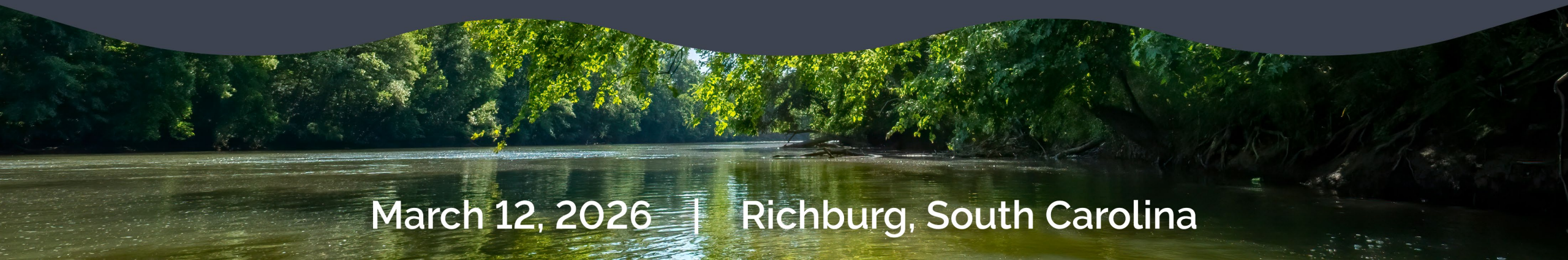
9th Annual Water for All Summit

From Plan to Action:

Advancing the INTEGRATED WATER RESOURCES PLAN



March 12, 2026 | Richburg, South Carolina

Year-In-Review

Jimmy Bagley, CWWMG Chair

About CWWMG

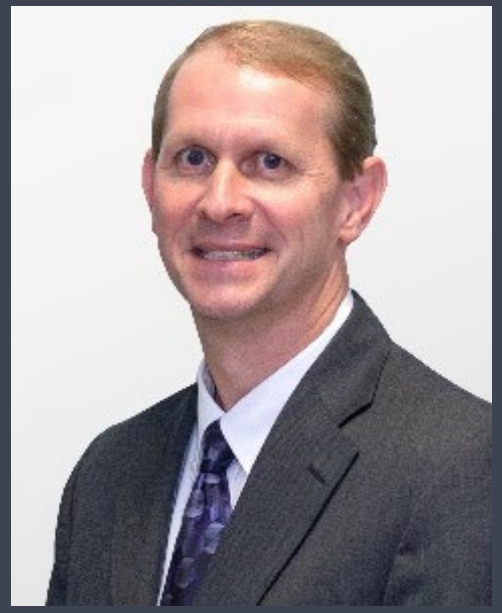
Mission

To collectively identify, fund, and implement strategic initiatives that extend the capacity of the Catawba-Wateree River to effectively serve the community, while protecting and enhancing the ecological health of the basin.

Membership

- **Catawba River Water Supply Project**
  - **Lancaster County Water & Sewer District (SC)**
  - **Union County (NC)**
- **Charlotte Water (NC)**
- **Chester Metropolitan District (SC)**
- **City of Belmont (NC)**
- **City of Camden (SC)**
- **City of Gastonia, Two Rivers Utilities (NC)**
- **City of Hickory / Town of Longview (NC)**
- **City of Lenoir (NC)**
- **City of Morganton (NC)**
- **City of Mount Holly (NC)**
- **City of Rock Hill (SC)**
- **City of Statesville (NC)**
- **Duke Energy Carolinas, LLC**
- **Lincoln County (NC)**
- **Lugoff-Elgin Water Authority (SC)**
- **Town of Granite Falls (NC)**
- **Town of Mooresville (NC)**
- **Town of Valdese (NC)**
- **City of Tega Cay (SC) – *Utility Member***
- **City of Concord (NC) – *Utility Member***
- **York County (SC) – *Utility Member***

