Planning Framework Overview

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Pee Dee River Basin Council – Meeting #2 (Hybrid)

Pee Dee Research and Education Center

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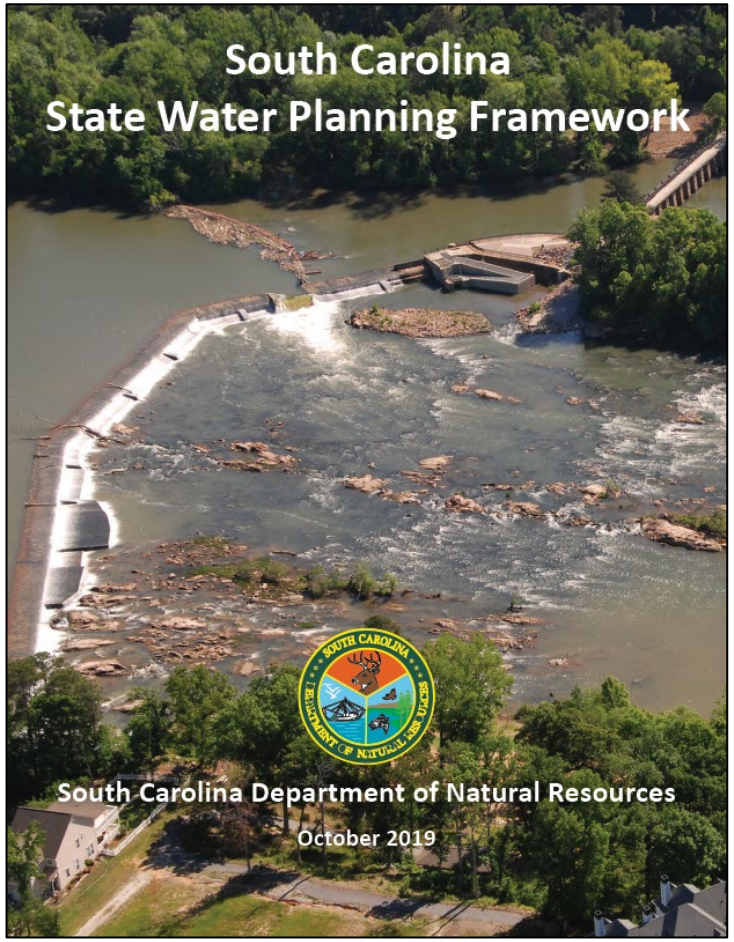
Contents of Planning Framework

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/state-and-river-basin-planning.html

Section 2. Introduction

Describes:

- Purpose and importance of state and river basin planning.
- Role of State Water Planning Process Advisory Committee (PPAC).
- Guiding principles.
- Regulatory framework.

Much of this information was presented at the first Council meeting.

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Section 3. River Basin Planning Process

Describes:

- How the River Basin Plan will be developed.
- The roles and responsibilities of:
  - River Basin Councils
  - State and Federal Agencies
  - Contractors
  - PPAC
- Stakeholder/public participation.
- Coordination with other planning bodies and committees.

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Section 4. Methodologies for Evaluating Water Availability

Describes:

- Hydrologic models used to evaluate water availability.
- Four scenarios for RBC evaluation.
- Approach to evaluating water management strategies.

Defines:

- Surface and Groundwater Availability.
- Surface and Groundwater Shortage, etc.

A future RBC meeting will cover this section in more detail.

