continued population and economic growth beyond that point unsustainable**."

– Catawba-Wateree Water Management Group (2014)



Catawba-Wateree Water Management Group | *Water Supply Master Plan*
Executive Summary

1.0 Executive Summary

1.1 Introduction

The Catawba-Wateree River Basin (Basin) has long provided a source of water to sustain human existence in the foothills and piedmont of North and South Carolina. The river derives its name from the Catawba and Wateree Indian Tribes that made this area their home prior to the European settlement of the Americas. The surface waters of the Basin have played a critical role in the development of key areas in North and South Carolina (see Figure 1-1). Today, nearly two million people depend on the river and its tributaries for safe drinking water, power generation, industrial processes, crop and livestock production, recreation, and other uses. Previous studies have indicated that by mid-century (i.e., 2050), the safe yield for many of the Basin's reservoirs will be exhausted. This water supply limitation creates significant challenges for those who depend on the river, and it makes continued population and economic growth beyond that point unsustainable.

Figure 1-1 Catawba-Wateree River Basin

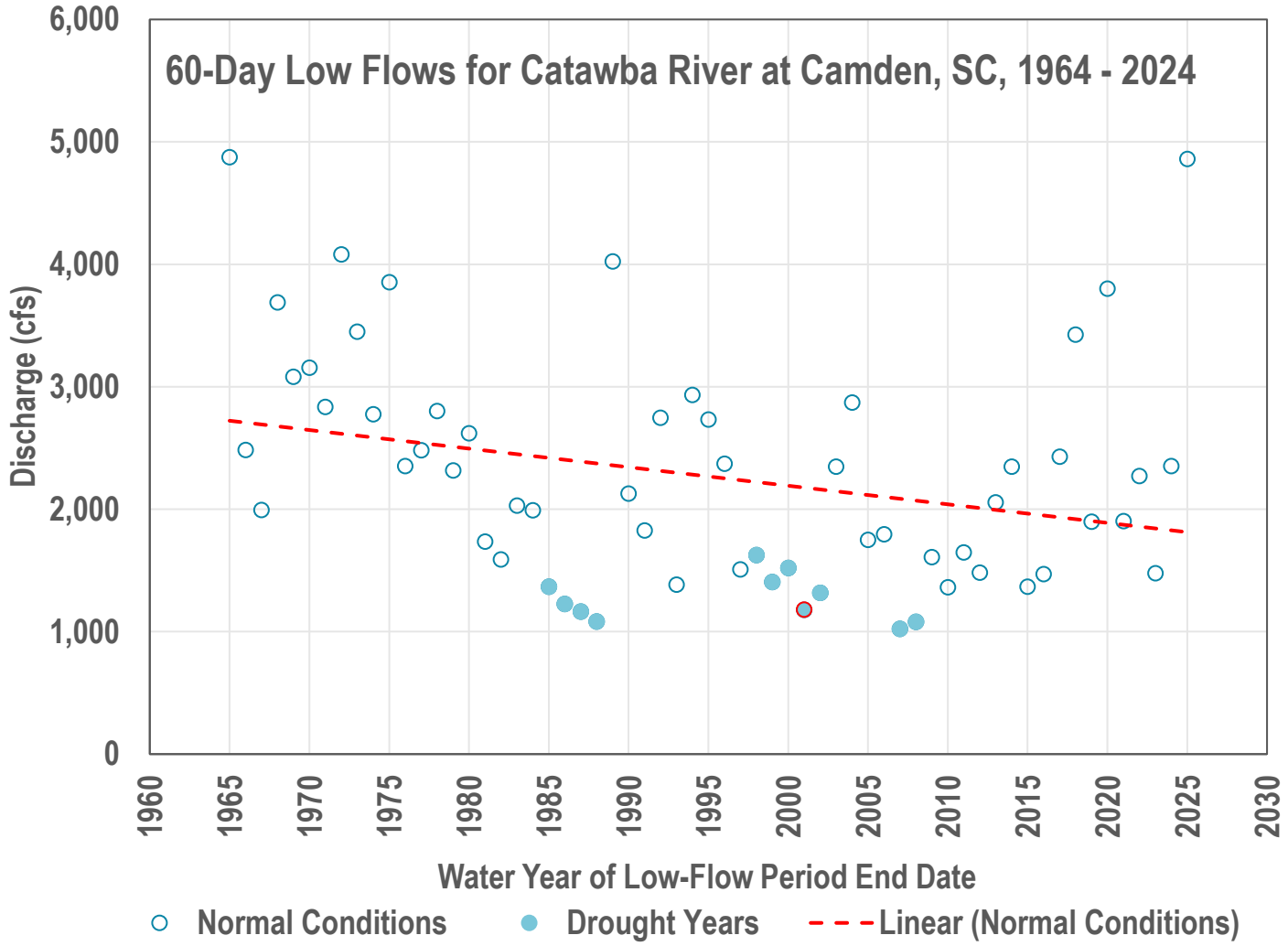
The Catawba-Wateree Water Management Group (CWWMG) has completed this Catawba-Wateree River Basin Water Supply Master Plan (Master Plan) recognizing that solutions to this water supply dilemma could take decades to implement. The purpose of this Master Plan is to protect, preserve, and extend the available water supply in the Catawba-Wateree River and its 11 reservoirs. The work effort, results, and recommendations outlined herein have been guided by the CWWMG membership, a water supply modeling team comprised of regulatory officials from North and South Carolina, and an outside Stakeholder Advisory Team (SAT).

