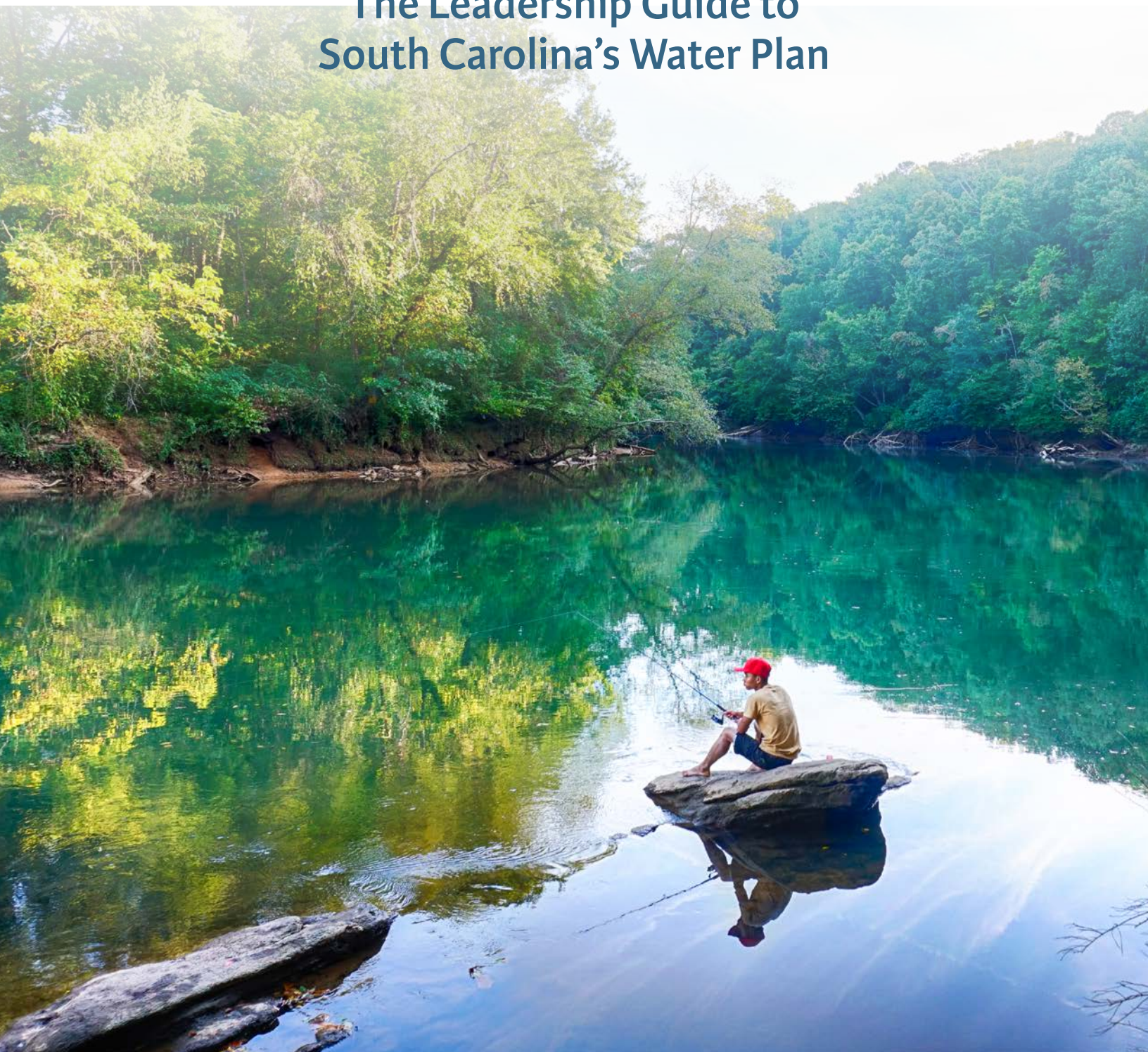
SC DEPARTMENT *of*
**ENVIRONMENTAL SERVICES**

# Our Water Future

## The Leadership Guide to South Carolina's Water Plan



# Contents



SC DES



*"South Carolina has been richly blessed with abundant water resources, but with increased demand driven by historic economic development and a booming population, **we must take action now** to ensure these resources are managed in the best interests of all South Carolinians."*

**Henry McMaster**
Governor of South Carolina

Chapter 1

# South Carolina's Water Future: A Story for All of Us

South Carolina has always been blessed with water. Our rivers, lakes, and underground aquifers have nourished generations—feeding families, powering businesses, irrigating farms, and shaping the way we live, work, and play.

### *But our state is changing...*

We're one of the fastest-growing places in the country. New families and businesses are moving in and our towns and cities are building for the future. With that growth comes one unavoidable truth: our water resources will be tested like never before.

That is why the State Water Plan exists. It is our shared roadmap to make sure water will be there tomorrow: reliable, safe, and sustainable—for everyone who depends on it.



## The Challenge

Think of water like a bank account. For years, South Carolina has been depositing more than it withdraws. But now, withdrawals are rising more quickly, with more people, more irrigation, more industries and more recreation all drawing from the same account. Add to that the reality of droughts, which can act like sudden, unexpected withdrawals, and the balance can drop fast.

***Without careful planning**, we risk overdrawing our state's water and depriving our farms, communities, businesses, and ecosystems of the resources they need.*

### South Carolina Water Bank

| Deposits | | Withdrawals | |
|---|---|---|---|
| Rainfall | + 💧💧💧 | Homes | – 💧💧 |
| Aquifers | + 💧💧💧💧💧 | Irrigation | – 💧💧💧 |
| Rivers | + 💧💧💧💧 | Industries | – 💧💧💧 |
| | | Droughts | – 💧💧💧💧 |

# **The 2025 SC Water Plan is simple**: make sure every South Carolinian has access to clean, reliable water today and fifty years from now.

