

PUBLIC MEETING #2 – BROAD RIVER BASIN PLANNING

Agenda



1. Welcome and Why We Are Here – Ken Rentiers, SCDNR, Deputy Director of the Land, Water & Conservation Division

Why is water planning important to all South Carolina citizens?

Where are we in the planning process, how did we get here, and where are we going?

2. Broad River Basin Planning – Scott Harder, SCDNR, Hydrology Section Chief

What is a River Basin Plan and how will the Broad River Basin Plan be developed?

3. Next Steps for Broad River Basin Planning – Scott Harder, SCDNR

What is the schedule for planning activities in the Broad basin?

How can stakeholders apply to be on the Broad River Basin Council?

What are other ways stakeholders can be involved?

4. Comments on Edisto River Basin Planning – Hank Stallworth, Chairman of the Edisto River Basin Council (RBC)

The Edisto RBC Chairman will share his perspective on State water planning and his experience with the Edisto basin planning process.

5. Comments from the Planning Process Advisory Committee and Q&A Session – moderated by Dr. Jeff Allen, Clemson University.

PPAC Members will share their perspectives on water planning and along with SCDNR address any comments or questions about the Planning Framework and Broad basin planning activities.

Let us hear from you. We welcome your questions and feedback.

South Carolina State Water Planning

Ken Rentiers

Deputy Director

S.C. Department of Natural Resources
Land, Water and Conservation Division



Broad River Basin Planning – Public Meeting #1
1881 Event Hall
Spartanburg, SC
November 9th, 2021

Why Are We Here?

“The effective management of South Carolina’s water resources is beyond the scope of any one agency or organization and will require cooperation and shared responsibility among federal, state, and local agencies, as well as public and private parties.”
- South Carolina Water Plan (2004)



Why Are We Here?

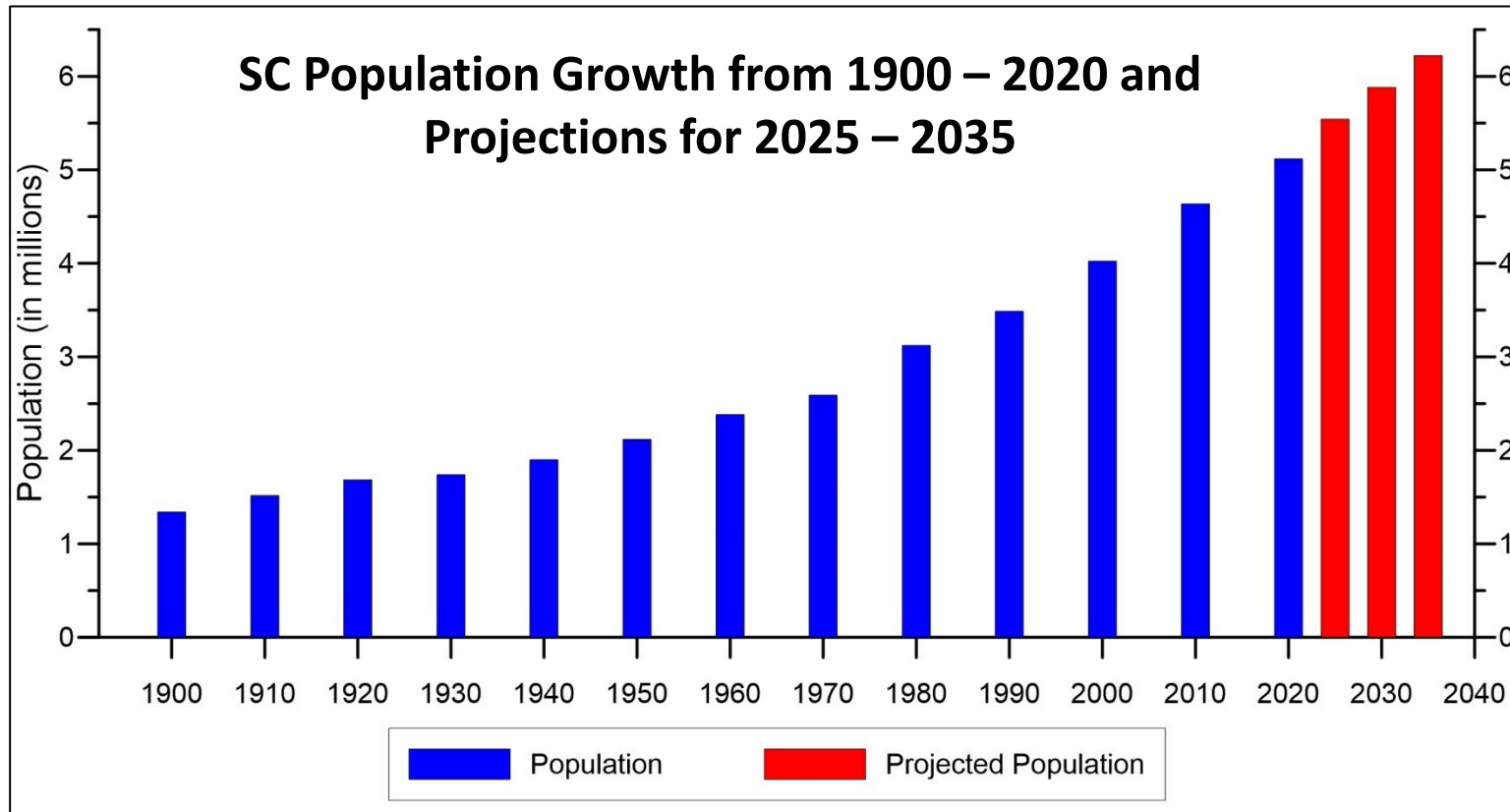


Why State Water Planning?



Population Growth → Increased Water Demand

- From 1990 – 2020, SC population increased from **3.5** to **5.1** million and is forecasted to increase to **6.2** million by 2035.
- Our growing population may increase future water demands and may increase competition for our water supplies.