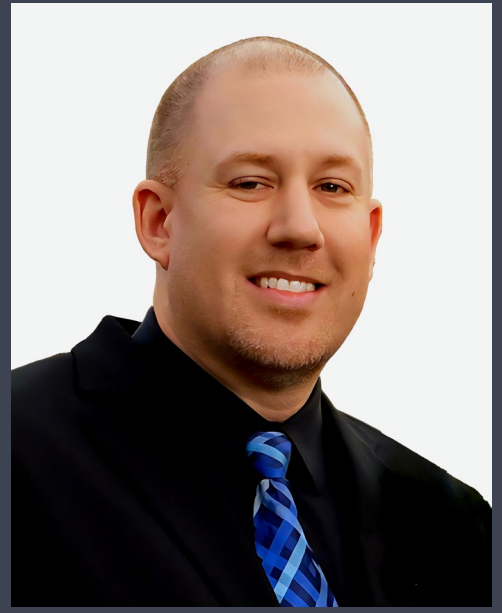
Our Board



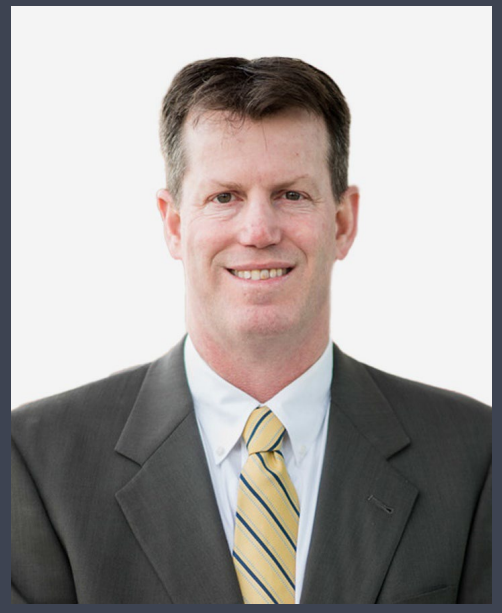
Chair
Jimmy Bagley, PE
City of Rock Hill, SC