## Turning the Vision into Action

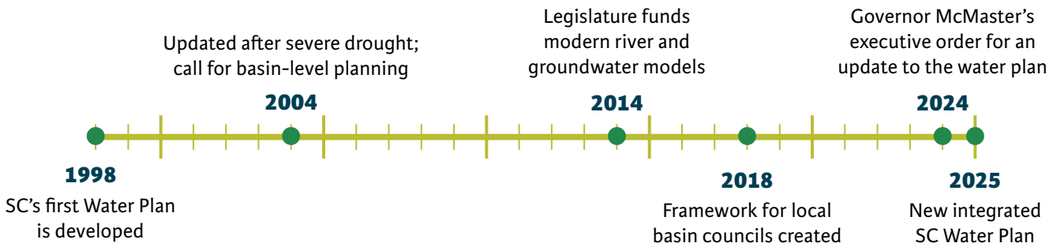
- Balancing the needs of families, farms, businesses, and the environment
- Looking ahead to 2070, when our population and economy will be much larger
- Preparing for dry years, not just average ones
- Using the best available science and local knowledge
- Building a process where everyone has a seat at the table

## Built Together, Not Alone

No single agency can do this alone. This plan was built through collaboration across local councils, statewide experts, and state leadership.

- **SCDES** | The state agency responsible for leading, coordinating, and acting on the plan
- **WaterSC Working Group** | A statewide team of experts who turn basin-level insights into statewide policy recommendations
- **River Basin Councils (RBCs)** | Local groups of farmers, utilities, industry, recreation, and conservation members who study each of the state's river basins and develop tailored plans

## A History of South Carolina's Water Plan






## Supporting South Carolina's Future

By planning ahead, we can protect the things that matter most to South Carolinians.

**Population Growth** | **Agriculture** | **Healthy Ecosystems** | **Energy** | **Economic Development**

## Benefits for All of South Carolina

**For Families**
Reliable water, even during our driest summers

**For Farmers**
Irrigation that keeps South Carolina's largest industry thriving

**For Businesses**
Certainty that water will be there to support investments and jobs

**For Nature**
Healthy rivers and wetlands that support wildlife and recreation

### Our Promise for Tomorrow

*South Carolina's Water Plan is not just a report—it's a promise. It's a roadmap that prepares us for growth, protects us in times of drought, and safeguards the rivers and groundwater that sustain our way of life. By planning together now, we ensure that future generations inherit a state where water remains clean, abundant, and life-giving.*

Chapter 2

# Resources & Management

*Effective water management starts with understanding what we have. That understanding forms the base for informed planning and responsible decision-making across every part of the state.*

## South Carolina's Water at a Glance

Our state is generally water-rich, but supply and availability can vary widely by region and season.

**Source**
Our surface water flows through four major river systems

**Flow**
Our rivers drain about **30 billion gallons** of river water to the ocean each day

**Storage**
Our water is stored in vast groundwater aquifers and 12 major reservoirs

## Location Matters: Water Realities of Different Regions

**Blue Ridge and Piedmont**
The Upstate region has many rivers and reservoirs, but limited groundwater. Wells reach small bedrock fractures that generally yield low flows.

**Coastal Plain**
Covering most of the state, this region's thick sands and limestone form major aquifers capable of yielding hundreds of gallons per minute for towns and farms.



## Surface Water

*Our source for large-scale systems that are easier to treat and deliver.*

South Carolina's four major river basins—the Pee Dee, Santee, Savannah, and ACE—carry most of the state's flow. The 12 largest reservoirs store nearly five trillion gallons of water, serving multiple purposes: generating hydropower, supplying cities, supporting recreation, and maintaining downstream ecosystems.

Balancing reservoir operations is complex—reservoirs can affect downstream flow, fish movement, and water quality, requiring thoughtful coordination.

## Groundwater

*Groundwater holds more water than rivers and lakes combined.*

Groundwater is South Carolina's unseen safety net, especially in the Coastal Plain. These high-capacity aquifers or "underground reservoirs" can yield hundreds of gallons per minute. But they're not unlimited.

When pumping outpaces natural recharge, water levels drop—raising costs, reducing nearby well yields, drying out wetlands, and inviting saltwater intrusion near the coast. In extreme cases, overuse can even cause land subsidence or sinking, which can damage infrastructure and increase flood risk, and is often irreversible. Continuous monitoring helps track these changes and guide responsible withdrawals.

## Rainfall & Drought

*Water is usually most plentiful in spring and scarcest in late summer and early fall.*

The state averages about **48 inches of rain a year**, but rainfall and evaporation vary by region. Periodic multi-year droughts—like those of 1998–2002 and 2006–2009—have pushed rivers and lakes to historic lows, stressing farms, utilities, and ecosystems. Drought shouldn't be a surprise, but rather an expected challenge to plan and prepare for.

## Measuring and Monitoring

To manage water effectively, the state relies on a robust network of data.

- **Surface Water** | About 275 USGS gages track stream levels and flow, providing critical data for drought declarations, flood forecasting, and minimum flow standards.
- **Groundwater** | Roughly 190 SCDES wells, along with additional USGS sites, monitor aquifer levels. Regular "potentiometric maps" reveal areas of drawdown—known as "cones of depression"—and track salinity levels along the coast for saltwater intrusion.

## Forecasting Tools

- **SWAM (Simplified Water Allocation Model)** | Simulates 80–100 years of wet and dry cycles and projects future conditions under different growth and management scenarios. It's the foundation for basin planning.
- **Coastal Plain Groundwater Model** | An updated USGS model builds on earlier work to better forecast regional trends and potential problem areas.
- **Flow-Ecology Metrics** | Statewide fish and macroinvertebrate data link streamflow changes to biological health, helping councils understand when flow reductions pose ecological risks.

## The Laws Guiding Water Use

As of September 2025, the state tracks 308 surface water and 1,021 groundwater users annually. Because aquifers, Capacity Use Areas, and planning basins don't align perfectly, coordination across programs remains essential.

**Surface Water Withdrawal Act**
Requires permits or registrations for anyone withdrawing more than 3 million gallons per month.

**Groundwater Use and Reporting Act**
Applies in six designated Capacity Use Areas across the Coastal Plain. Large users (>3 million gallons/month) there must obtain permits tied to local groundwater management plans, reviewed every five years. In other areas, users register their withdrawals.