1.2 Project Co-Sponsors

In support of its mission, the CWWMG seeks to collaborate with co-sponsors to help fund its initiatives and projects, and enhance communication with all stakeholders interested and involved with the management of water resources in the Basin. The CWWMG was successful in securing outside funding support for the Master Plan to offset nearly two-thirds of the project cost as presented in Table 1-1 below.

Charlotte Water's request: Engineering impacts

- **Trends suggest the availability of water in the basin may be declining.**
- Transferring yet more water from the basin would worsen pollutant concentrations.
- Why? If pollutant concentrations stay constant while water volume decreases, the remaining water necessarily has higher concentrations of pollutants.
- That will require more treatment measures, which are expensive.
- Under current policy, basin communities would have to fund those measures, not Charlotte.



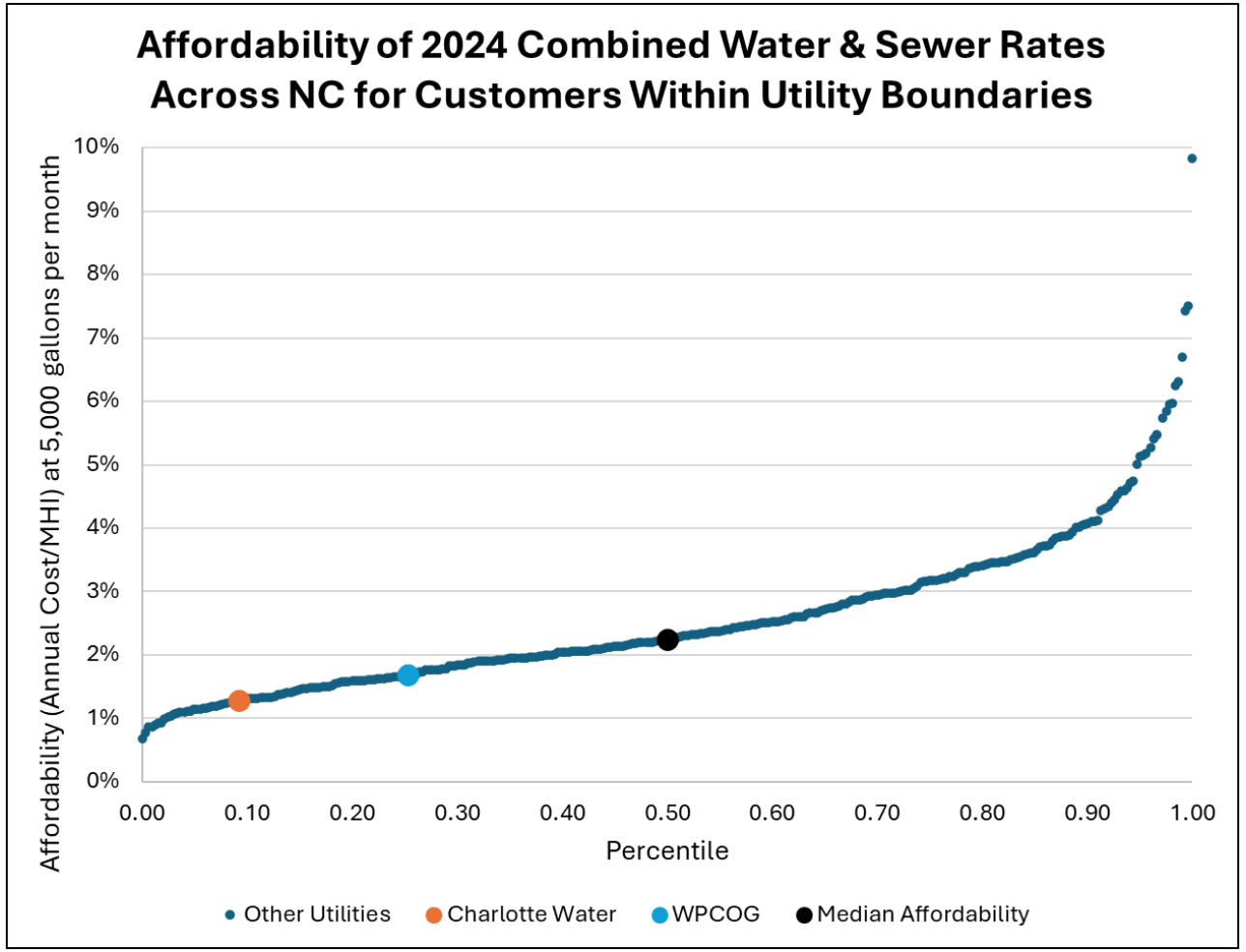
Charlotte Water's request: Financial impacts