Vice Chair
Jeff Lineberger, PE
Duke Energy Carolinas, LLC

Secretary/Treasurer
Jeff Church, Ed.D
City of Lenoir, NC



NC At-Large Director
David Cox
City of Hickory, NC



SC At-Large Director
Brad Bucy, PE
Lancaster County Water & Sewer District, SC

Advisory Committee

Environment
Vicki Taylor *(Chair)*

Academic/Research
Calvin Sawyer, PhD

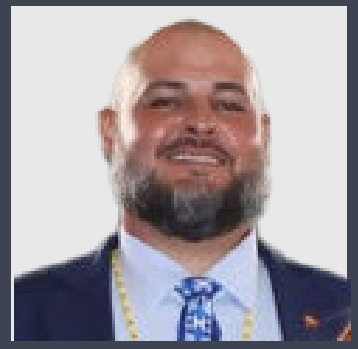
Residential Landowner
Shirley Greene

Economic Development
Robert Long, CEcD

Regulatory/ State Government
Ryan Carter

Industrial/Business
Brandon Keesee

Recreation
Vacant



Discretionary Seat
Connie Wade

Local Government
Eleanor Mixon

Agricultural/Forestry
Mitch Peele

Agricultural/Forestry
Keith Larick

Land Conservation Grants

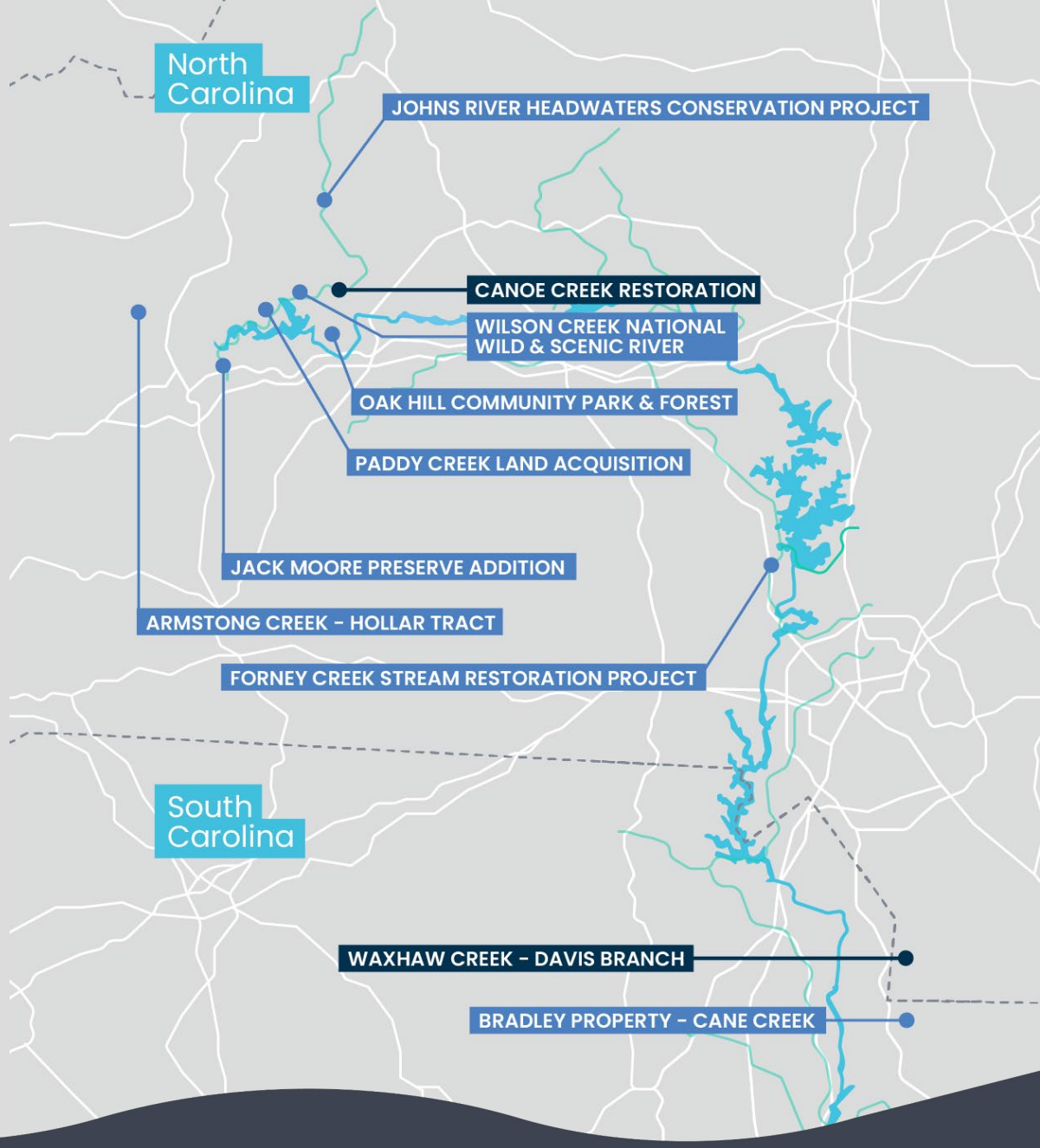
2025

- **Waxhaw Creek – Davis Branch (Union Co.) – 16 acres | $15K**
  Protects floodplain habitat vital to the endangered Carolina Heelsplitter.
- **Canoe Creek Restoration (Burke Co.) – | $40K**
  Restoration of 2,550 linear feet of Canoe Creek (this is Phase 2, adjacent to and downstream from Phase 1 funded in 2023).

2020 - 2024

- **Oak Hill Community Park & Forest (Burke Co.) – 651 acres | $14K**
- **Forney Creek Phase II (Lincoln Co.) – 1.9 acres | $20K**
- **Paddy Creek Conservation (Burke Co.) – 27 acres | $20K**
- **Wilson Creek Wild & Scenic River (Caldwell Co.) – 93 acres | $40K**
- **Johns River Headwaters (Caldwell Co.) – 332 acres | $40K**
- **Jack Moore Preserve Addition – Hoyle Creek (Gaston Co.) – 6.2 acres | $30K**
- **Bradley Property – Cane Creek (Lancaster Co., SC) – 25 acres | $10K**
- **Armstrong Creek – Holler Tract (McDowell Co.)* – 101 acres | $40K**

* Approved but not yet invoiced



Additional Grants

CATAWBA RIVERKEEPER®

Catawba Riverkeeper

$50,000 donated

North Carolina Wildlife Federation

Hurricane Helene Relief Efforts

$25,264 donated

[$15,264K to the RK and $10K to NC Wildlife Federation]

2026 Citizens' Water Academy

Academy Schedule

Introduction to the Basin
Saturday, January 10
Quest Nature Center, Huntersville, NC