*South Carolina's waters are generous, but not boundless. They shift with the seasons and the demands we place upon them. Knowing their rhythms and limits allows the state to grow wisely, protect what matters, and remain resilient through change.*



Chapter 3

# Drought & Drought Response

## What Happens When the Rain Stops

Even in a humid, rainfall-rich state like South Carolina, drought is a natural and recurring part of life. When rain stays below normal for weeks or months, it sets off a chain reaction that can dry soils, lower river and lake levels, and strain farms, industries, and communities.

## Understanding Drought

A drought isn't as simple as no rainy days. It's a slow-building shortage of water that spreads across rivers, lakes, and underground aquifers. Sometimes drought develops slowly over months. Other times, it hits fast and hard—a "flash drought" caused by heat, dry air, and wind that rapidly drain soil moisture. Scientists classify drought in several ways:

**Meteorological Drought**
Reduces rainfall below normal levels.

**Agricultural Drought**
Dries soils and stresses crops.

**Hydrological Drought**
Lowers water levels in streams and reservoirs.

**Socioeconomic Drought**
Disrupts communities and local economies.

**Ecological Drought**
Stresses forests, wetlands, and wildlife.

## Drought in South Carolina's Climate

South Carolina's climate is shaped by its geography: the mountains, the Atlantic Ocean, and the Bermuda High pressure system. The result is a climate that can swing between flooding rains and dry spells. Droughts can strike any time of year, and they're not all the same. Some are short and sharp, while others can last years. Historical records and long-term data show recurring cycles of wet and dry periods across decades.

Three droughts in particular left lasting marks on the state:

### 1950–1957

The longest drought ever recorded in South Carolina. Rivers ran dry, wells failed, and rainfall dropped 16 inches below normal in 1954, the driest year in the state's history.

### 1998–2002

Crops failed, forests burned, and some rivers stopped flowing. The timber industry alone lost over a billion dollars, and water supplies in coastal areas faced saltwater migration.

### 2007–2009

A modern wake-up call. Wildfires burned thousands of acres, hundreds of water systems imposed restrictions, and the South Carolina Governor publicly urged conservation.

*Each event proved that drought in our climate is not rare or predictable, and South Carolina must stay ready.*

## How the State Responds

The South Carolina Drought Response Act of 2000 established a clear structure for managing drought. It created the **Drought Response Committee (DRC)**, a team led by the Department of Natural Resources and supported by local representatives. The state is divided into four Drought Management Areas, each roughly following the major river basins.

Droughts are tracked in four alert phases—**Incipient, Moderate, Severe, and Extreme**—determined through rainfall records, reservoir levels, and drought indexes. The DRC works with local officials to declare phases and trigger specific actions, such as voluntary or mandatory water restrictions.

At the local level, cities, counties, and water utilities are required to maintain drought response plans that line up with the state framework. As drought conditions intensify, voluntary conservation may target **20–30% reductions** in use depending on severity.



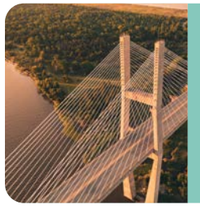
## Working Together Regionally

Drought planning doesn't stop at county or state lines. Each river basin plan has developed its own response system to balance power generation, water supply, and ecological needs. These frameworks share a goal: keeping water supplies dependable while protecting environmental health.

**Catawba–Wateree**
Duke Energy's Low Inflow Protocol coordinates water reductions across multiple users.

**Santee**
Santee Cooper adjusts lake releases based on water levels and upstream conditions.

**Edisto**
A Low Flow Management Strategy asks major users to cut back voluntarily when river flows fall below thresholds.



**Savannah**
The U.S. Army Corps of Engineers manages flow to balance energy, storage, and ecosystems.

## Strengthening Connections Locally

RIver Basin Councils can act as the state's local eyes and ears during drought. They could collect on-the-ground data in times of need, coordinate with the DRC, and ensure consistent communication among utilities and communities. Including RBC members on the DRC could strengthen real-time coordination and help local insight directly inform statewide decisions.

## Preparing for Drought Resilience

There are opportunities for building a more resilient future which emphasizes preparation, coordination, and accountability. River basin plans call for:

1. **Update drought plans every five years.** Many haven't been revised since the early 2000s.
2. **Add drought surcharges.** Temporarily increase water rates to discourage excessive use when supplies are low.
3. **Coordinate messaging across utilities.** Clear, unified communication prevents confusion.
4. **Encourage citizens to report drought impacts.** Tools like the Condition Monitoring Observer Reports (CMOR) give real-time, local insight.
5. **Build a statewide environmental monitoring network.** South Carolina is one of only ten states without automated weather and climate stations providing real-time data.
6. **Discourage pricing structures that reward higher water use.** Instead, encourage conservation.

## Weathering Future Droughts

Data shows that droughts are becoming more frequent and more intense, often alternating with heavier rain events. These extremes test both our infrastructure and our ability to adapt.

Preparing for the future means learning from the past—planning, measuring, and coordinating across agencies so that every decision strengthens resilience. Managing drought isn't just about preserving water; it's about protecting livelihoods, communities, and ecosystems in an era where every drop counts.



Chapter 4

# Current & Future Demand

*As the state grows, demand rises. Knowing how water is used today and how needs could change by 2070 helps guide planning to avoid future shortages.*

## How South Carolina Uses Its Water

Water is drawn from rivers, lakes, and underground aquifers to meet off-stream needs like drinking water, agriculture, manufacturing, and power generation. What remains in rivers sustains fish, recreation, and healthy ecosystems.

- **Use thresholds** | Any user withdrawing more than 3 million gallons per month (roughly equivalent to the total water used by 1,000 people in a month) must register or obtain a permit.
- **Consumptive versus non-consumptive use** | Consumptive uses—like irrigation and household use—permanently remove water from the system, while non-consumptive uses—like power plant cooling—return most water to its source.
- **Who uses the most** | Energy production accounts for about 80% of statewide withdrawals—mostly non-consumptive—followed by public supply, manufacturing, and agriculture, with smaller shares for golf courses, mining, and aquaculture.
- **Surface water dominates** | About 95% of all withdrawals come from rivers and lakes rather than groundwater.