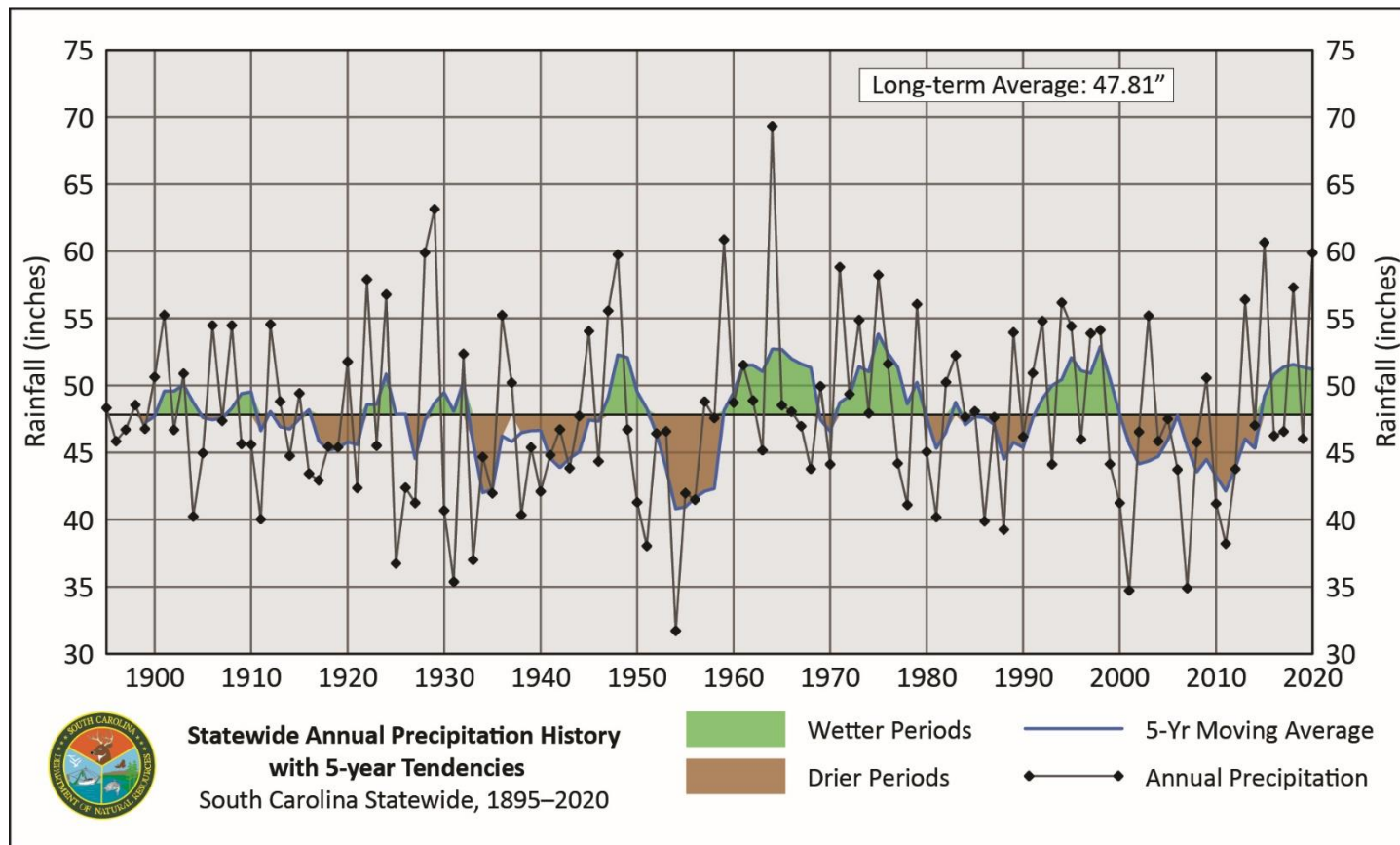


Why State Water Planning?



Drought

SC *generally* has an abundance of water, but recent droughts (**1998-2002, 2007-2008, 2011-2012, 2016, 2019 – flash drought**) have stressed the State's water resources.



Why State Water Planning?



Tree-ring studies indicate the occurrence of more severe and longer-term droughts (Mega-droughts) over the past 400 years.

Uncertainty in the nature of future droughts combined with the potential for increasing water demands highlights the importance of comprehensive State and river basin planning.

**Dorchester
County, 2007**



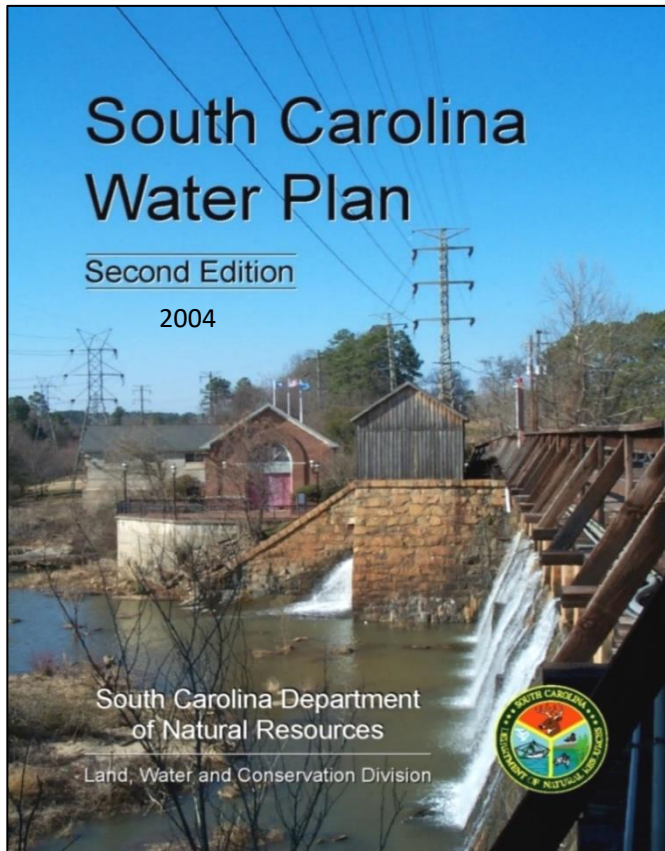
Lake Marion, 2007



**Kings Mountain
State Park, 2008**



A Brief History of State Water Planning...