Water Utility Operations
Saturday, January 17
Hickory Water Treatment Facility

Rock Hill Water Treatment Facility

Duke Energy's Role in the River
Thursday, January 22

Storm Water Challenges
Thursday, January 29

History of the Catawba
Saturday, February 7

Catawba Cultural Center, Rock Hill, SC

Local Advocates
Thursday, February 12

Confluence Cramerton, NC

Land Use Impacts on Water Quality
Thursday, February 19

Recreation and Development in the Catawba
Thursday, February 26

Integrated Water Resources Plan
Thursday, March5

Citizens' Water Academy 2026 Graduates

Charlene Spence
Brown and Caldwell

Bailey Scarlett
Catawba Lands Conservancy and Carolina Thread Trail

Walter Helmandollar
Catawba River Supply Project

Grant Buckner
Catawba Riverkeeper

Mo Drinkard
Catawba Riverkeeper

Sophie McCarthy
Catawba Riverkeeper

Greg Nance
Catawba Riverkeeper

Elijah Birch
Charlotte Water

Nicki Cutinello
Charlotte Water

Alex Hayner
Charlotte Water

Maciel Perea
Charlotte Water

Terriann Vogel
Charlotte Water

Roxanne Williams
Charlotte Water

Steve Wood
Charlotte Water

Matthew Peine
Charlotte-Mecklenburg Storm Water Services

Kimberly Fortner
City of Charlotte

Breanna Ikard
City of Hickory

Ronnel Shank
Duke Energy

Cindy Safrit
Gaston County Natural Resources Department

Brian Yarmon
Lake Wylie Marine Commission

Jolene Gale
McDowell Nature Preserve

Kendra Dixon
Mecklenburg County

Sarah Malone
Mecklenburg County

Kelly Metz
Mecklenburg County

Catherine Robertson
Mecklenburg County

Maya Clouse-Henry
Mecklenburg County Park and Rec

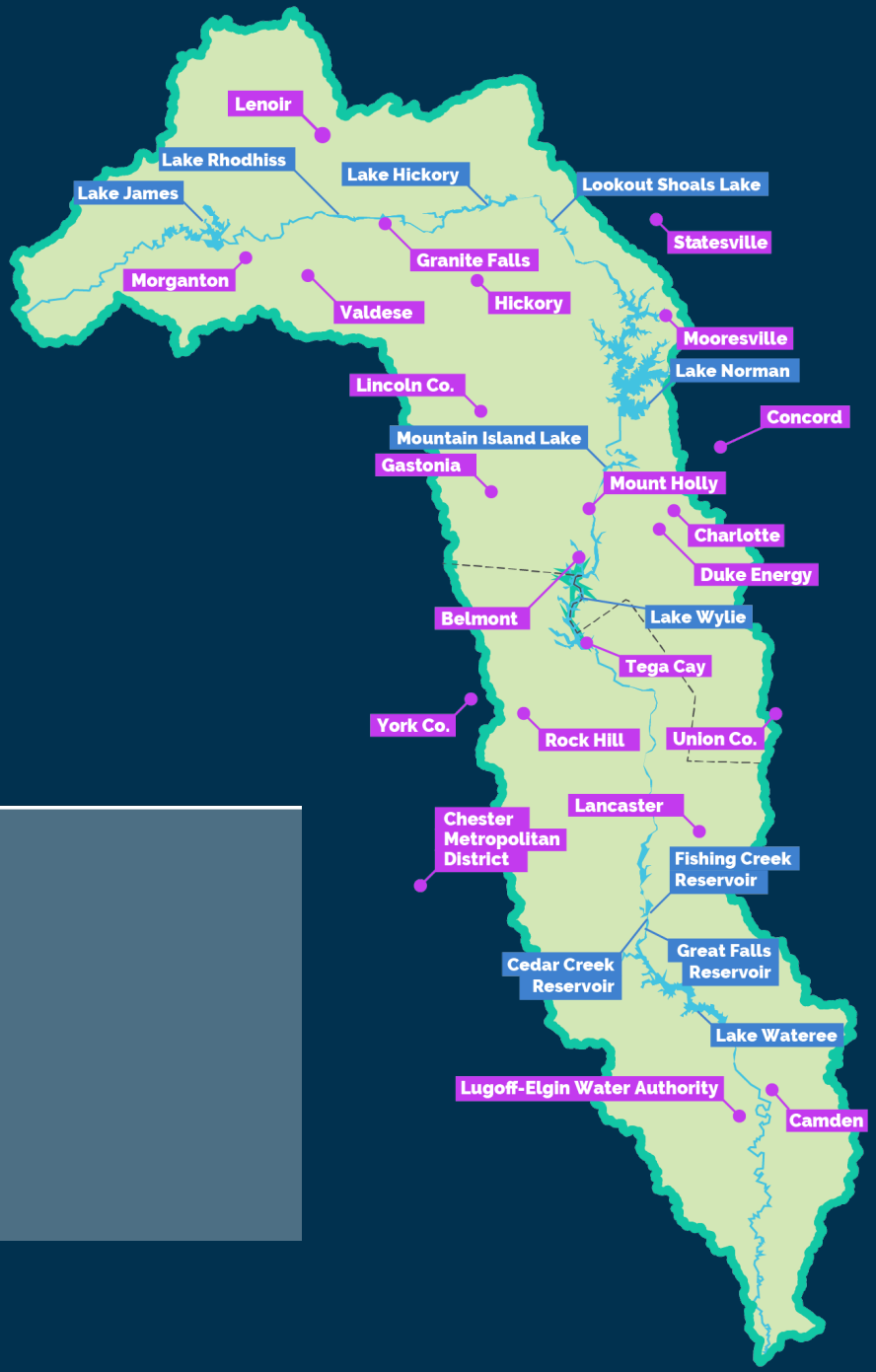
Shea Davies
South Carolina Office of Resilience

Marcella Domka
South Carolina Office of Resilience

State of the Basin

Jeff Lineberger, CWWMG Vice-Chair

Our Basin



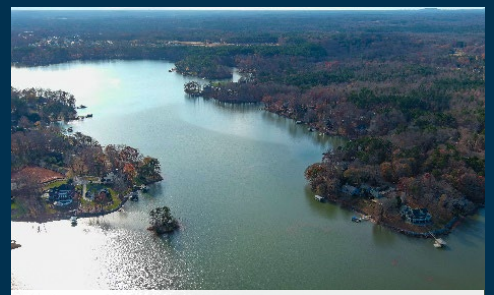
Area of detail

Map Legend

- Catawba-Wateree River Basin
- Main Riverine System
- State Border

Hardest Working River in America?