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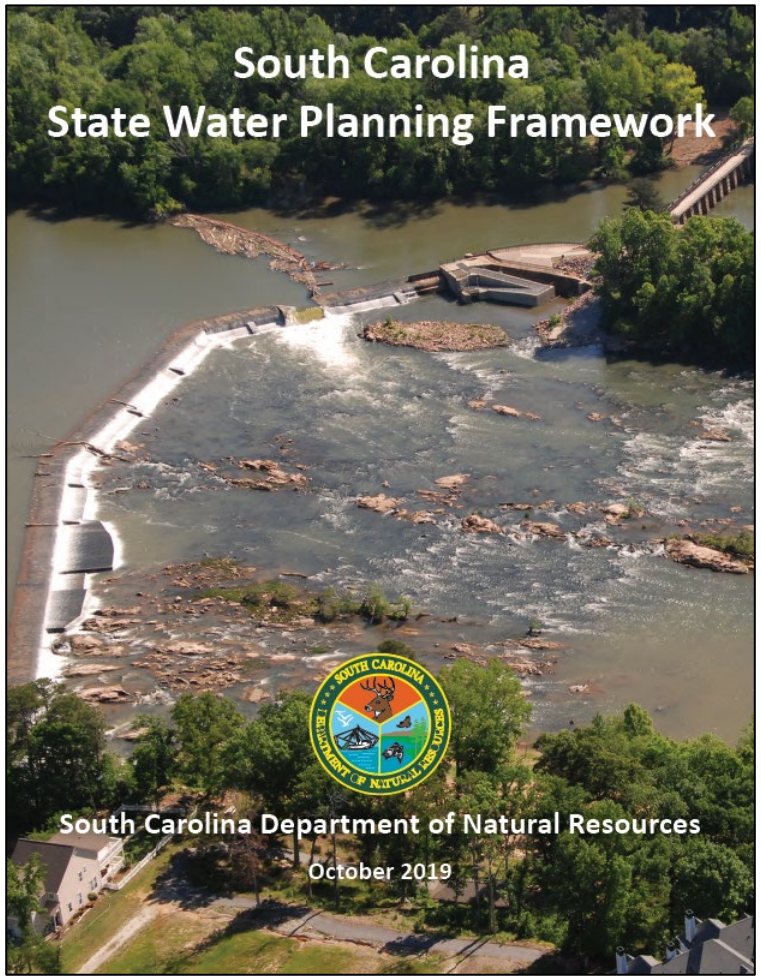
Methods for Evaluating Water Availability

- Based, in part, on methodologies used in Texas for evaluating water availability.
- Provides consistency – designates a common set of definitions and processes to use across the State.

Big Picture – this is a gap analysis; the RBC will be determining where and when demand exceeds supply under varying demand scenarios and deciding how to manage water to close the gaps.