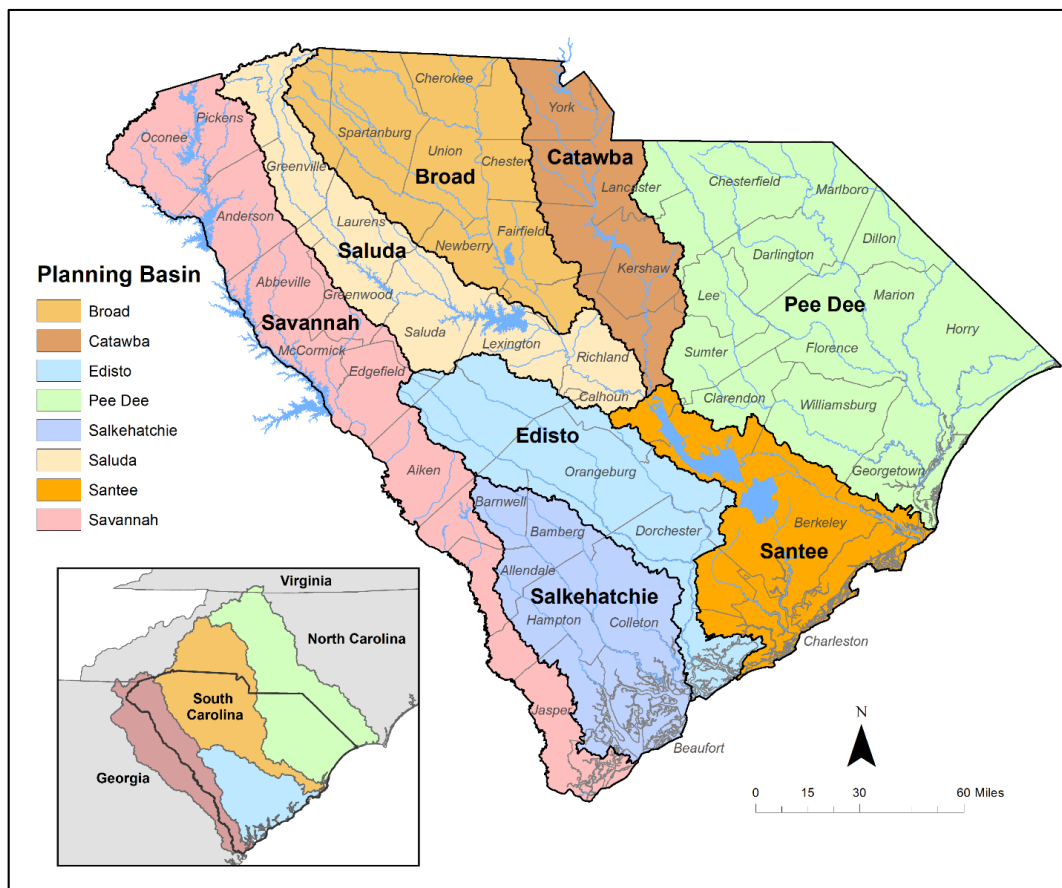


- SCDNR published the first edition of the State Water Plan in **1998**.
- In **2004**, SCDNR published the second edition of the South Carolina Water Plan incorporating lessons learned from the drought of 1998-2002.
- One recommendation was to develop a regional water plan for each major river basin in the State.
- **10 years later** – SCDNR and SCDHEC initiated the first step towards these regional water plans, now formally called *River Basin Plans*.

South Carolina's Eight Planning Basins



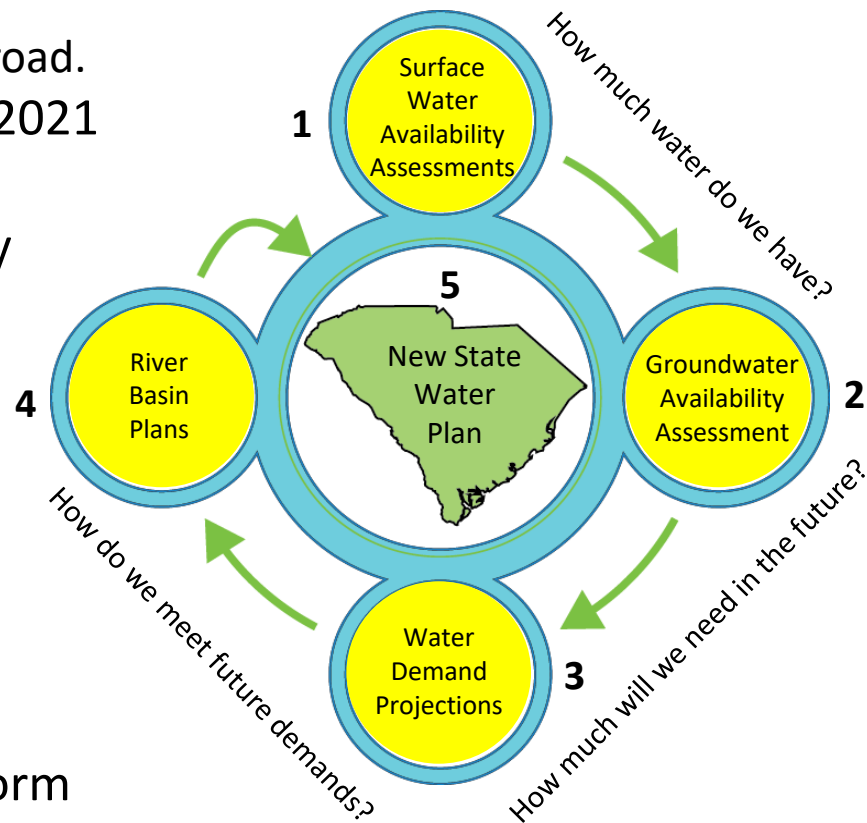
- River Basin Plans will be developed for the State's 8 major river basins using a **“bottom-up”** approach where stakeholders in each basin lead the development of their basin plan.
- Collectively, the River Basin Plans will form the foundation of a new State Water Plan.



Five-step Process...



- 1. Surface Water Assessments** – completed in 2017 for each basin (CDM Smith, Inc).
 - Several models recently updated including Broad.
- 2. Groundwater Assessment** – completed in 2021 (USGS).
- 3. Water Demand Projections** – methodology report completed in October 2019.
 - Edisto basin projections completed in 2021.
 - Projections for Broad basin in progress.
- 4. River Basin Plans**
 - Publication of South Carolina State Water Planning Framework.
 - Edisto basin planning in progress.
 - Broad basin planning activities now initiated.
- 5. State Water Plan** – River Basin Plans will form the foundation of a new State Water Plan.



Cooperators:



Stakeholder Participation



Broad Basin SWAM Model Stakeholder Meeting



Edisto River Basin Council Field Trip



Edisto Basin Water Demand Projection Stakeholder Meeting



PPAC Meeting

Planning Process Advisory Committee (PPAC)



- Convened by SCDNR in March 2018.
- Purpose - develop a guidance document (Planning Framework) for developing River Basin Plans (Step 4) and for updating the State Water Plan (Step 5).
- South Carolina State Water Planning Framework (Planning Framework) was published in October 2019 after an 18-month process.
- PPAC continues to meet quarterly for planning oversight purposes.

PPAC Vision Statement:

“Reflecting our values of water as a shared resource with a shared responsibility, we will work together to develop and maintain an actionable State Water Plan balancing economic, environmental and social needs of South Carolina for generations to come.”



PPAC Committee Members



Jeffery Allen – Clemson University
David Baize – SCAWWA/WEASC
David Bereskin – Greenville Water
Jesse Cannon – Santee Cooper
Fred Castles, III – Catawba-Wateree Water Management Group
Clay Duffie – Mt. Pleasant Waterworks (retired)
Steve Hamilton – The Dunes Golf and Beach Club
Erika Hollis – Upstate Forever
J.J. Jowers, Jr. – Bamberg County citizen, Edisto Engineers and Surveyors, Inc.
Eric Krueger – The Nature Conservancy
Jeff Lineberger – Duke Energy
Jill Miller – South Carolina Rural Water Association
Dean Moss, Jr. – Beaufort Jasper WSA (retired)
Myra Reece – South Carolina Department of Health and Environmental Control
Ken Rentiers – South Carolina Department of Natural Resources
Bill Stangler – Congaree Riverkeeper
Landrum Weathers – Farmer
Scott Willett – Anderson Regional Joint Water System
Charles Wingard – Walter P. Rawl and Sons, Inc.