Approximately 2 million people get water from the mainstem river/lake system.

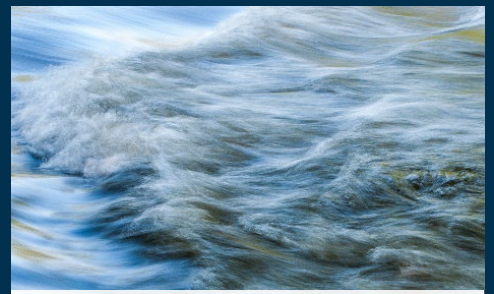


Dozens of public water suppliers

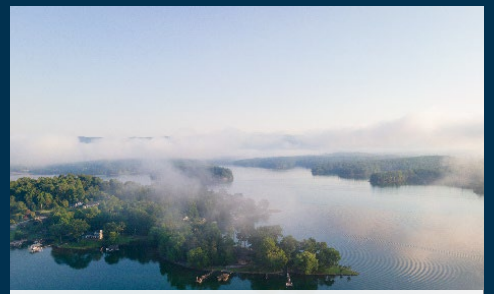
12 hydropower stations

5 nuclear & fossil power stations

Environment

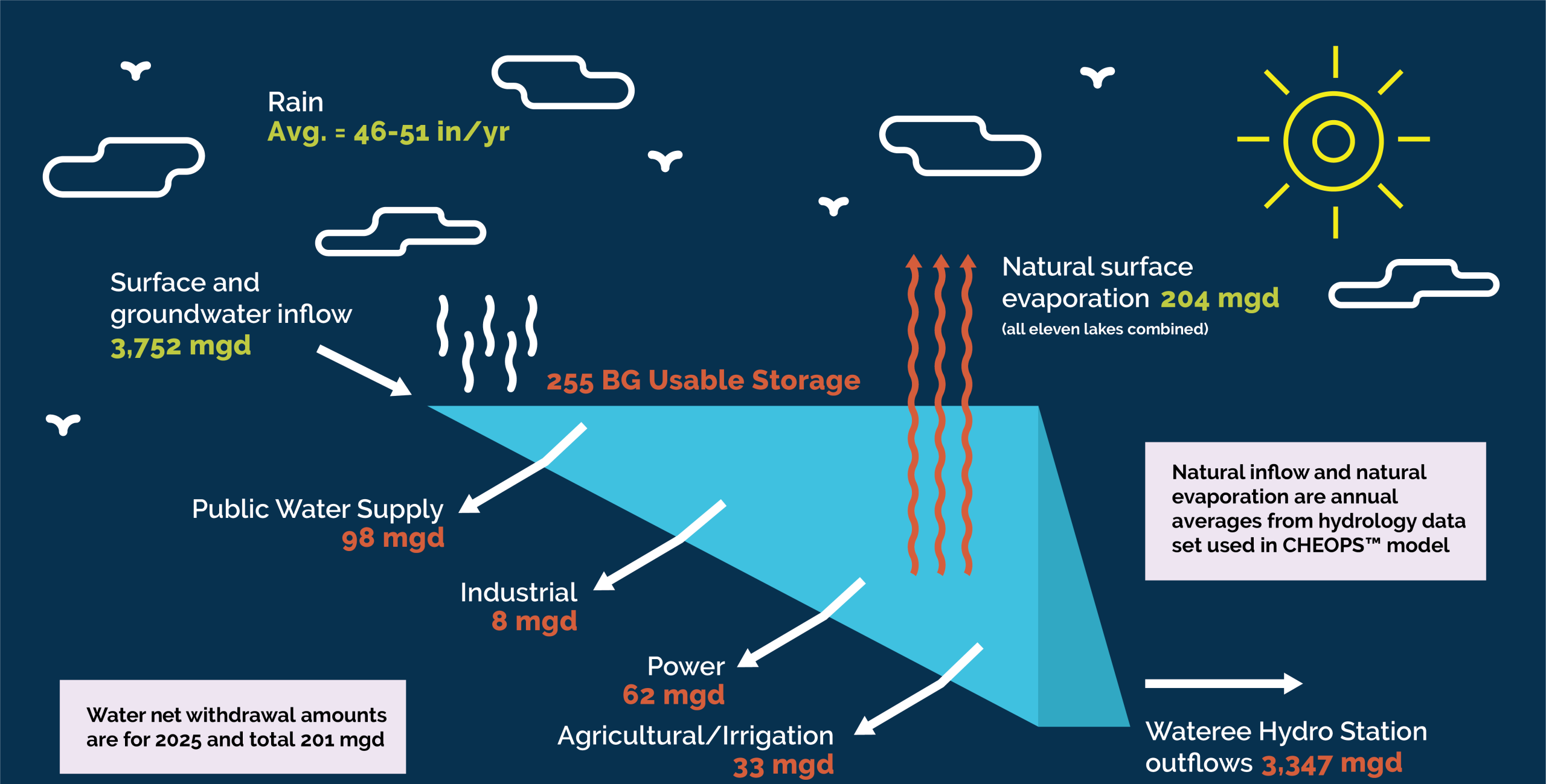


Waste assimilation



Agriculture

Recreation



* mgd = million gallons per day; BG = Billion Gallons.