## Current Daily Water Use

South Carolina currently uses about 5.9 billion gallons of water each day—enough to fill nearly 1,000 Peachoid water towers.

- **Surface water** | 5.6 billion gallons
- **Groundwater** | 301 million gallons
- **Net consumptive use** | 955 million gallons

The Pee Dee, Santee, and Saluda basins use the most surface water, while Pee Dee, Edisto, and Lower Savannah–Salkehatchie withdraw the most groundwater. Upstate regions rely heavily on surface water; coastal areas depend more on wells.

## Permitted vs. Actual Use

South Carolina has permitted or registered about **12.9 billion gallons per day for withdrawal**, which is more than twice what's actually being used.

- On average, only 46% of that total is currently withdrawn.
- Energy users operate near capacity (68%), but public suppliers and manufacturers use far less (22% and 16%, respectively).

The gap exists because permits are based on maximum intake capacity and future growth, not daily needs. But these fully permitted amounts don't guarantee that water will always be available, especially as rivers face more stress from drought and rapid population growth.

## What the Future May Hold

Two scenarios developed to test how growth and climate might shape water needs through 2070.

**1. Moderate Demand Scenario**
Assumes normal climate and steady growth.

**2. High Demand Scenario**
Assumes hotter, drier conditions and stronger economic and population growth.

Models factored in population, agriculture, manufacturing, and energy use—alongside historical data and climate variability—to test system performance under different futures. The models showed:

- By 2070, total statewide demand (including power plants) is projected to reach 6.2 billion gallons per day under the Moderate scenario and 7.9 billion gallons per day under the High scenario.
- Public water supply and manufacturing are the biggest drivers.
- Energy production will still consume the most water overall, even with coal plant retirements.
- Excluding power plants, other sectors could grow 50–95%.
- Population could climb from 5.1 million (2020) to as high as 10.6 million (2070) depending on growth patterns.



## Regional Growth Hotspots

Even as total use grows, current models show that each basin is expected to maintain its current balance between surface and groundwater withdrawals.

- **Pee Dee Basin** | Largest overall growth—up to 417 million gal/day by 2070.
- **Edisto Basin** | Fastest percentage growth, led by agriculture.
- **Santee and Catawba** | Likely decreases tied to power plant closures.
- **Upper Savannah and Broad** | Moderate increases from population and industry.

## Balancing Capacity and Use

Even in the high-demand scenario, 2070 use (**7.9 billion gal/day**) remains below today's total permitted capacity (**12.9 billion gal/day**). But basin-level disparities matter. In some areas, especially the Pee Dee, demand could reach **90%** of current limits, leaving less room for new users or drought resilience. This uneven outlook underscores why basin-based planning remains essential: a surplus in one region can't offset scarcity in another.

## Emerging Wild Cards: Energy and Technology

Future demand may also shift rapidly due to changes in the energy and technology sectors.

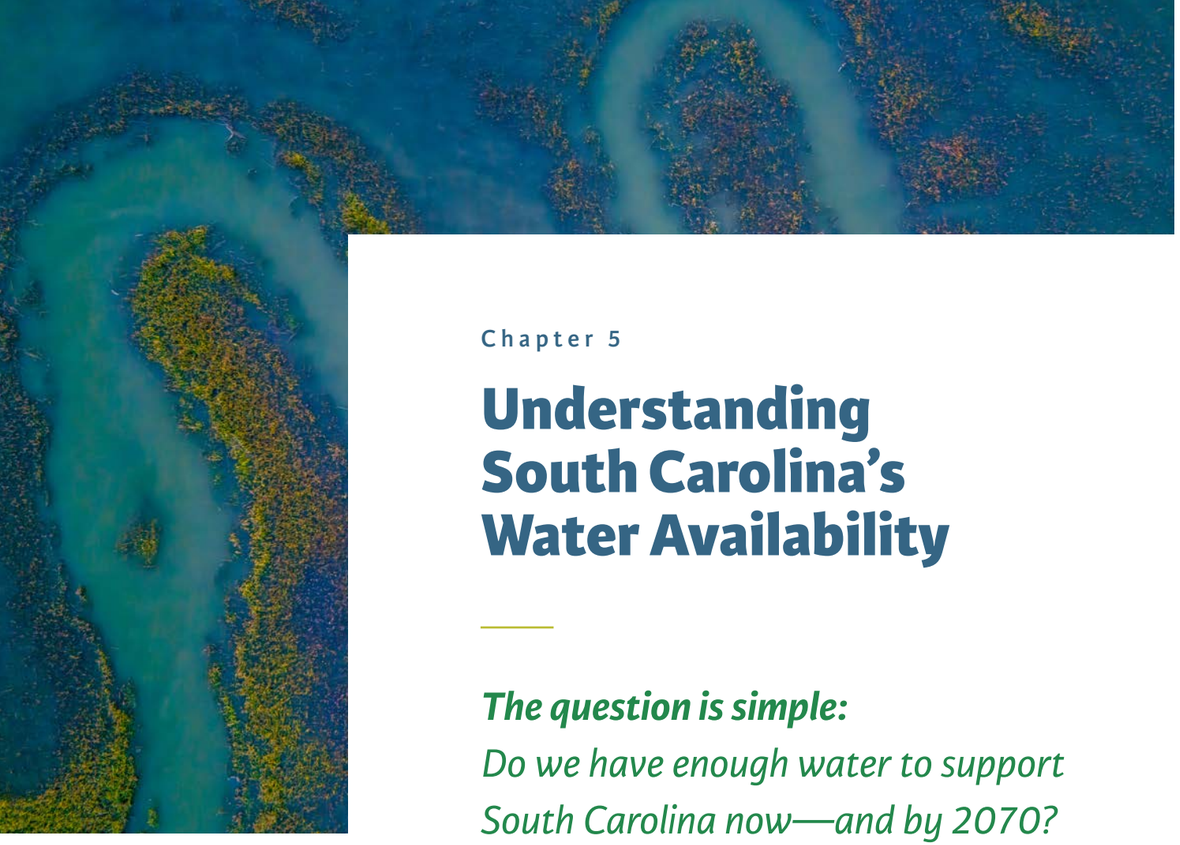
- **New natural gas plants, data centers, and potential nuclear restarts** could substantially increase withdrawals.
- **Data centers** in particular use large volumes of water for cooling—both directly and through electricity demand.