For more information, visit:

[https://www.clemson.edu/public/water-assessment/State Water Planning Process Advisory Committee.html](https://www.clemson.edu/public/water-assessment/State_Water_Planning_Process_Advisory_Committee.html)



<http://hydrology.dnr.sc.gov/ppac.html>

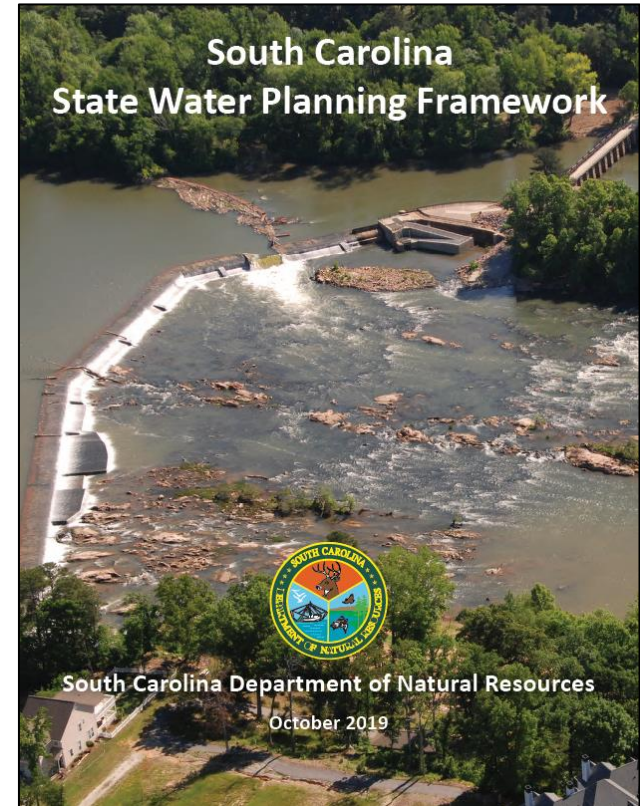


Contents of Planning Framework



Sections:

1. Executive Summary
 2. Introduction
 3. River Basin Planning Process
 4. Methodologies for Evaluating Water Availability
 5. River Basin Plan Table of Contents
 6. River Basin Planning Process Implementation
 7. River Basin Plan Implementation
 8. State Water Plan
- Appendix: River Basin Council Bylaws



Planning Framework is available for review and download at:
<http://hydrology.dnr.sc.gov/water-planning-framework.html>.

Where are we now?



Ready to start the Broad River basin planning process under the guidance of the Planning Framework.



PUBLIC MEETING #2 – BROAD RIVER BASIN PLANNING



1. Welcome and Why We Are Here – Ken Rentiers, SCDNR, Deputy Director of the Land, Water & Conservation Division

Why is water planning important to all South Carolina citizens?

Where are we in the planning process, how did we get here, and where are we going?

2. Broad River Basin Planning – Scott Harder, SCDNR, Hydrology Section Chief

What is a River Basin Plan and how will the Broad River Basin Plan be developed?

3. Next Steps for Broad River Basin Planning – Scott Harder, SCDNR

What is the schedule for planning activities in the Broad basin?

How can stakeholders apply to be on the Broad River Basin Council?

What are other ways stakeholders can be involved?

4. Comments on Edisto River Basin Planning – Hank Stallworth, Chairman of the Edisto River Basin Council (RBC)

The Edisto RBC Chairman will share his perspective on State water planning and his experience with the Edisto basin planning process.

5. Comments from the Planning Process Advisory Committee and Q&A Session – moderated by Dr. Jeff Allen, Clemson University.

PPAC Members will share their perspectives on water planning and along with SCDNR address any comments or questions about the Planning Framework and Broad basin planning activities.

Let us hear from you. We welcome your questions and feedback.

What is a River Basin Plan?



What is a River Basin Plan?



A River Basin Plan answers four questions:

1. What is the basin's current available water supply and demand?
2. What are the current permitted and registered water uses?
3. What will be the basin's water demand over the Planning Horizon, and will the water supply meet the demand?
4. What water management strategies will be employed to ensure the supply meets or exceeds the projected demand over the Planning Horizon?

Proactive Water Management, not Reactive!

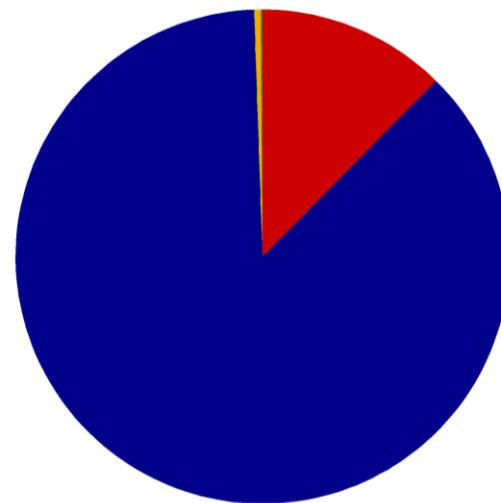
2020 Reported Surface Water Withdrawals



> 99% of total water withdrawals are from surface water

Thermoelectric: 87.0% Water Supply: 12.4%

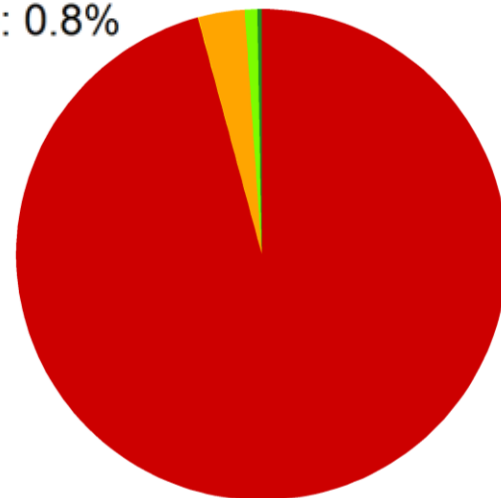
< 1% each:
Agricultural Irrigation,
Golf Course,
Mining,
Industry



Excluding Energy...