The River Basin is Changing

The Catawba-Wateree Basin's needs are not static. They are growing and evolving — right now.

- **Major transportation projects** underway (Hwy 150, Hwy 74, I-77 bridge improvements).
- **Expanded public recreation access** from the top to bottom of the Basin, including the new Great Falls pedestrian bridge and state park.
- Counties pursuing joint approaches to **manage and lease public access areas.**
- **New energy generation coming online**, including a gas-fired plant on Lake Norman.
- **Modernization of critical dam infrastructure**, including seismic upgrades at Mountain Island Dam.
- A **new data center** planned for the Lake Wylie area.
- **Major wastewater investments** progressing, including Charlotte Water's Stowe facility.

Rendering

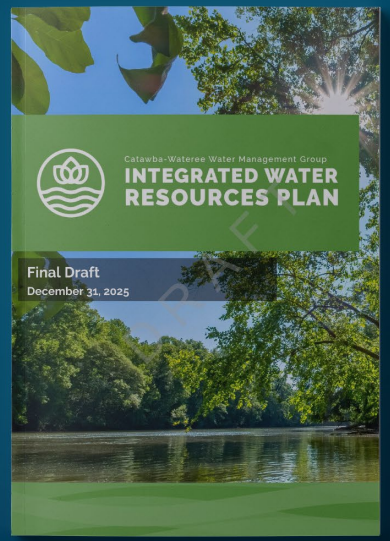
Integrated Water Resources Plan

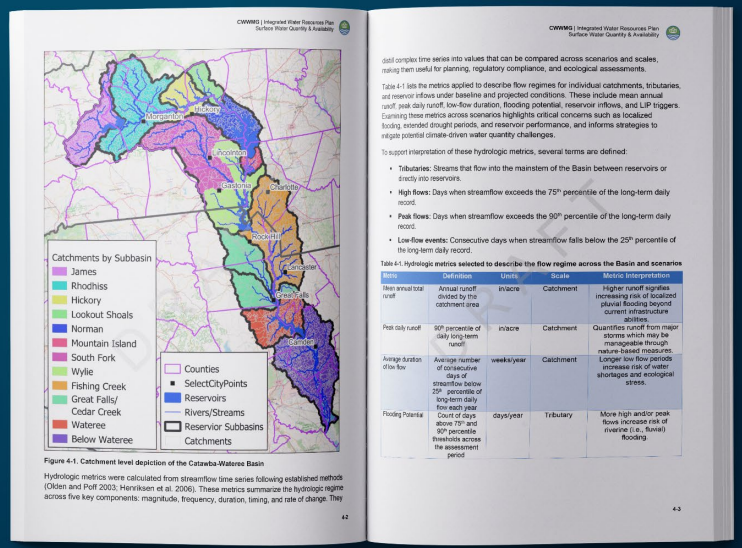
Jeff Lineberger, CWWMG Vice-Chair

Our Purpose

The Integrated Water Resources Plan (IWRP) is a navigation chart for effective future management of the shared water resources of our Basin.

It is intended to identify ***water quantity and quality*** issues and concerns, evaluate potential strategies to solve these issues, and implement practical solutions coordinated on a basin-wide level.





INTEGRATED WATER RESOURCES PLAN

Practical Solutions for a Sustainable Future

01

January - December 2021

Basis of Planning

02

January - December 2022

Model Updates & Stakeholder Communications

03

January - December 2023

Evaluations, Recommendations & Communications

04

January - December 2024

Final Recommendations

05

January - December 2025

IWRP Production & Rollout

Technical team of experts from:

- HDR Engineering
- RTI International
- Catawba-Wateree Initiative
- The Water Center at the University of Pennsylvania

State-approved models that evaluate:

- Hydropower operations and power generation.
- Past and current water supply planning.
- A comprehensive economic study and evaluations.
- Water quality impacts and trends.

Acknowledgement

This Integrated Water Resources Plan (IWRP) was developed by the Catawba-Wateree Water Management Group, representing 21 member organizations, using the **best available data and projections.** It reflects historical and current conditions along with reasonable forecasts to support informed planning. The document is **neutral and analytical,** presenting facts and possible scenarios without advocating for any particular outcome.

The IWRP includes **recommended actions to enhance water supply resiliency during drought and protect water quality within the Basin. Supporting the IWRP does not limit any rights or options organizations may have in future regulatory proceedings.**

Two Decades of Regional Water Supply Planning

2006

Water Supply Study & Safe Yield Study

Identified the maximum capacity of the Catawba River Basin for water supply could be reached by 2048

2014/15

Water Supply Master Plan

Recommended strategies to extend safe yield to 2100

2025

Integrated Water Resources Plan

Final Draft developed Dec 2025

Added water quality evaluations

20

CWWMG members put the 2014 WSMP recommendations into action.