- Water rates in Charlotte are more affordable as a % of median household income than 90% of other NC utilities. ***CLT customers pay less for the same amount of water. At the same time, CLT Water loses 19% of water treated annually.***

- Transferring water from the Catawba River basin subsidizes Charlotte customers because it means Charlotte Water can avoid infrastructure costs for new water facilities and repairs to existing infrastructure.

- Catawba River basin communities, meanwhile, will pay even higher rates because of the added mitigation costs on their systems.

- Bottom line: The interbasin transfer means *cheaper* water for Charlotte and *more expensive* water for Catawba River basin communities.



Charlotte Water's request: Legal impacts

- Charlotte secured its first IBT certificate in 2002.
- Now that Charlotte needs more water, it seeks to increase its transfer amount.
- What will happen when Charlotte needs yet more water in the coming decades?
- Approval of this second IBT will entrench the precedent that Charlotte will seek, and win, more and more water from the Catawba River basin for the rest of the century.

"Less economically advantaged areas. . .rarely have **sufficient political power** to prevent or alter plans to de-water their watersheds." – Univ. of Colorado

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Alternative options for Charlotte Water

- Right now, Charlotte proposes to take water from the Catawba, use it, then discharge it into the Rocky/Yadkin River basin.
  - **Maximum harm** to Catawba River basin communities
  - **Maximum benefit** to Charlotte

- Charlotte has other options to minimize harm to Catawba River basin communities, including:
  - Take water from the Yadkin River basin
  - Return water back to the Catawba River basin

- Both options require infrastructure investments from Charlotte, which Charlotte has historically declined to make.



Above: The Western Wake Regional Water Reclamation Facility, an infrastructure project constructed to maximize water efficiency and resources in the Triangle.