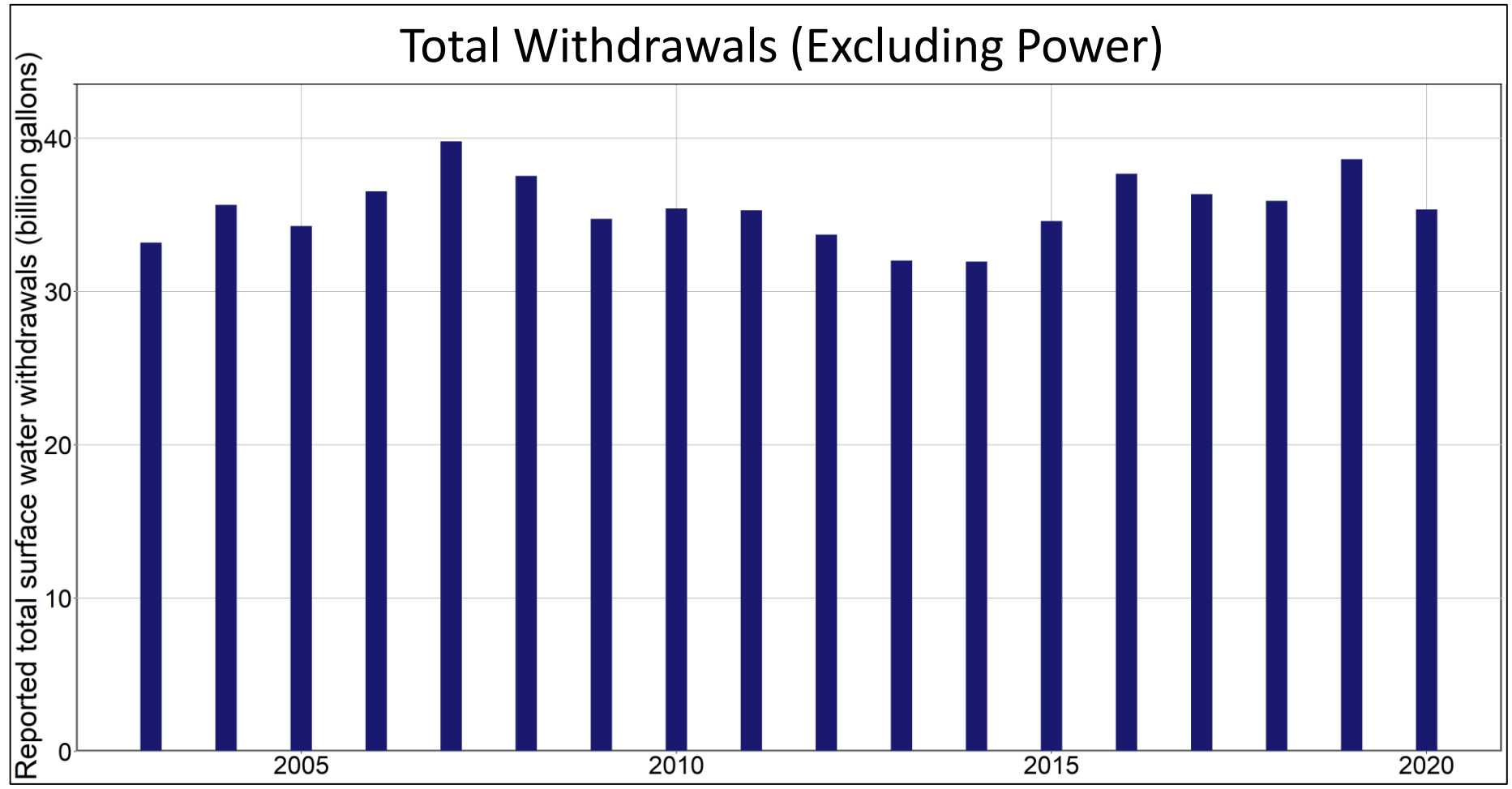
Water Supply: 95.8% Industry: 3.0%
Golf Course: 0.8%

Agricultural Irrigation (0.3%)
Mining (0.05%)



- Agricultural Registration
- Golf Course
- Industry
- Mining
- Power
- Water Supply

Reported Surface Water Withdrawals (2003-2020)



Source: SCDHEC Water Use Database

Guiding Principles

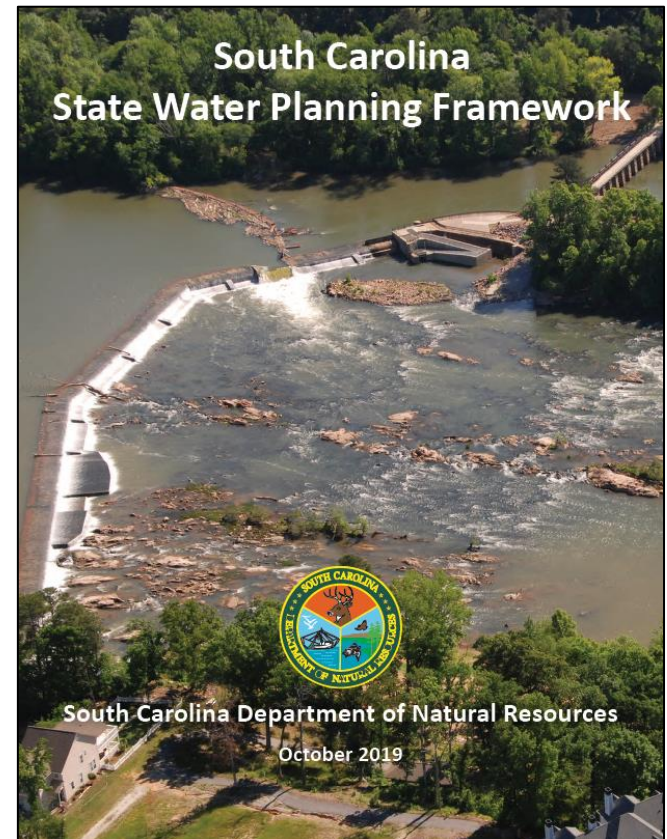


- Water is a limited natural resource and is a major factor for economic development and environmental protection.
- River Basin Plans should strive for the equitable use of water resources with the goal of ensuring water is available for all uses, when and where needed, throughout the Planning Horizon and under drought conditions.
- River Basin Plans should protect the public's health and well-being and should balance social, economic, and environmental needs.

Features of a River Basin Plan



- Covers a **50-year** Planning Horizon.
- Considers both surface water and groundwater resources.
- Current focus is on water *quantity* not water *quality*.
- Not a regulatory document but may include recommendations regarding State water policy, law and regulations.
- Updated every 5-years – *water planning will be an ongoing process*.
- Supported by hydrologic data and models along with water demand projections.