Key WSMP Recommendations	Progress
Increase water use efficiency	• Implement Water Loss Management Project, Currently on Phase 7 • Utilities working toward per capita residential use reduction
Lower critical water intakes	• Recognize new water availability from lowering/removing intakes • Developed utility-specific raw water intake contingency plans
Raise target lake levels during summer months	• Modified summer target elevations at select reservoirs
Enhance drought responsiveness through Low Inflow Protocol	• Modified drought trigger calculations and faster response actions

IWRP Guided by Stakeholder Advisory Team Input

NC Conservation Fund

SC Department of Parks, Recreation & Tourism

NC Division of Parks and Recreation

Gallo

(SC) Central Midlands COG

Lake Wylie Marine Commission

Regional Stormwater Partnership of the Carolinas

Lake Norman Marine Commission

NC Wildlife Resources Commission

Catawba Riverkeeper

Catawba Nation

(SC) Santee Lynches COG

(NC) Western Piedmont Regional COG

Dominion Resources

South Carolina Department of Environmental Services

(SC) Soil & Water Conservation District

North Carolina Department of Environmental Quality, Division of Water Resources

So, What did we learn from the IWRP?

Water Quantity

- Net Water Demand is growing by 0.8% to 1.6% per year (**base case = 1.2%**)
  - Projected energy production withdrawals are down from WSMP, municipal demands are up
- Climate variability will have impacts
  - Causes temperatures and evaporation to increase
  - Rainfall at least in NC is expected to increase **5-10% per year by 2100**. If it comes in large events, can we store it?
- Reservoir inflow less than WSMP (methodology change)
- Quantity v. Accessibility
  - Total water quantity in the 11 reservoirs is adequate; water accessibility is not.
  - Lake Wylie (2025-2035) and Mtn Island Lake (2075-2085) reach decision points in the base case 50-yr planning horizon
  - **380 billion gallons** below Critical Reservoir Elevations
- Interbasin transfers are significant.
  - Slowing IBT growth or even reversing it would help.
  - Eliminating all IBTs is not a cure-all.

So, What did we learn from the IWRP?

Water Quality

- Sedimentation is the biggest threat (nutrients/contaminants/storage loss)
  - Slowing it down is <u>really important</u>
  - Current deposition rate = **742,000 tons/yr** = 455 ac-ft/yr @ 75 lbs/cubic ft = **148 million gallons per year** of storage displaced = a **231-mile-long line of tandem axle dump trucks** @15 cy, 25-ft-long each = approximate driving distance from **Richburg, SC to Knoxville, TN**!!!!!
- Nutrients are a growing issue
  - Compounding effects as you move down-river.
  - Lower Catawba TMDL determination remains ongoing after work that began in the early 2000s.
- Diligence and coordination is needed to monitor/address invasive/nuisance species
- Source water protection needs area-focused plans (hot spots = best bang for the buck).

So, What did we learn from the IWRP?

Collaboration

- Focusing together on high priorities will have the greatest positive impact
- Policy/regulatory changes and more **$$$** will be required
- We need to think and act across the River Basin (beyond political boundaries)

"Alone we can do so little, together we can do so much."

Helen Keller

RECOMMENDATIONS

A. Policy, Legislative & Regulatory

Align laws, regulatory frameworks, and leadership accountability so basin-level water management is supported – not constrained.

B. Planning & Coordination

Strengthen regional coordination so land use, conservation, and water supply planning work together instead of in silos.

C. Technical & Program Actions

Use better data, smarter operations, and targeted subbasin strategies to manage water supply proactively and efficiently.

D. Drought Planning & Response

Strengthen the Low Inflow Protocol and drought preparedness systems so action happens earlier, coordination improves, and resilience increases.

