South Carolina Department of Health and Environmental Control

Capacity Use Area Groundwater Management Plans

Bureau of Water

Water Quantity Programs

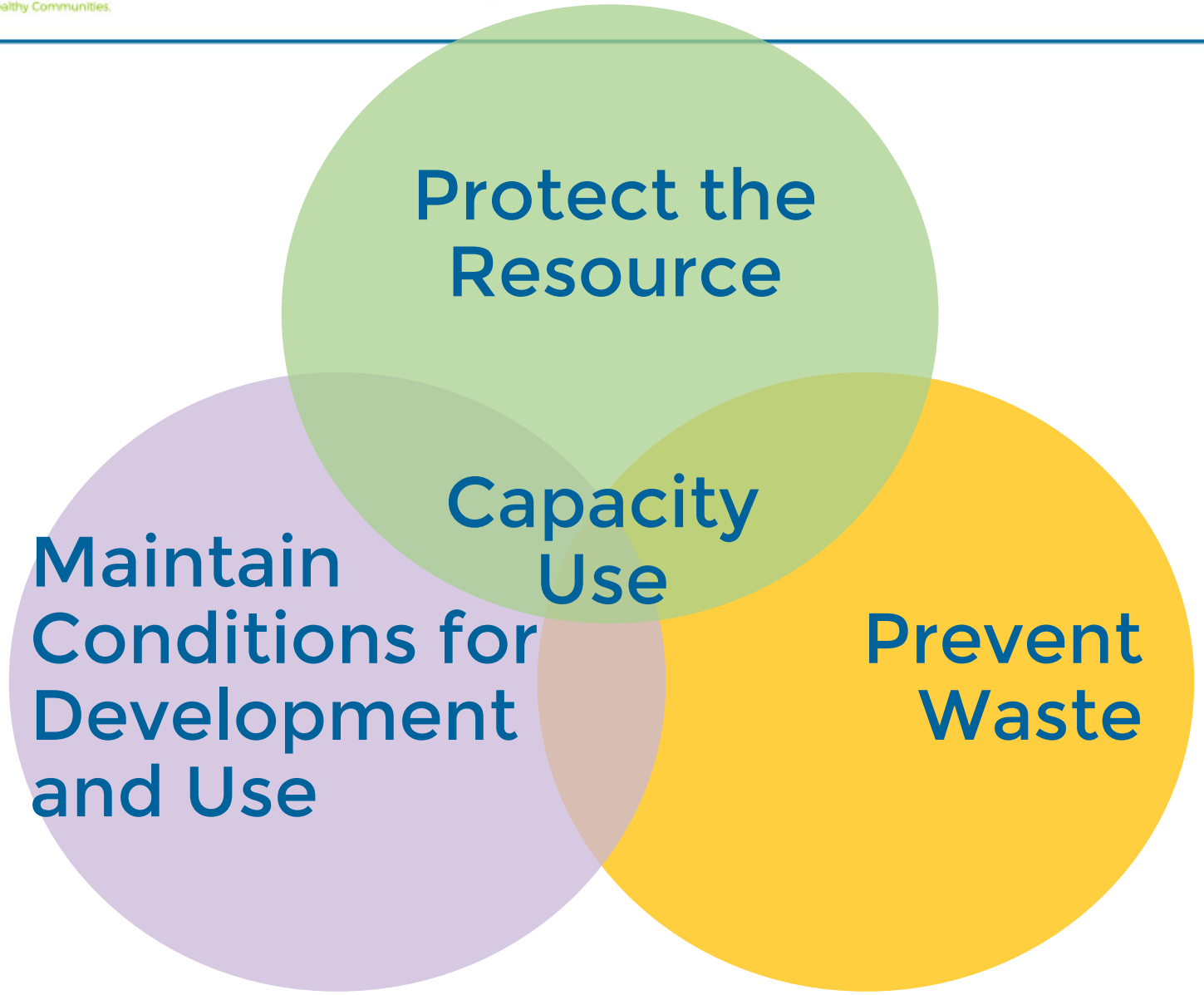
- **Groundwater Use and Reporting**
  - Since the 1970s
  - Issue permits in designated capacity areas of the coastal plain over for use over **3 million gallons in any month** (~1in of water per week for 28 acres or average use for 1,000 people)
  - Users outside of Capacity Use Areas must register wells if well or well system will use over 3 million gallons in any month
  - All registered and permitted groundwater withdrawers report their annual water use to the Department
- **Surface Water Withdrawal, Permitting and Reporting**
  - Since June 2012
  - Issue permits / registrations statewide if over 3 million gallons in any month
  - All registered and permitted surface water withdrawers report their annual water use to the Department