River Basin Plan Table of Contents



1. Introduction
2. Description of the Basin
3. Water Resources of the Basin
4. Current and Projected Water Demand
5. Comparison of Water Resource Availability and Water Demand
6. Water Management Strategies
7. Water Management Strategy Recommendations
8. Drought Response
9. Policy, Legislative, Regulatory, Technical and Planning Process Recommendations
10. Implementation Plan

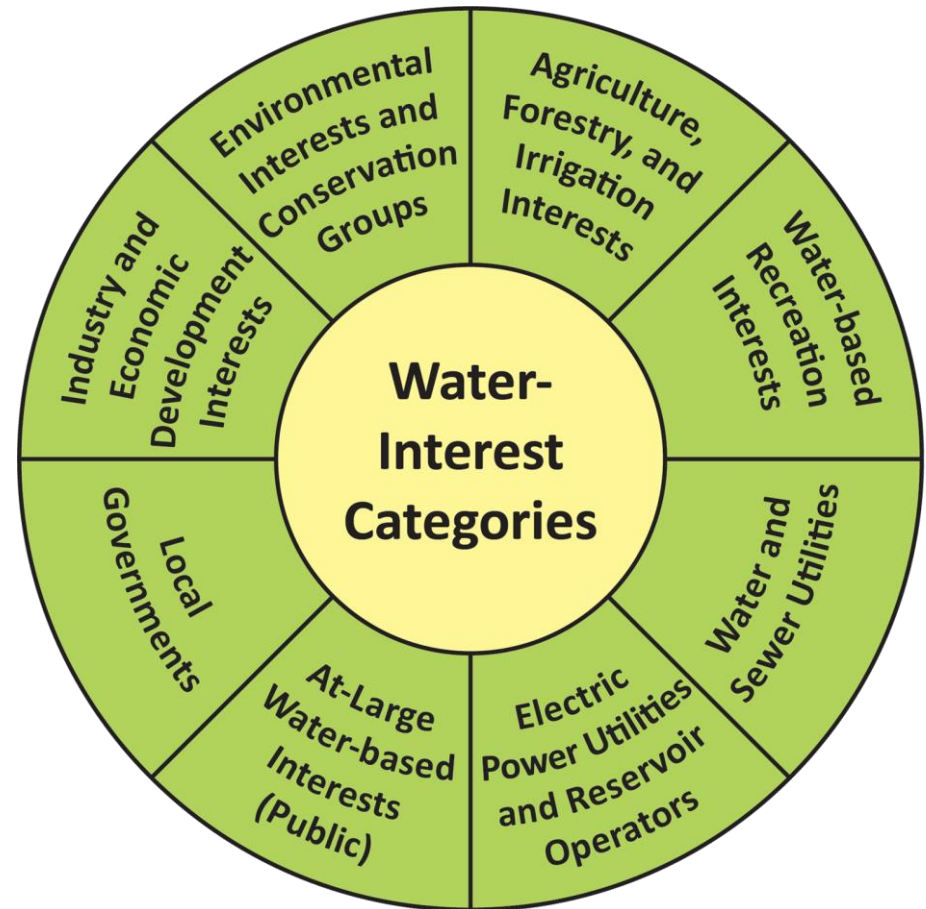
How Will the Broad River Basin Plan be Developed?



River Basin Council (RBC)



- **Stakeholder-led team** responsible for developing the River Basin Plan.
- Up to **25** members representing 8 interest categories.
- Governed by a set of Bylaws.
- Consensus based decision-making process.
- Chair and Vice Chair elected by RBC.



RBC will develop the River Basin Plan over a 2-year period with meetings on a monthly basis

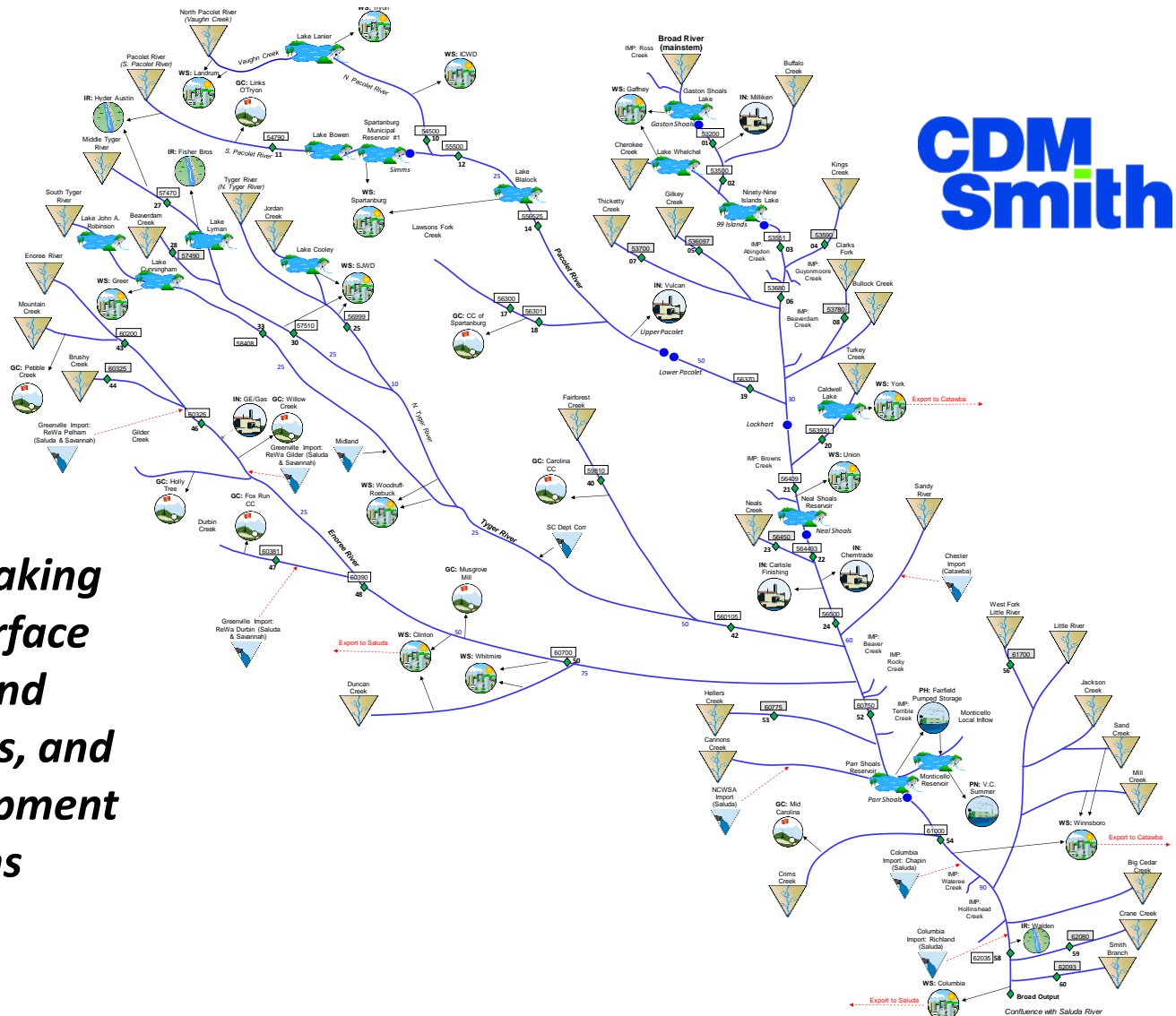
RBC Roles and Responsibilities



- Identify water shortages or conflicts using hydrologic models.
- Recommend strategies to mitigate or eliminate water use conflicts or water shortages.
- Help draft River Basin Plans.
- Communicate with stakeholders and the public on planning activities.
- Coordinate with other formal planning bodies (including those in North Carolina).
- Recommend changes to water policy or legislation or to the water planning process.
- Update River Basin Plans every 5-years and amend River Basin Plans as needed.