These fast-moving trends highlight the need for flexible, regularly updated water plans, monitoring networks, and modeling tools that can adapt as industries evolve.

## Keeping Pace with State Growth

Water demand is rising, but with proactive planning and regional coordination, we can keep up. Success depends not only on how much water the state has, but on where it is, how efficiently it's used, and how quickly policies adapt.

*Water is the core of South Carolina's growth. Every decision—where we build, how we farm, and how we power our communities—depends on keeping that supply reliable, sustainable, and ready for generations to come.*



Chapter 5

# Understanding South Carolina's Water Availability

***The question is simple:***
*Do we have enough water to support South Carolina now—and by 2070?*

Most of South Carolina has plenty of water under nearly all future scenarios. Still, some places face challenges. Small headwater streams, reservoirs with little storage flexibility, and a few groundwater systems could be vulnerable and will need closer management.

## A Look Ahead to 2070

Long-range modeling shows that most major rivers and lakes can meet future demand, even under hotter, drier, high-growth conditions. But several important caveats emerged:

- **Struggling Streams** | Small headwater streams may struggle during extended droughts, especially those serving agriculture.
- **On-Site Ponds** | Many farm operations rely on on-site ponds, not captured in statewide modeling, which often provide a buffer during shortages.
- **Tight Margins** | A few major reservoirs (notably in the Santee system) face tight future margins because of federally required downstream releases.
- **Overallocations** | Some tributaries are "paper-overallocated," meaning all permitted withdrawals could exceed physical supply during drought.



## Surface Water | When and Where Shortages Happen

The state used several long-term scenarios to test future water reliability, including Current Use, 2070 High Demand, and a Permitted & Registered (P&R) scenario that assumes every user takes the maximum amount they are legally allowed to withdraw.* The results reveal:

**Under Current Use**
Shortages are uncommon and mostly appear in agricultural withdrawals from small streams during drought.

**Under 2070 High Demand**
Conditions remain manageable statewide, but shortages become more frequent in a few basins (Edisto, Broad, Salkehatchie, and Pee Dee) primarily affecting farms, golf courses, and some small utilities. Most shortages are minor and can be addressed through storage or operational adjustments.

**Under the "Worst-Case" P&R Scenario**
This is where stresses become most visible. In drought years, some tributaries cannot physically support every permit holder withdrawing at maximum levels.

**Edisto River Basin**
- Edisto River
- Little River
- North Fork

**Pee Dee River Basin**
- Naked Creek
- Black Creek

**Broad River Basin**
- Pacolet River
- Middle Tyger River
- South Tyger River

**Saluda River Basin**
- Reedy River
- Rabon Creek

**Upper Savannah River Basin**
- Twelvemile Creek
- Golden Creek

**Salkehatchie River Basin**
- Little Salkehatchie
- Coosawhatchie River

**Santee River Basin**
- Lake Marion
- Lake Moultrie


*These results do not signal certain future shortages. They highlight where careful management and review are most needed.*

* Assessed by the Catawba-Wateree Water Management Group.

## Protecting Ecosystems

*The challenge is in balancing river health with economic and community needs.*

Minimum In-Stream Flow (MIF) standards help keep rivers healthy for fish, wildlife, and recreation. RBCs examined how often rivers might drop below these ecological thresholds and discovered:

**Current Use**
Low flows happen naturally, even without withdrawals.

**2070 Demand**
Slight increases in low-flow events appear in many basins.

**"Worst-Case" P&R Scenario**
MIF violations rise sharply, signaling ecological stress.

## Biological Health

A statewide study by Clemson, SCDNR, Research Triangle Institute, The Nature Conservancy, and SCDES assessed how streamflow changes could affect fish and aquatic insects. Most basins show **low ecological risk** today and through 2070.

### Hotspots Under Higher Stress

- **Saluda Tributaries (Rabon Creek)**
- **Black Creek (Pee Dee)**
- **Broad Basin Tributaries (Pacolet, Tyger)**
- **Dean Swamp Creek (Edisto)**

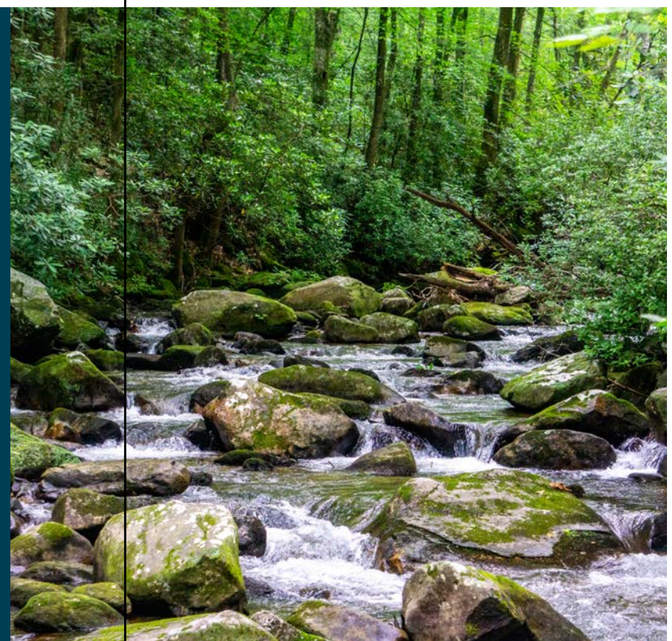
Answering the Question: Do We Have Enough Water?

Yes, South Carolina has the water it needs to support its people and economy for decades to come. But only if the state continues to plan wisely, monitor conditions, protect vulnerable streams, steward groundwater, and manage reservoirs with an eye toward future drought.

*Water is plentiful. But it is not limitless.*

*Smart management today protects our prosperity tomorrow.*





## Reservoirs

Major reservoirs supply millions of residents, and their "safe yield"—what they can reliably deliver through drought—was evaluated basin by basin.