What is a Capacity Use Area

"..[A]n area, designated by the Board, where excessive groundwater withdrawal presents potential adverse effects to the natural resource or poses a threat to public health, safety, or economic welfare or where conditions pose a significant threat to the long-term integrity of a groundwater source, including saltwater intrusion"

Groundwater Use and Reporting Act Legislative Declaration of Policy

"The General Assembly declares that the general welfare and public interest require that the groundwater resources of the State be put to beneficial use to the fullest extent to which they are capable, subject to reasonable regulation, in order to conserve and protect these resources, prevent waste, and to provide and maintain conditions which are conducive to the development and use of water resources."


Protect the Resource
Capacity Use
Maintain Conditions for Development and Use
Prevent Waste

What are the Capacity Use Areas?

- **Waccamaw**: est. June 22, 1979, Horry and Georgetown Counties
- **Lowcountry**: est. July 24, 1981, Jasper, Beaufort, and Colleton Counties (Hampton county added June 10, 2008)
- **Trident**: est. August 8, 2002, Charleston, Berkeley, and Dorchester Counties
- **Pee Dee**: est. February 12, 2004, Marion, Marlboro, Darlington, Dillon, Florence, and Williamsburg Counties
- **Western**: est. November 8, 2018, Aiken, Bamberg, Barnwell, Calhoun, Allendale, Lexington, and Orangeburg Counties
- **Santee-Lynches**: est. July 15, 2021, Chesterfield, Clarendon, Kershaw, Lee, Richland, and Sumter Counties

Groundwater Management Planning

- After notice and public hearing, the department shall coordinate the affected governing bodies and groundwater withdrawers to develop a groundwater management plan to achieve goals and objectives stated in [Legislative Declaration of Policy] .
- In those areas where the affected governing bodies and withdrawers are unable to develop a plan, the department shall take action to develop the plan.

