

Surface Water Management Strategies Review

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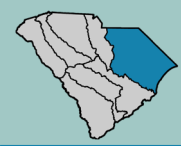
JD Solomon, Inc – Brown and Caldwell



Pee Dee River Basin Council Meeting #15

Florence, SC

August 22, 2022



Mission, Vision, and Goals

Mission

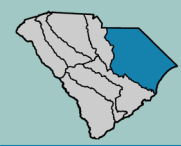
To develop, implement, monitor, and periodically revise a river basin plan for the surface and groundwater resources in the Pee Dee River Basin.

Vision

To make sure water is available for all in the Pee Dee River Basin.

Statement of Goals

1. Develop and approve the River Basin Plan by June 1, 2024.
2. Review and update the River Basin Plan at least once every five years or amend it as needed.
3. Regularly communicate with stakeholders throughout the river basin.
4. Recommend policy, legislative, regulatory, or process changes.



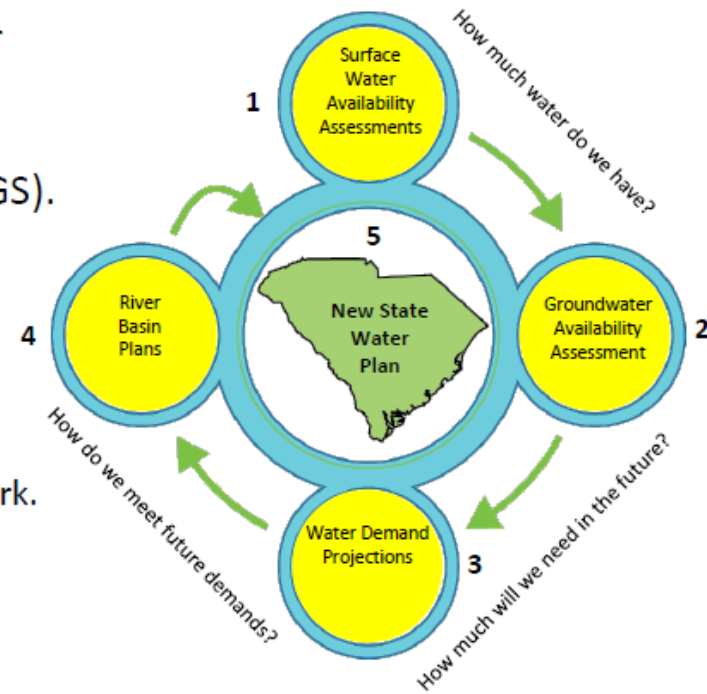
From Meeting #1



Five-step Process

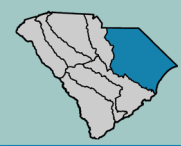


- 1. Surface Water Assessments** – completed in 2017 for each basin (CDM Smith, Inc).
 - Several models recently updated.
- 2. Groundwater Assessment** – completed in 2021 (USGS).
- 3. Water Demand Projections** – methodology report completed in October 2019.
 - Edisto basin projections completed in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



Cooperators:





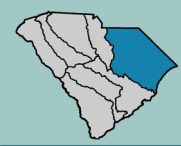
From Meeting #1



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



Deliverables from Planning Framework



- Water Management Strategy Recommendations (Chapter 7)
- Drought Management Recommendations (Chapter 8)
- Policy, Legislative, Regulatory, Technical, and Planning Process Recommendations (Chapter 9)
- Five-Year Implementation Plan, Long-Term Objectives, and Monitoring Plan Recommendations (Chapter 10)

Water Management Strategies

Demand Side Strategies

Municipal conservation

Example Practices

Water loss control programs
Low flow fixtures, toilets and appliances
Pricing structures (ex. increasing block rates)
Xeriscaping

Ag/Irrigation conservation

Water audits and center pivot sprinkler retrofits
Dammer dikers
Cover cropping, conservation tillage, mulch
Soil Moisture sensors/smart irrigation
Crop selection
Irrigation scheduling
Drip/Trickle irrigation (for select crops)



Water Management Strategies

Demand Side Strategies

Example Practices

Industrial conservation

Water reuse and recycling
Water efficient processes
Water loss control
Low flow fixtures, toilets and appliances

Thermoelectric
conservation

Reclaimed water
Switch to combined-cycle natural gas
Energy saving appliances (which reduces thermoelectric generation needs)



Water Management Strategies

Supply Side Strategies

Example Practices

New or Increased Storage

New impoundments, ponds, reservoirs, tanks
Dredging (pond deepening)
Reservoir expansion (raising dam height)
Aquifer storage and recovery

Water Reclamation

Water reuse systems (non-potable)
Direct potable reuse
Stormwater capture and treatment

Conjunctive Use

Using groundwater to augment surface water during low flow periods



Water Management Strategies

Supply Side Strategies

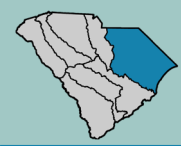
Example Practices

Conveyance

Regional water systems
Utility interconnections
Interbasin transfers

Desalination

Treatment of brackish groundwater
Desalination of seawater



Other Potential Strategies for Pee Dee Basin

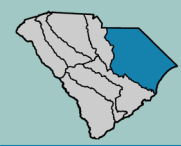


Coastal (high growth) Counties

Interface with North Carolina

Support of Clemson's Agriculture Irrigation Initiative

Others...



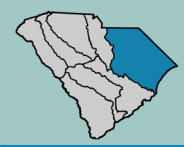
Breakout Groups



Spend 2/3 time on demand and 1/3 on supply strategies

1. Review list of Edisto strategies
 - a. Make note of high, low, and non-applicable for Pee Dee Basin
 - b. Add more specificity (granularity) if possible

2. Add some additional strategies specific to Pee Dee basin

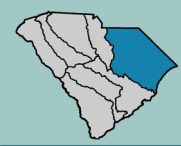


Breakout Groups



Summaries





Next Steps



1. Capture additional surfaces water strategies (over next month)
2. Chapter subcommittee develops list of things we are doing now
3. Complement this list after groundwater model is complete
4. Prioritize the water management strategies
5. Decide if additional legislative or regulatory actions are needed

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