### Reservoirs in strong shape

- Lake Keowee
- Hartwell / Russell / Thurmond
- Lake Murray
- Lake Greenwood
- Table Rock and North Saluda

### Reservoirs with constraints

- Gaffney's Whelchel & Gaston Shoals
- Lake Rabon
- Several Spartanburg-area reservoirs

### Reservoirs of high concern

- Santee System (Lakes Marion & Moultrie)

Federal release requirements drive modeled safe yields as low as 0–40 million gallons per day, well below projected future needs.

## Groundwater

Groundwater is abundant in much of the Coastal Plain and supports about half of withdrawals in some basins. Long-term modeling shows a generally strong supply with several important exceptions.

### Current risks

- **Savannah / Hilton Head** | A decades-old cone of depression has led to saltwater intrusion in the Upper Floridian aquifer; groundwater regulations have slowed the trend.
- **Pee Dee & Georgetown** | Declines in the Crouch Branch and McQueen Branch aquifers persist; one area began rebounding in 2023 after reduced pumping.
- **Edisto Basin** | Future modeling shows possible aquifer declines in parts of Calhoun and Lexington, marking these as areas of concern.
- **Upstate** | Groundwater is limited by geology but stable, serving many rural households without major decline issues.

### Formally identified groundwater concern areas

- Crouch Branch (Calhoun County)
- McQueen Branch (Lexington County)
- Aiken County (small area)

### Preliminary concern areas

- Florence County
- Georgetown & Horry Counties

Chapter 6

# Shaping the Rules for South Carolina's Water Future

## Why Policy Matters

Good science and good data are critical for water planning, but it's policy that determines how our water is actually managed. Policy determines who can use water, how much, under what conditions, and with what protections in place to ensure long-term sustainability for our entire state.

## River Basin Council Alignment on Core Issues During a Six-Year Process

Across different regions of the state, many RBCs landed on the same common ideas:

### #1

**Apply fairness across all users.**
Current law treats some groups differently. For example, farmers often register water use, while industries and cities must go through a permit process. Many RBCs agreed that all large users should follow the same rules to ensure fairness.

### #2

**Strengthen the laws.**
Existing laws grandfather in many users, making it hard to adapt to changing conditions. Councils recommended clarifying these laws so regulators have the tools they need to enforce them and protect shared resources.



## Unique Regional Considerations

**Broad Basin**
Suggested creating a model ordinance for riparian buffers (tree and vegetation zones along rivers) to reduce erosion and protect water quality.

**Edisto Basin**
Discussed the benefits of reasonable use and applicability of agricultural withdrawers.

**Pee Dee Basin**
Pushed for a compact with North Carolina to manage the Yadkin-Pee Dee River and for more aggressive drought planning requirements.

**Lower Savannah-Salkehatchie Basin**
Called for legislative approval of the State Water Plan and for stronger cooperation with Georgia over shared Savannah River resources.

**Upper Savannah Basin**
Encouraged annual coordination with Georgia and other partners to prevent interstate conflicts, and called for grant programs to support local water strategies.

**Saluda Basin**
Urged stronger stormwater and land conservation laws, plus incentives to protect tree canopies that keep streams cool and healthy.

**Santee Basin**
Recommended requiring contingency plans for big industrial users and updating how "safe yield" is calculated to reflect more realistic water availability.

*While some recommendations were statewide, others focused on specific basin challenges.*

### #3

**Funding for long-term planning.**
Most water planning funds now come from one-time sources. Funds are needed for continued planning and implementation. Some suggest a grant program to help communities and utilities carry out basin plans like Georgia's model.

### #4

**Tie permits to the plan.**
Permits for water use should be aligned with basin plans and the statewide plan, ensuring decisions are based on scientific data and long-term goals.

### #5

**Educate the public.**
Funding should also support statewide education and outreach so all South Carolinians understand how water is managed and why it matters.

## Divergent Perspectives Among RBCs

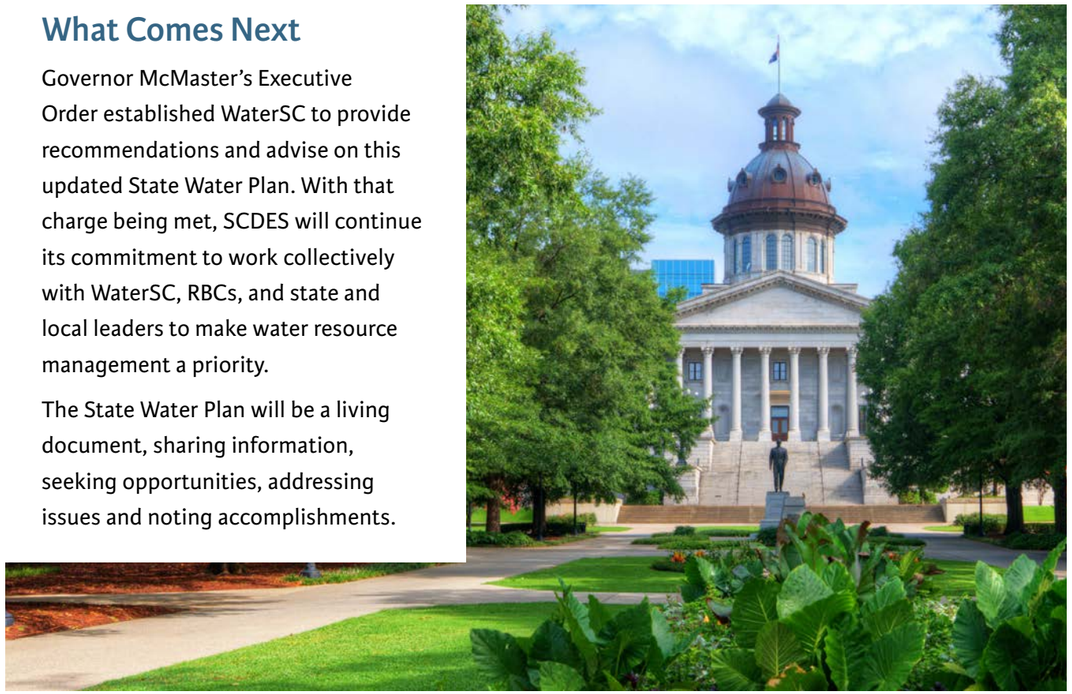
Not every issue reached consensus. In some cases, RBCs shared majority opinions or presented a diversity of options for state leaders to weigh:

- **Safe Yield (how much water can safely be withdrawn)** | Some said it should be based on median flows (a more typical measure of river conditions), while others said the existing mean flow approach is effective.
- **Reasonable Use Standards** | Supporters advocated the same standard should apply to all water users to ensure fair and equitable use. Others felt current rules were protective of resources and that farmers should not face additional burdens.
- **Minimum Instream Flows** | Similar debates arose on whether to base these environmental protections on mean or median statistics.
- **Overallocation** | Some permits and registrations lock up more water "on paper" than users will ever need, prompting a discussion on whether or not the state should review and adjust those permits over time. Some argued yes to free up water for growth, while opponents cautioned that this could undermine past investments.