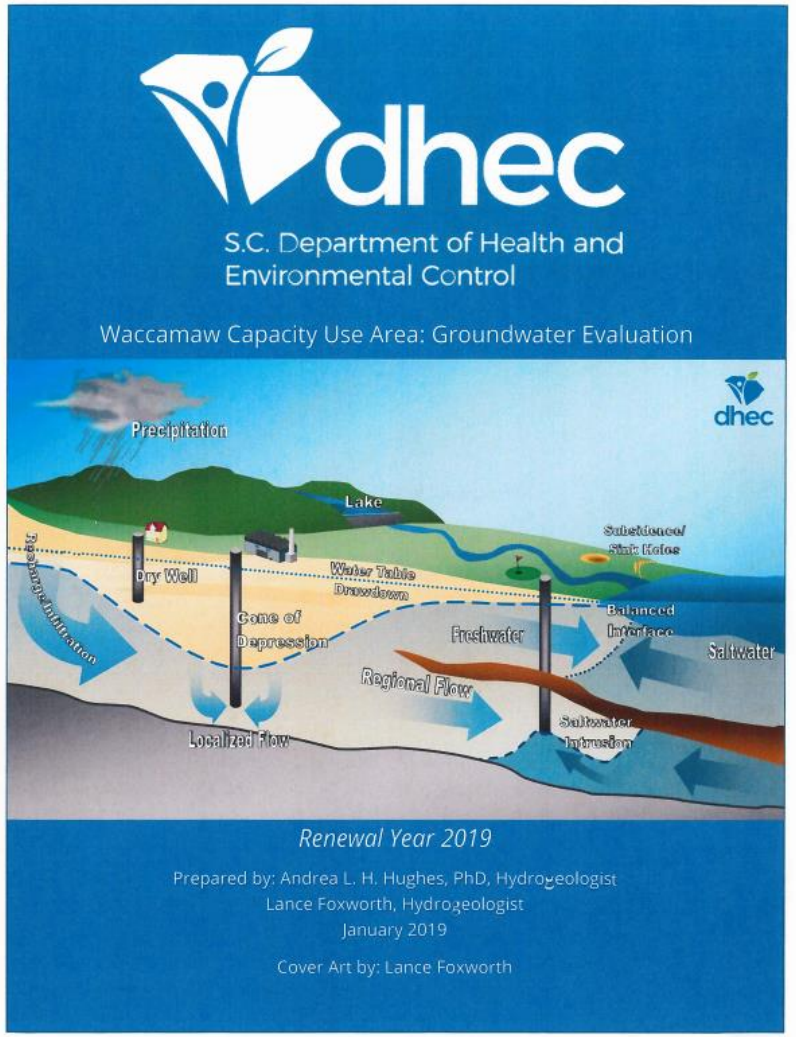
Groundwater Management Plan Process

Convene Planning Workgroup	Open House Forums	Finalize Plan & Submit to DHEC Board
Publish full calendar of meetings and workgroup members	Input from stakeholders on the draft Groundwater Management Plan	Additional public hearing prior to Board vote
Written comments from public shared with workgroup		Review & issue permits consistent with the plan

Capacity Use Area Evaluations

Every 5 years, or length of the permitting cycle, total annual groundwater withdrawals are compiled and compared to available aquifer potentiometric maps. The report includes the following:

- Listing of all permitted withdrawers, permitted withdrawal limits, and average groundwater withdrawal;
- Evaluation of withdrawal by category and by aquifer;
- Identification of areas of aquifer stress and all withdrawers utilizing the stressed aquifer(s).



Aspects of Water Use Addressed in Groundwater Management Plans:

- Current groundwater sources used
- Current water demand by type and amount
- Current aquifer storage and recovery (ASR) and water reuse
- Projected population and growth
- Projected water demand
- Projected opportunities for ASR, and water reuse
- Projected groundwater and surface water options
- Water conservation measures

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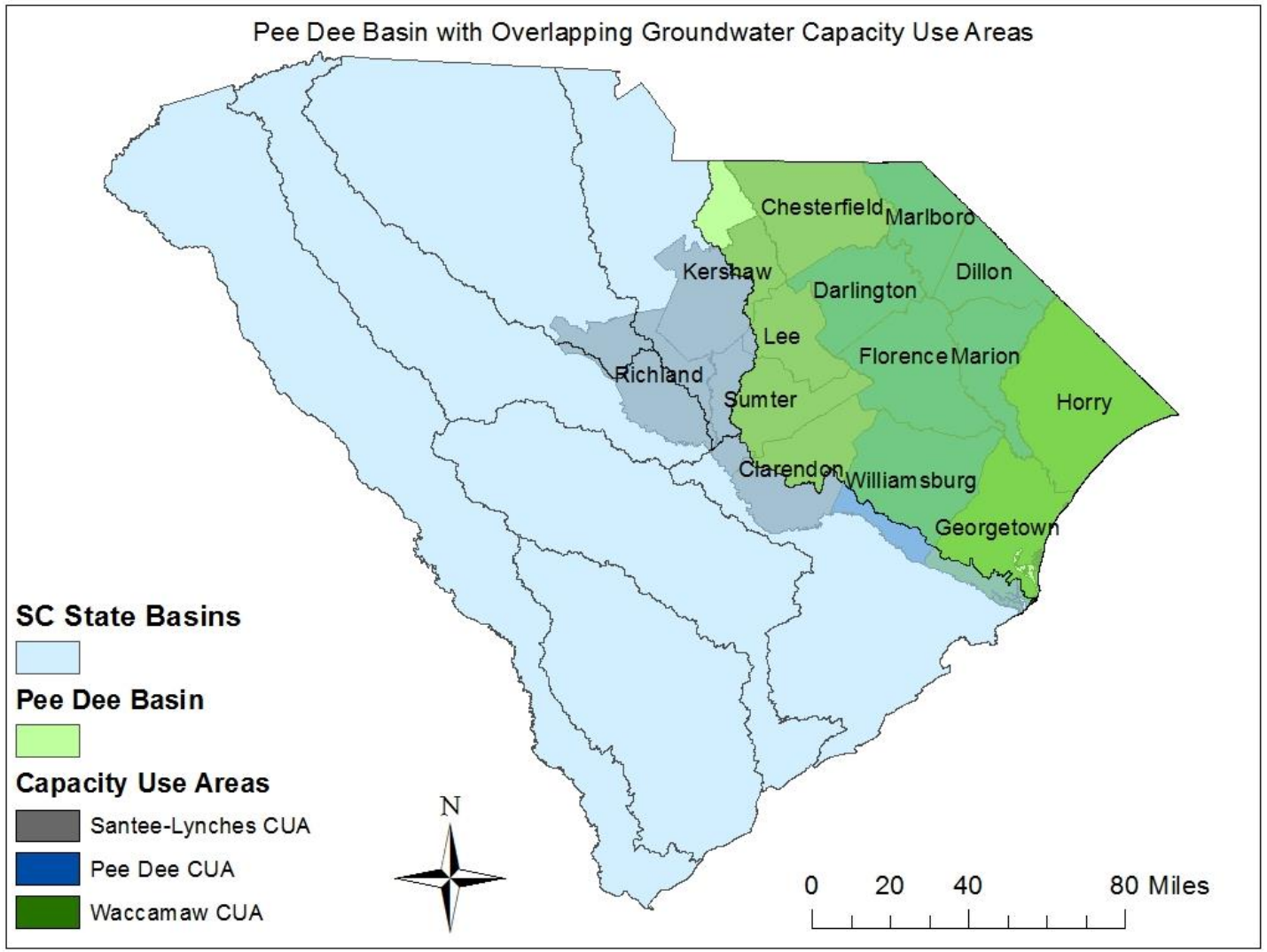
Groundwater Management Plans Across the Pee Dee Basin

