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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
Cooperative Conference Center
Columbia, SC
November 8th, 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?

Energy Production

Fishing

River Recreation

Public Water Supply

Wastewater dischargers

Manufacturing/industry

Agriculture

Fish and wildlife
Why State Water Planning?

Population Growth $\Rightarrow$ 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**

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.*
SCDNR published the first edition of the State Water Plan in 1998.


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).

   - 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:**

- DHEC
- US Army Corps of Engineers
- CDM Smith
- USGS
- Clemson University
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:
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

Where are we now?

Ready to start the Broad River basin planning process under the guidance of the Planning Framework.
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   *Where are we in the planning process, how did we get here, and where are we going?*

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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 WaterWithdrawals

> 99% of total water withdrawals are from surface water

< 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%)
Reported Surface Water Withdrawals (2003-2020)

Total Withdrawals (Excluding Power)

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

http://hydrology.dnr.sc.gov/surface-water-models.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.
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**

_PPPAC and SCDNR will continue to provide oversight of the river basin planning process._
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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**
Applicants should carefully consider the time commitment and workload required to an RBC member.

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](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**
Stakeholder and Public Participation Opportunities

• 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
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

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

Contact Information:
Scott Harder, harders@dnr.sc.gov
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
- At-Large
- Electric-Power Utilities
- Environmental
- Industry and Economic Development
- Local Governments
- Water and Sewer Utilities
- Water-based Recreational

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
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