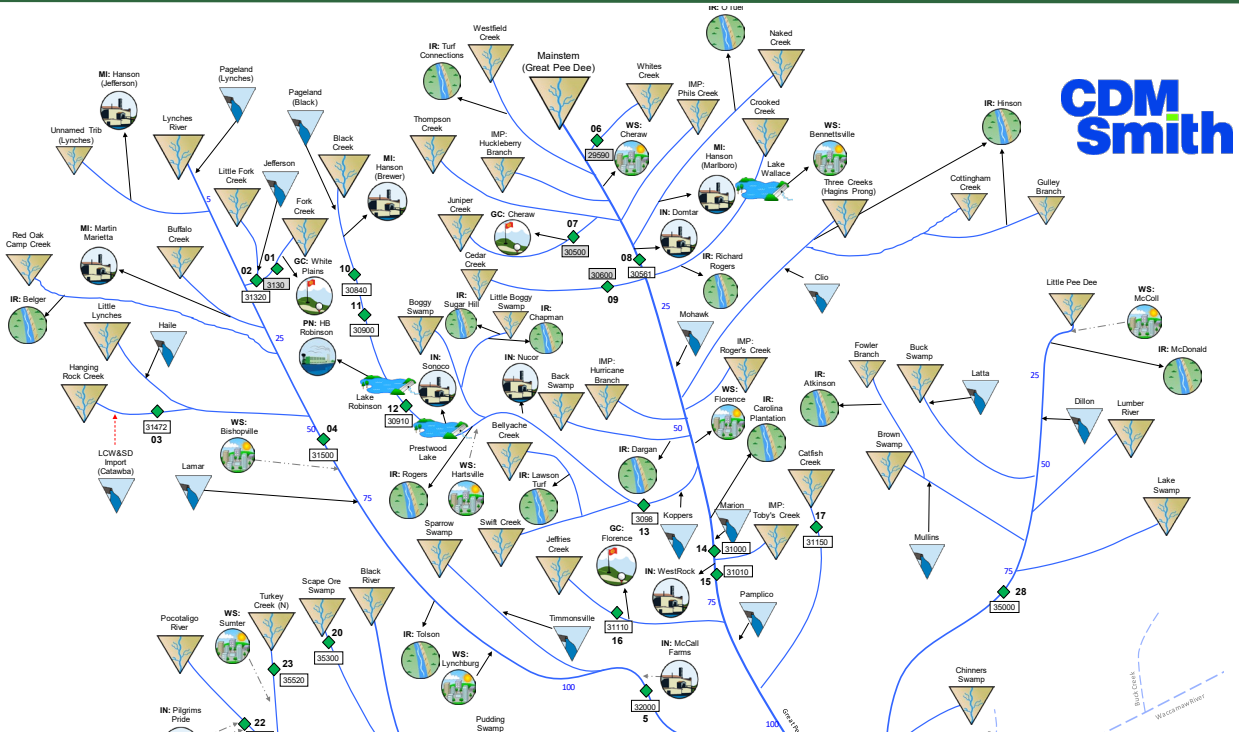


Surface Water-Demand Scenarios

- Four scenarios to be reviewed by each River Basin Council:
  1. Current Surface Water Use
  2. Permitted and Registered Water Use Scenario
  3. Business-as-Usual Water-Demand Projection
  4. High Water-Demand Projection
- Scenarios focus on “water demand” side as opposed to “water supply” side.
- Additional water demand scenarios can be recommended by the RBC:
  - Based on different assumptions used in existing projections (more aggressive growth rates, for example).
  - New water-demand projection scenarios must be submitted to SCDNR in writing by the RBC for consideration.

Pee Dee Surface Water Model (SWAM)

- Simplified Water Allocation Model (SWAM).
- Originally completed in 2017.
- Updated in 2021:
  - Inflow period of record extended through 2019.
  - Added new permits and registrations.
  - Removed inactive users.
- Updated model is available on the SCDNR website.



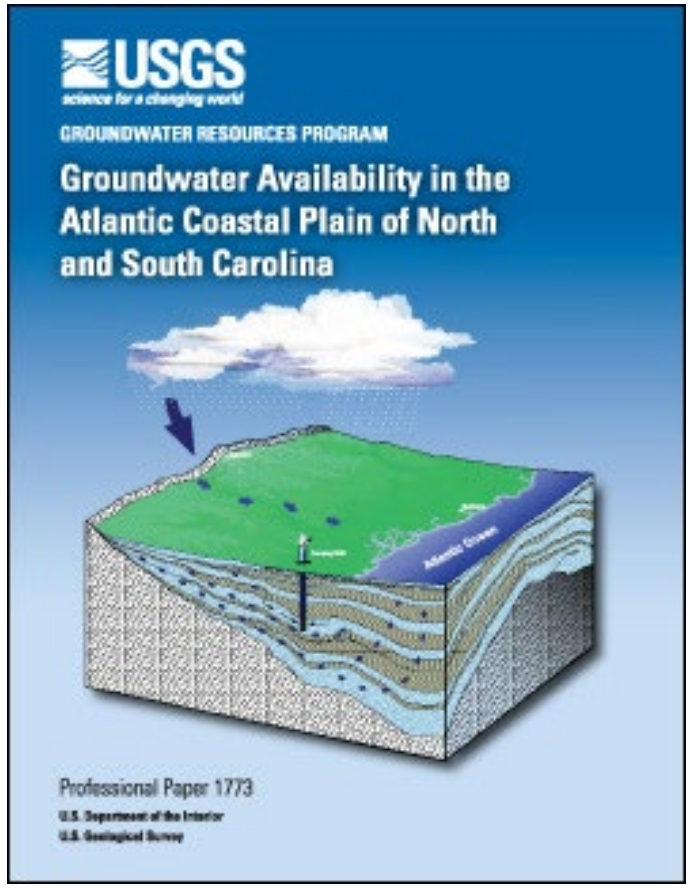
SWAM is a decision-making tool used to assess surface water availability and management strategies, and will support the development of River Basin Plans