RECOMMENDATIONS

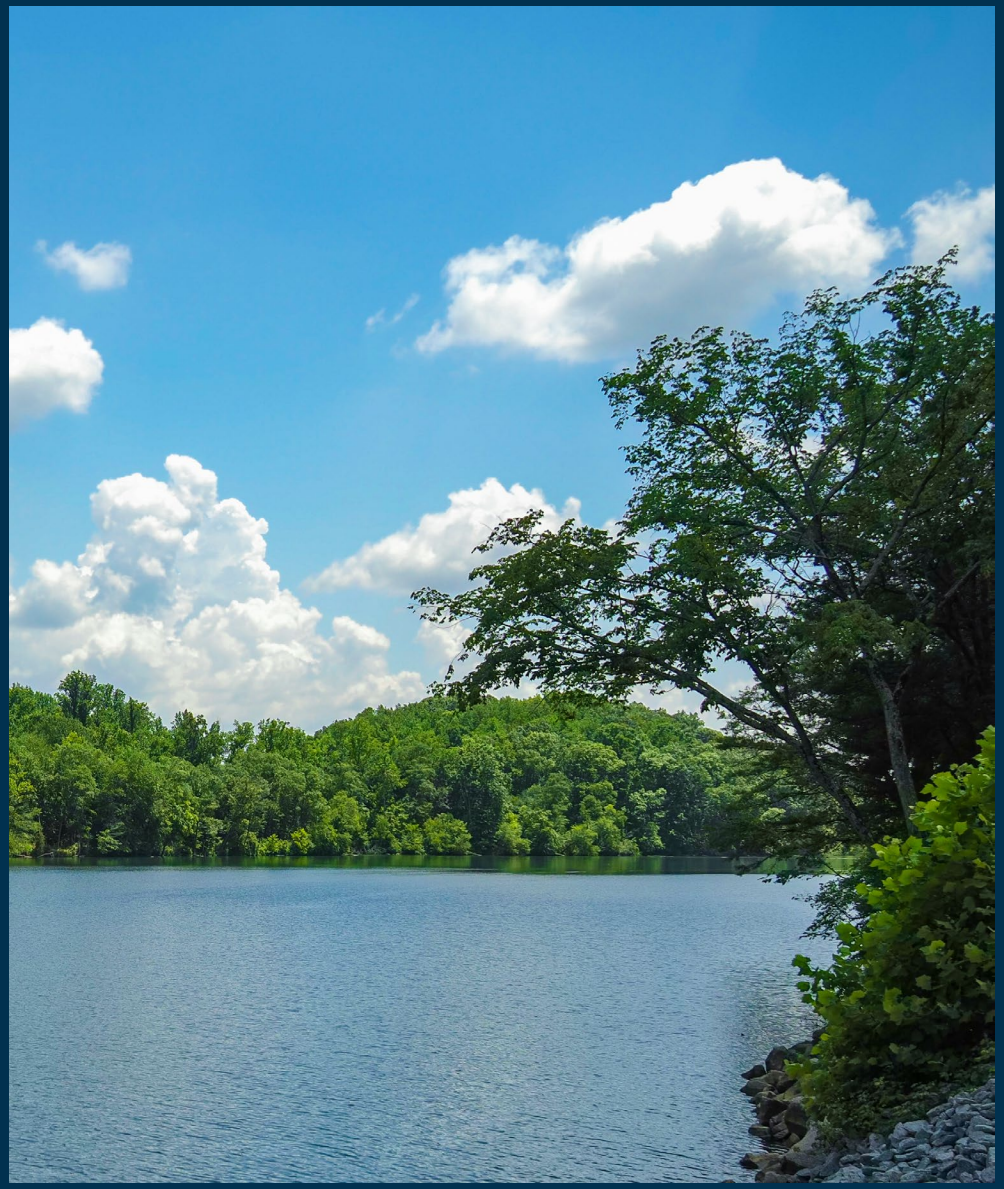
A. Policy, Legislative, & Regulatory

- An all-hands-on-deck, same-page approach to riparian buffers across the Basin.
- Change Interbasin transfer (IBT) regulations to eliminate the unintended consequence of stifling river basin-level water management.
- Designate a leadership-level champion within both NCDEQ and SCDES accountable for *SC v. NC* settlement agreement compliance.

RECOMMENDATIONS

B. Planning & Coordination

- Establish a clearer, stronger system to evaluate whether source water protection strategies are actually working.
- Coordinate land conservation and water supply protection at the subbasin level — growth and protection cannot operate in silos.
- Elevate conservation as a shared regional priority, not just a communications effort.



C. Technical & Program Actions

- Build a coordinated, Basin-wide monitoring system so decisions are based on shared, reliable data.
- Use stronger science to guide buffer and protection policies.
- Improve system efficiency before expanding infrastructure — reduce water loss, optimize plants, and expand reuse.
- Plan for industrial and economic growth with eyes wide open to long-term water demand.
- Update reservoir and storage data so planning reflects reality.
- Tailor strategies to the unique needs and pressures of each subbasin.

RECOMMENDATIONS

D. Drought Planning & Response

- Strengthen and act earlier under the Low Inflow Protocol (LIP) when drought conditions begin.
- Ensure all significant water users participate in LIP-driven drought response.
- Improve coordination across utilities and states during low-flow conditions.
- Update contingency plans and conduct exercises before drought conditions escalate.
- Prepare intake infrastructure for lower water levels.
- Prioritize drought-related investments based on risk and long-term resilience, not reaction.

Here's what is Needed from You

1. Comments on Final Draft IWRP – to CWWMG by April 15, 2026
2. Resolutions of Support from Member Boards – after the Final IWRP is released in June 2026
3. **Willing and Active Partnership**
   - Find a place to help
   - Provide resources
   - New perspective