Broad Surface Water Model (SWAM)



SWAM is a decision-making tool used to assess surface water availability and management strategies, and will support the development of River Basin Plans

Water Demand Projections – In Progress



- Water demand methodology report released in October 2019 at <http://hydrology.dnr.sc.gov/water-demand.html>.
- Stakeholder meeting to review draft projections scheduled for December 2021 – January 2022.
- Projections will be used in surface water model (SWAM) to assess future water availability and will support the development of the Broad River Basin Plan.



US Army Corps
of Engineers



CLEMSON
UNIVERSITY

The Broad RBC will develop the plan with support from:

- **Contractors** (solicited and hired by SCDNR):
 - Meeting Facilitation
 - Meeting Coordination (Clemson University) – administrative and logistical support
 - Technical support – surface water modeling
 - Public Outreach (Clemson University)
 - River Basin Plan report writing
- **Other State and Federal Agencies:**
 - RBCs can request agencies to serve as Advisors.
 - Participate in RBC meetings and subcommittee meetings as requested.
- **RBCs can request input from other outside Advisors**

PPAC and SCDNR will continue to provide oversight of the river basin planning process.

PUBLIC MEETING #2 – BROAD BASIN WATER PLANNING



1. Welcome and Why We Are Here – Ken Rentiers, SCDNR, Deputy Director of the Land, Water & Conservation Division

Why is water planning important to all South Carolina citizens?

Where are we in the planning process, how did we get here, and where are we going?

2. Broad River Basin Planning – Scott Harder, SCDNR, Hydrology Section Chief

What is a River Basin Plan and how will the Broad River Basin Plan be developed?

3. Next Steps for Broad River Basin Planning – Scott Harder, SCDNR

What is the schedule for planning activities in the Broad basin?

How can stakeholders apply to be on the Broad River Basin Council?

What are other ways stakeholders can be involved?

4. Comments on Edisto River Basin Planning – Hank Stallworth, Chairman of the Edisto River Basin Council (RBC)

The Edisto RBC Chairman will share his perspective on State water planning and his experience with the Edisto basin planning process.

5. Comments from the Planning Process Advisory Committee and Q&A Session – moderated by Dr. Jeff Allen, Clemson University.

PPAC Members will share their perspectives on water planning and along with SCDNR address any comments or questions about the Planning Framework and Broad basin planning activities.

Let us hear from you. We welcome your questions and feedback.

Broad River Basin Planning Schedule and RBC Application Process



Broad River Basin Planning Schedule



Nov – Dec 2021

- Public kick-off meetings
- Solicit RBC applications
- Solicit Contractors (in progress)

Jan 2022

- Appoint RBC members
- Finalize contractors
- Planning Team (SCDNR, SCDHEC, Clemson, contractors) begins to meet

Feb 2022

- First RBC meeting

Feb 2022 – Dec 2023

- Monthly RBC meetings

Jan 2024

- Completed River Basin Plan



SCDNR appointments based on the following criteria:

- Applicant's credentials
 - Knowledgeable and experienced in their interest category.
 - Must either reside, work or officially represent an entity having a significant water resource interest in the basin.
 - Additional qualifiers – membership on the State Drought Response Committee, for example.
- Recommendations and endorsements submitted by various interest groups or organizations.
- Geographic Diversity.
- PPAC recommendations.


***SCDNR appointments will strive
for a balanced representation***

Broad River Basin Council Application Process



Applicants should carefully consider the time commitment and workload required to an RBC member

BROAD RIVER BASIN COUNCIL
MEMBERSHIP APPLICATION FORM



Last Name: _____ First Name: _____
Address: _____ Phone 1: _____
_____ Phone 2: _____
City: _____ State: _____ ZIP: _____
Organization/Company: _____
Position: _____ E-mail: _____

Indicate which one Interest Category you are requesting to represent (required):

- Agriculture, Forestry, and Irrigation Interests
- Local Governments
- Water and Sewer Utilities
- Electric-Power Utilities and Non-Federal Reservoir Operators
- Industry and Economic Development Interests
- Water-based Recreation Interests
- Environmental Interests
- At-Large Water-based Interests

1. How are you affiliated with this Interest Category?

2. Explain what makes you an appropriate representative of your selected Interest Category:

3. Describe your relevant qualifications and background or experience with water resources:

4. Explain how you would apply your skills and experience to assure successful water planning for the Broad River Basin:

The completed application and any supporting documentation (such as a resume) should be submitted to Ken Rentiers, SCDNR Deputy Director. Applications may be e-mailed to Mr. Rentiers at RentiersK@dnr.sc.gov or mailed to SCDNR at the following address:

Ken Rentiers, Deputy Director
Land, Water & Conservation Division
SC Department of Natural Resources
PO Box 167
Columbia, SC 29202

<http://hydrology.dnr.sc.gov/broad-basin-planning.html>



- Initial terms are 2, 3 or 4 years.
- Subsequent terms of 3 years (each additional term subject to SCDNR approval).
- RBC members can serve up to 3 consecutive terms.
- Considerations for RBC applicants:
 - Multi-year commitment.
 - Monthly meetings – in person!
 - Subcommittee meetings.
 - Review of various technical reports and other documents.
 - Help write and review the River Basin Plan.
 - Annual meetings between iterations of the River Basin Plan (possibly higher frequency).



- Application period: **November 8th – December 31st**
- Application forms available on SCDNR website:
<http://hydrology.dnr.sc.gov/broad-basin-planning.html>
- Application forms and recommendations should be sent to *Ken Rentiers* (see application for contact information)
- Application review period: **January 2nd – January 31st**
 - **PPAC will review applications and make recommendations to SCDNR**
- Final selection and notification by **January 31st**



- Guidelines for stakeholder and public participation described in Section 3.7 of Planning Framework.
- Public meetings (3 to 4 per basin):
 - Prior to first RBC meeting – “kickoff” meeting(s)
 - After draft River Basin Plan is released
 - After final River Basin Plan is released
- Draft River Basin Plan Public Review Period (30 days).
- RBC Meetings:
 - Open to the public
 - Each meeting will include public comment period

SCDNR Hydrology Section Website



Water Planning

The SCDNR Hydrology Section is responsible for formulating and establishing a comprehensive water resources policy for the State of South Carolina.