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

Pee Dee Groundwater Model (MODFLOW)

- Groundwater flow model developed by the USGS with assistance from SCDNR and SCDHEC .
- Simulates groundwater flow of the Atlantic Coastal Plain aquifer system.
- Recently updated to include groundwater data through 2020.

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



Technical Advisory Committees

- Planning Framework calls for permanent Groundwater and Surface Water Technical Advisory Committees (TACs).
- Purpose: to provide the State agencies and River Basin Councils with technical assistance and support during the development of River Basin Plans and the new State Water Plan.
  - Advise state agencies on any new data, model revisions or extensions, and alternative modeling platforms that could be used for planning purposes.
  - Approve the use of supplemental modeling platforms in the planning process.
  - Advise RBCs on model scenarios and assist in the interpretation of modeling results.
- Primarily serves as a “reactive” body as opposed to “proactive”.
  - TACs respond to technical questions/issues that arise in the planning process as needed.

Section 5. River Basin Plan Table of Contents

- Provides a detailed description of the "*minimum requirements*" for each Chapter.
- RBCs should generally adhere to this organization structure.
- Some discretion to include additional information not explicitly stated in the Planning Framework.

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Section 5. 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. River Basin Plan Implementation

Section 6. River Basin Planning Process Implementation

- Four Phases of Plan Development:
  - Phase 1 – orientation, administrative aspects, background information.
  - Phase 2 – technical analyses used to assess water availability.
  - Phase 3 – analysis of water management strategies.
  - Phase 4 – preparation of draft and final River Basin Plans incorporating final water management strategies and other recommendations.
- RBC responsible for submitting progress reports after each major phase.

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Section 7. River Basin Plan Implementation

- River Basin Plans are not intended to be static documents.
- The River Basin Plan is required to have a 5-year ***Implementation Plan*** (Chapter 10 of the River Basin Plan):
  - Objectives – based on recommended water management strategies and other recommendations.
  - Schedule.
  - Budget.
- RBCs are required to meet annually (between successive iterations of river basin planning) but frequency dependent on objectives and available funding.
- Implementation challenges/considerations:
  - Funding.
  - Broader stakeholder buy-in.
  - No regulatory authority.

Section 8. State Water Plan

- Contingent upon completion of 8 River Basin Plans.
- Major content includes:
  - A summary of legislative, policy, process, and program recommendations regarding the State's water resources documented in the River Basin Plans.
  - A summary of each River Basin Plan's water availability analyses and conclusions.
  - An evaluation of statewide trends in water use and availability.