## What Comes Next

Governor McMaster's Executive Order established WaterSC to provide recommendations and advise on this updated State Water Plan. With that charge being met, SCDES will continue its commitment to work collectively with WaterSC, RBCs, and state and local leaders to make water resource management a priority.

The State Water Plan will be a living document, sharing information, seeking opportunities, addressing issues and noting accomplishments.





Chapter 7

# WaterSC Recommendations: A State Working Together

## WaterSC's Vision for Our State's Water Future

WaterSC gathered perspectives from across South Carolina—experts, community leaders, farmers, utilities, academics, conservation groups, industry representatives, and everyday citizens—to focus on one core question: How do we secure South Carolina's water future, together?

WaterSC, the statewide advisory group formed by executive order, began meeting in late 2024 with hydrologists, utilities, conservationists, local officials, and others to advise on this plan and provide recommendations. Over months of discussion, the group gathered data, concerns, and lived experiences, then distilled them into the recommendations presented in this chapter. The conclusion is clear: protecting South Carolina's water requires looking ahead and coordinating across every sector.

## Listening Beyond the Experts

WaterSC's recommendations reflect a broad range of voices. In addition to monthly meetings, the group hosted stakeholder forums focused on agriculture, business, conservation, and local government. Listening sessions across the state ensured that residents affected by water availability—rural communities, growers, small-town utilities—were heard alongside technical experts.

A two-day retreat in August 2025 brought the group together to finalize its recommendations. Members worked toward consensus, meaning each participant could support the final outcome even when compromise was needed.

## WaterSC Recommendations

### 1 Ensure Ongoing Water Planning

WaterSC's top recommendation is simple: water planning must continue long after the 2025 Plan is published. As population grows and weather patterns shift, uncertainty increases—and consistent, long-term planning becomes essential.

WaterSC calls on the Legislature and partners to sustain funding for:

- Ongoing river basin planning
- Statewide data collection
- Model updates and research
- Implementation grant

WaterSC is also recommending the pursuit of additional funding sources or opportunities from both public and private sectors to protect the state's economy, environment, and water supply.

### 2 Coordinate with Our Neighboring States

Major rivers—including the Savannah, Catawba, Broad, and Pee Dee—cross state lines. Without intentional coordination, disagreements can escalate into costly, decades-long disputes.

WaterSC recommends working collaboratively with Georgia and North Carolina through shared data, joint monitoring, and regional planning. Formalizing these partnerships will help prevent conflicts and protect shared resources.

### 3 Establish Statewide Water Education

A well-informed public is essential to securing South Carolina's water future. WaterSC recommends a comprehensive education and outreach strategy focused on efficiency, conservation, and responsible use.

When households, businesses, and students understand their role, demand can decrease without diminishing quality of life—making education one of the most cost-effective tools for extending supply.

### 4 Strengthen Drought Response Systems

As climate patterns shift, drought remains one of the state's most significant risks. WaterSC calls for a strengthened drought program requesting SCDNR to:

- Review their authority under the South Carolina Drought Response Act and consider possible improvements
- Review drought committee membership
- Refine triggers and indicators
- Improve required local drought plans
- Enhance statewide coordination during drought events

These steps aim to create more predictable, effective responses that protect farmers, businesses, and communities.



### 5 Supporting Water Reuse

WaterSC supports beneficial water reuse and robustly pursue the concept where feasible and appropriate. Expanding water reuse can:

- Reduce pressure on rivers and aquifers
- Support industrial growth
- Help agriculture
- Lessen wastewater discharge
- Position South Carolina as a modern, resilient state

Achieving this may require a regulatory framework that makes reuse easier, safer, and more consistent statewide.

### 6 Connect Water Quality and Water Quantity

Water quantity, availability and use have been the initial focus of State Water Planning efforts. WaterSC recognizes the essential connections between water quality and water quantity for making better decisions for effective long-term water planning in our state.

### 7 Review Water Permitting

WaterSC noted that the State of South Carolina has the obligation to ensure waters of the state are used responsibly and the health of these waters is adequately maintained for residents.

WaterSC recommends:

- To the extent SCDES has the authority to apply judgement, it should utilize this authority.
- Where SCDES does not have authority, SCDES should seek legislative authority to fulfill this responsibility.
- This includes a periodic review of water permits and registrations.

This review is an opportunity to modernize permitting systems to ensure responsible water use.

Chapter 8

# River Basin Council Recommendations

RBCs are composed of people at the regional level across South Carolina who rely on water resources: farmers, industry, utilities, conservation groups, scientists, and local leaders. After years of basin-level analysis, they've voiced a clear set of priorities for improving how the state plans, measures, and manages its water.

## Strengthening the Planning Process

The current planning framework worked. Now it's time to assess and strengthen it for the long-term. RBCs suggest planning be more inclusive, more connected, and consistently funded. Many RBCs recommend four main points:

**1. Keep membership representative**
SCDES should regularly review who sits on each RBC to make sure all key interests (agriculture, industry, utilities, conservation, recreation, local governments, etc.) are fairly represented.

**2. Create a statewide RBC network**
SCDES should coordinate regular, statewide meetings with all the RBCs and state agencies. That way, basins can learn from each other instead of working in silos.

**3. Plan long-term funding**
The Legislature should continue funding water planning, especially river basin planning, so this doesn't become a one-time project that fades away.