Overview

The South Carolina Department of Natural Resources (SCDNR) is legislatively mandated through the [South Carolina Water Resources Planning and Coordination Act](#) (S 49-3-10, et. seq., Code of Laws of South Carolina, 1976) to formulate and establish a comprehensive water resources policy or water plan for the State. The [first edition of the South Carolina Water Plan](#) was published in 1998, and was subsequently updated in 2004 to incorporate experiences and knowledge gained from the severe, statewide drought of 1998–2002. The 2004 Water Plan highlighted the need for water planning on a regional level, and in 2014, SCDNR began the process of developing regional water plans that will ultimately support the development of a new State Water Plan. Regional water plans, or River Basin Plans, will be developed for the eight major river basins in the State – Broad, Catawba, Edisto, Pee Dee, Salkehatchie, Saluda, Santee and Savannah. To support the development of the River Basin Plans, hydrologic models have been developed for both the State's [surface water](#) and [groundwater resources](#) and will be used along with water demand projections to assess current and future water availability in the State.

Public Notice: Two public meetings have been scheduled for November 8th in Columbia and November 9th in Spartanburg to kick-off Broad River Basin planning activities.

For more information including times and locations visit the Broad Basin Planning page at <https://hydrology.dnr.sc.gov/broad-basin-planning.html>.

State and River Basin Planning Framework

Edisto Basin Planning

Broad Basin Planning

Surface Water Models

Water Demand Projections

Site will host:

- Announcements/Calendar of Events
- Access to water planning documents (Planning Framework/technical reports)
- RBC meeting materials/agendas

<http://hydrology.dnr.sc.gov/water-planning.html>

Contact Information:

Scott Harder, harders@dnr.sc.gov

Broad Basin Planning

Activities and reports on water planning in the Broad River basin.

Overview

Beginning in the fall of 2021, the [South Carolina State Water Planning Framework](#) will be implemented in the Broad Basin. Two public meetings are scheduled for November 8th and November 9th ([see below for meeting information](#)) to kick-off planning activities. An overview of the South Carolina State Water Planning Framework will be provided and applications to serve on the Broad River Basin Council will be solicited. Formal Council meetings are scheduled to begin in early 2022. Please visit this website for periodic updates and new information regarding Broad River basin planning activities.

Public Meeting Times and Locations

Meeting #1 (agenda) November 8 th , 2021: 6:00 pm – 8:00 pm Location: Cooperative Conference Center 169 Laurelhurst Ave Columbia, SC 29210 Directions via Google Maps	Meeting #2 (agenda) November 9 th , 2021: 6:00 pm – 8:00 pm Location: 1881 Event Hall 805 Spartanburg Boulevard Spartanburg, SC 29301 Directions via Google Maps
--	---

Broad Planning News

• Public Meetings scheduled for November 8th and 9th to Kick-off Broad River Basin Planning Activities

Hydrology Calendar

[View full calendar.](#)

<http://hydrology.dnr.sc.gov/broad-basin-planning.html>

Edisto Basin Planning



- First basin selected for implementing Planning Framework.
- Public kick-off meetings held in November 2019.
- First RBC meeting - June 2020.
- Completed 16 meetings – due to Covid, first 11 meetings were held virtually, in-person meetings began in May 2021.
- River Basin Plan scheduled for completion in summer 2022.

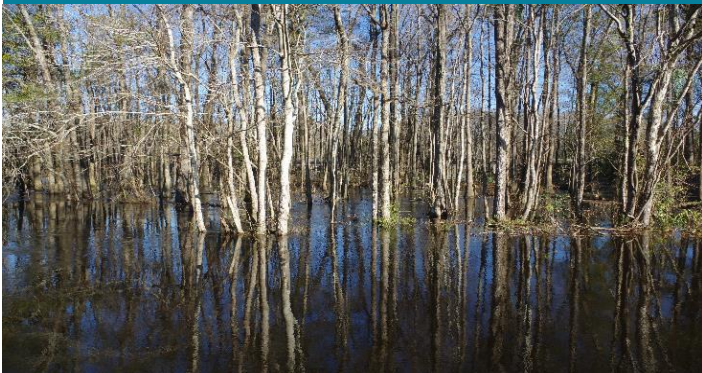


Edisto RBC Representation



Interest Categories

- Agriculture, Forestry, and Irrigation (4)
- At-Large (5)
- Electric-Power Utilities (1)
- Environmental (3)
- Industry/Economic Development (2)
- Local Governments (3)
- Water and Sewer Utilities (3)
- Water-based Recreational (2)



Organizations Represented

- Aiken County Government
- Aiken Soil & Water Conservation District
- Bamberg Board of Public Works
- Bamberg Soil and Water District
- Charleston Water System
- Dominion Energy South Carolina
- Dorchester County Government
- Edisto River Canoe and Kayak Trail Comm.
- Friends of the Edisto & Edisto Riverkeeper
- Lowcountry Oyster Company, LCC
- Orangeburg Country Club
- Orangeburg County Government
- Orangeburg Department of Public Utilities
- Palmetto Realty and Land Co.
- RBM Forestry LLC
- General Public
- The Nature Conservancy
- Town of Edisto Beach
- Walther Farms
- Weathers Farms/ Circle W Farms
- Western SC Economic Development Council

Planning Team



Facilitation and
Surface Water
Technical Support



Meeting Coordination
and Public Outreach



Groundwater
Technical Support



Oversight and
Education

PUBLIC MEETING #2 – BROAD BASIN WATER PLANNING



1. Welcome and Why We Are Here – Ken Rentiers, SCDNR, Deputy Director of the Land, Water & Conservation Division

Why is water planning important to all South Carolina citizens?

Where are we in the planning process, how did we get here, and where are we going?

2. Broad River Basin Planning – Scott Harder, SCDNR, Hydrology Section Chief

What is a River Basin Plan and how will the Broad River Basin Plan be developed?

3. Next Steps for Broad River Basin Planning – Scott Harder, SCDNR

What is the schedule for planning activities in the Broad basin?

How can stakeholders apply to be on the Broad River Basin Council?

What are other ways stakeholders can be involved?

4. Comments on Edisto River Basin Planning – Hank Stallworth, Chairman of the Edisto River Basin Council (RBC)

The Edisto RBC Chairman will share his perspective on State water planning and his experience with the Edisto basin planning process.

5. Comments from the Planning Process Advisory Committee and Q&A Session – moderated by Dr. Jeff Allen, Clemson University.

PPAC Members will share their perspectives on water planning and along with SCDNR address any comments or questions about the Planning Framework and Broad basin planning activities.

Let us hear from you. We welcome your questions and feedback.

PUBLIC MEETING #2 – BROAD BASIN WATER PLANNING



5. Comments from the Planning Process Advisory Committee and Q&A Session – moderated by Dr. Jeff Allen, Clemson University.

PPAC Members will share their perspectives on water planning and along with SCDNR address any comments or questions about the Planning Framework and Broad basin planning activities.