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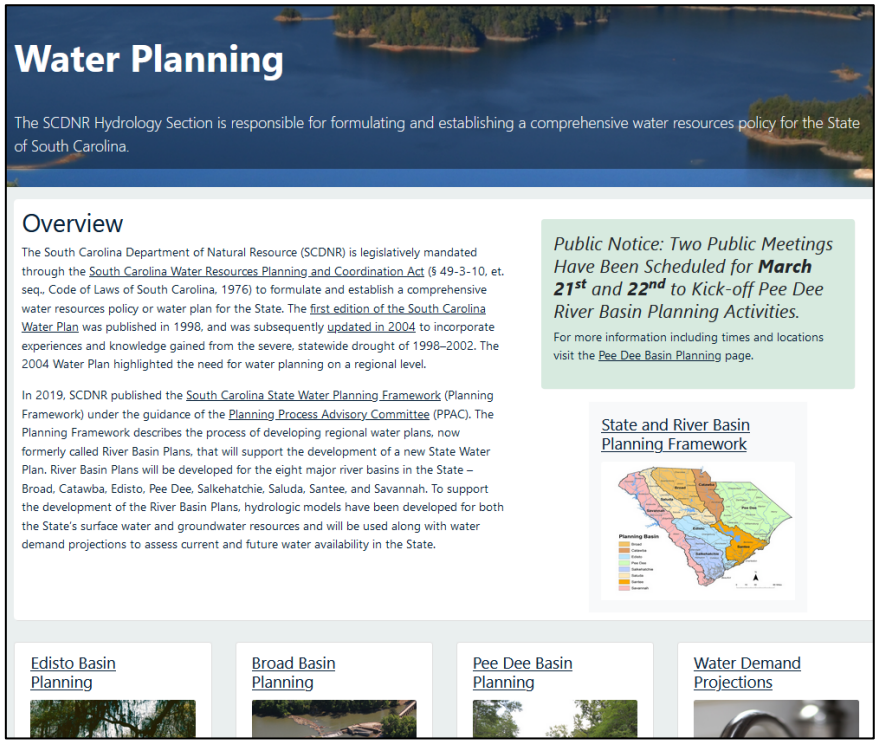
SCDNR Hydrology Section Website



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

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

Site will host:

- Announcements/Calendar of Events
- Access to water planning documents – Planning Framework, technical reports
- RBC meeting materials – agendas, presentations, recordings

RBC Member Questions and Concerns from June 28th Breakout Groups

RBC Member Basin Priorities

- **Should we be concerned about the association between water quality and quantity?**
  - Yes, but the initial River Basin Plan will focus on water quantity. The long-term planning goal is to incorporate more water quality considerations in later iterations of planning.
  - One potential exception is saltwater intrusion (see below).
- **What is the impact of saltwater intrusion on surface water and groundwater?**
  - Near coast surface water intakes are vulnerable to saltwater moving upstream when river discharge is low.
  - Saltwater intrusion is a risk from groundwater pumping as aquifer levels fall below sea level.
  - Models may provide information on where the potential for saltwater intrusion exists.

RBC Member Basin Priorities

- **Will the RBC incorporate drought and flood concerns in the basin plan?**
  - The primary focus of this river basin plan is water scarcity and low flow conditions (drought).
  - The basin plan will not address detailed flood mitigation strategies or engineered flood-reduction techniques.
  - The RBC will hear from the SC Office of Resiliency (SCOR) at the August RBC meeting.
    - We can consider ways to support the work of SCOR to the extent it does not distract from the primary focus on future water availability and ensuring future water demand can be met.

RBC Member Basin Priorities

- **Will Agricultural water interests be displaced by other interests?**
  - No, the purpose/goal of river basin planning is to ensure that that water is available to all users in all sectors over the Planning Horizon (See River Basin Plan definition in Planning Framework).
- **Water use/what is withdrawn and recharged, and how does it affect availability?**
  - Past, current, and projected water demand will be reviewed. Projected water demand will be used in hydrologic models to evaluate future water availability.
  - Groundwater recharge is a primary input to the groundwater flow model and will be reviewed.
- **Growth management concerns.**
  - Increased population, development, and land use change will impact water resources.
  - The RBC may develop recommendations regarding both land conservation and development that would positively or negatively impact water quantity.

RBC Member Basin Priorities

- **How to include North Carolina because of shared interest, drought plans, and how North Carolina's demand and actions affect SC water supply (Moratorium).**
  - Current and future water demand in NC will be taken into account when evaluating SC water availability.
  - Efforts will be made to coordinate with NC planning bodies to the extent practical.
- **How we will coordinate and collaborate with North Carolina and how will that affect the planning process?**
  - The RBC will hear from the North Carolina Department of Environmental Quality (NCDEQ) and Yadkin-Pee Dee Water Management Group (YPDWMG) at the August RBC meeting.
  - The August meeting will be a good opportunity for the RBC to discuss how the RBC can coordinate with the NC planning groups.