**4. Invest in public outreach and education**
RBCs want to work with groups like Clemson Extension and South Carolina State Extension to teach the public about water conservation and planning. They also recommend RBC members present their work to boards, councils, economic development groups, and professional organizations—taking the story of water planning out into the community.



## Integrating Water Quality and Data Collection

RBCs recommend the next phase of planning fully connect water quantity with water quality. They highlight the need for more real-time data and better forecasting tools, including:

- Integration of water quality into future plans
- More weather stations, climate sensors, and streamflow gages
- Climate-informed modeling and a refined USGS groundwater model
- Studies on sedimentation, low-flow pinch points, and water reuse

Better tools and more complete information will lead to better, more science-driven recommendations.

## Improving Drought Readiness

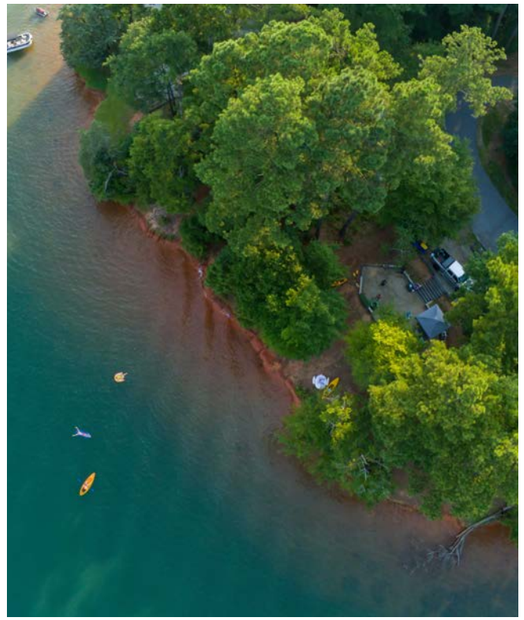
RBCs recommend more predictable, better-coordinated drought planning: updated local plans, clearer triggers, and improved communication before and during drought conditions. These recommendations complement the strategies described in Chapter 3.

## Updating Water Laws and Policies

RBCs consistently raise the need for clearer, more modern rules. They recommend applying reasonable-use standards to all large surface water withdrawals, reviewing old permits and registrations, creating recurring funding for implementation, and tying new permits to basin plans. Many also encourage local tools—such as riparian buffers or stormwater design updates—to address basin-specific needs.

## A Shared Direction Forward

Despite differences in geography and local pressures, RBCs are aligned on the essentials: keep planning funded and ongoing, ensure broad representation, invest in data and models, modernize laws, and treat education as a core strategy.



*Together, these ideas form a practical roadmap for turning the State Water Plan into an adaptive system that grows and improves with South Carolina's needs.*

Chapter 9

# SCDES Recommendations

*The South Carolina State Water Plan 2025 concludes with a roadmap for putting its recommendations into action through coordination, education, and sustained investment.*

The 2024 transition of statewide water planning from SCDNR to SCDES prioritizes the state's ability to manage surface and groundwater as one system, aiming to build a resilient approach that protects water resources for communities, the economy, and the environment.

## Building a Smarter, More Adaptive System

South Carolina's water planning strategy is rooted in adaptive management—recognizing that conditions will change as the state grows, technology evolves, and climate patterns shift. This approach requires ongoing assessment and continuous improvement.

To keep the plan responsive, SCDES will work closely with:

- **WaterSC** | which brings together experts and stakeholders statewide
- **RBCs** | representing regional perspectives and priorities
- **Legislators** | who create and improve policy
- **All South Carolinians** | who share responsibility for water resource collaboration

Regular plan updates, annual summits, and improved data tools will help ensure the system evolves with new information and emerging challenges.

## Updating Water Policy for a New Era

Much of South Carolina's water law was written more than fifty years ago, before modern growth and climate conditions reshaped current realities. Today, groundwater and surface water are still regulated separately despite their close ecological connection.

SCDES recommends a more modern policy framework that would:

1. Integrate management of groundwater and surface water
2. Prioritize beneficial use while safeguarding natural systems
3. Provide flexibility to respond to droughts, floods, and shifting demand

SCDES will continue to be available for the General Assembly on reviewing water policy so it better reflects today's needs and tomorrow's challenges.

## Working Across State Lines

***Many of South Carolina's major rivers—such as the Savannah, Catawba, Broad, and Pee Dee—cross state boundaries, making interstate cooperation crucial.***

While South Carolina has long collaborated informally with Georgia and North Carolina, the chapter highlights the need for more formalized coordination through shared data, regular meetings, and policy-level discussions. Successful models, including the Catawba-Wateree Water Management Group and the Yadkin-Pee Dee Water Management Group, show how cross-boundary planning can protect shared water systems for the long term.

## SCDES Priorities for the Future

Everyone has a leadership role in South Carolina's water future.

**1.**

**Continuous Water Planning**
Water planning is an ongoing process. RBCs and WaterSC will meet regularly to refine basin plans, align priorities, and track progress. An annual or biannual State Water Summit will support statewide coordination and public engagement.

**2.**

**Education and Outreach**
A broad communications strategy—spanning public events, media, social platforms, schools, and legislative engagement—will help build public understanding of how water is used and why conservation matters.

**3.**

**Enhanced Data and Modeling**
Better decisions require better data. The plan calls for expanded water monitoring, more climate stations, and deeper ecological studies. Future modeling will address sedimentation, tidal-region growth, and saltwater intrusion.

**4.**

**Broader Planning Considerations**
Future updates will more directly connect water quantity with water quality, ecology, and community resilience, creating a more holistic planning approach.

**5.**

**Funding for Implementation**
Long-term success requires stable, predictable funding. Potential sources include federal programs, private partnerships, and new state-level models. A dedicated statewide water fund could support ongoing planning and implementation.

South Carolina's water future depends on shared responsibility. Rivers, lakes, and aquifers are collective resources, and protecting them requires collaboration across agencies, sectors, and communities.

SC DEPARTMENT *of*
**ENVIRONMENTAL SERVICES**

# Our Water Future

## The Leadership Guide to South Carolina's Water Plan

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