Cost of Charlotte's alternative options

- Charlotte evaluated the cost of both options in 2001 and again in 2020.
- Either of these options would mitigate the economic growth, engineering, and financial consequences of the IBT to Catawba River basin communities.
- Charlotte claims the **inflation-adjusted** cost of these alternatives increased between 10x and 50x from 2001 to 2020.
- **Charlotte Water has a $651M budget for FY26.[3]**
- **Charlotte Water plans $2.3 billion in projects over the next 5 years.**
- Avoiding an IBT only requires about a 12% increase in the CLT Water capital budget over the next 15 years to build the infrastructure to eliminate the IBT

Alternative[1,2]	2001 Cost Estimate (constant 2020 $)	2020 Cost Estimate (constant 2020 $)
Discharge Water to Catawba River Subbasin	**$16,046,000**	**$847,248,930**
New Raw Water Source from Yadkin River Basin	**$82,526,000**	**$827,759,421**

[1] Specifics of proposed IBT alternatives are expected to differ. For example, in 2001 Charlotte estimated costs to pump water to the McAlpine WWTP, while in 2020 Charlotte estimated costs to pump to the McDowell Creek WRF. Charlotte Water provided limited details, regarding both the basis for cost estimates and specifics of each alternative, in both 2001 and 2020.

[2] In 2020, Charlotte Water evaluated several other alternatives. These alternatives are not included as they were not evaluated in 2001 and are a similar cost to the 2020 alternatives analyzed.

[3]Source: WC - City of Charlotte BB FY26, page 212

[4]Source: Charlotte Water Website - FY26-30 Public Handout (Final).xlsx

Cost of Charlotte's alternative options

- Charlotte has not invested in alternative water source projects in the 21st century.
- Charlotte leaders backed a $0.01 sales tax increase for transit infrastructure.
- Charlotte received $141 million in federal pandemic funding that could be used for "necessary investments in **water, sewer,** or broadband infrastructure."
  - Charlotte said: "The city is not currently planning to use any Local Fiscal Recovery Funding on infrastructure projects."
- Bottom line: Charlotte **pays less** for water; **received** federal funds for water infrastructure (but didn't use them for that purpose); **supported a tax increase** for other non-water infrastructure. They have the means, just not the desire, to pursue alternatives for water.

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Catawba River Coalition

- At the request of local governments, the WPCOG is providing coordination of our region's discussions and response to the Charlotte IBT request.
- The EMC will hold a public hearing on the Environmental Impact Statement (EIS) sometime after the EIS is submitted (2026 or 2027).
- The coalition includes local governments from Alexander, Burke, Caldwell, Catawba, and McDowell Counties.

Coalition Key Points

- Our region's future growth could be limited because of these large IBTs.
- We are not opposed to Charlotte growing. We just do not want that growth to occur at our expense.
- The limited resources of the Catawba River should not be used to subsidize huge growth outside the river basin.
- Charlotte should implement policies and infrastructure improvements to avoid IBTs.
- IBTs could make the impacts of severe droughts worse for other communities along the Catawba River.

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H. 850, Interbasin Transfer Moratorium/Study

- July 2025: H. 850, Interbasin Transfer Moratorium/Study, enacted into law
- Imposes a two-year moratorium on new IBTs or IBT expansions exceeding 15 million gpd.
- Directs the North Carolina Collaboratory at UNC-Chapel Hill to study the issue and provide recommendations to NCGA upon convening in 2027.
- Collaboratory study is in the early stages.

Legislatively Required Study Topics

Collaboratory directed to:

1. Study the current statutory process for approval of surface water transfers.
2. Provide any recommendations for legislation revising that process that the Collaboratory finds is needed.

Study should include:

1. Adequacy of the Environmental Impact Statement requirements.
2. Economic impact to lower income and lower population communities.
3. Determine if the process reflects the impact of climate trends that impact water flows.
4. Incentives regarding land use, infrastructure, and drought polices to reduce future IBTs.

Our Priority Requests for the Study

- Our legislative advocacy includes, and we request these policy options be considered in, the study:

    1. A “shot clock” for large interbasin transfers, such that IBTs are temporary and time-limited.

    2. A drought mitigation fund for impacted communities to use if an IBT is approved within the relevant basin.

What coalition members can do

1. Respectfully engage your state legislators using the key points; WPCOG has additional points and data to support your advocacy.

2. Respectfully engage the Collaboratory to share your local perspective.

3. The next 50 years of growth in our region will be determined by this issue. Please use every opportunity to keep the issue **at the forefront of people's minds.**

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