Waccamaw, Pee Dee, and Santee-Lynches Capacity Use Areas

Pee Dee Basin CUAs



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Groundwater Management Goals:

- Ensure sustainable development of the groundwater resource by management of groundwater withdrawals
- Monitoring of groundwater quality and quantity to evaluation conditions
- The protection of groundwater quality from salt-water intrusion (Waccamaw and Pee Dee CUAs)
- Promote educational awareness of the resource and its conservation (Santee-Lynches CUA)

Groundwater Management Strategies

- Strategy: Identify areas where a leveling and/or reduction in pumping is appropriate.
- Strategy: Review of permit applications based on demonstrated reasonable use.
- Strategy: Establish a comprehensive groundwater monitoring program.

Groundwater Management Strategies

- Strategy: Manage Through Regulation, Assessment, and Planning
- Strategy: Establish a conservation educational plan for the general public and existing groundwater withdrawers.
- Strategy: Establish a Plan for Continual Stakeholder Engagement and Awareness of Groundwater Development

South Carolina Department of Health and Environmental Control

Questions?

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Pee Dee GWMP Groundwater Evaluation Recommendations

1. Encourage conjunctive use of surface water and groundwater to meet demands (with gw as a supplemental or backup)
2. New or modified gw applications proposed use in the Crouch Branch where the potentiometric surface has declined below mean sea level should be diverted to alternative aquifers when available as appropriate
3. Each new and renewal permit for WS should require a water audit be conducted annually in accordance with AWWA policy statement for Water Loss Management, Metering, and Accountability. All withdrawers should keep their BMP updated every 5 years

Pee Dee GWMP Groundwater Evaluation Recommendations

4. Encourage gw withdrawers to discontinue use of and properly abandon wells that have been screened across multiple aquifers. Ensure that all future wells are screened in the target well only, with appropriate grouting at the surface and at each confining layer
5. Conduct a targeted public education campaign on water conservation practices and the extent of the current over-pumping evidence. Targeted public education means that each campaign is designed for a particular segment of the population in the Pee Dee Area. For all water user it should include information on the broad range of water conservation methods available.

Waccamaw GWMP Groundwater Evaluation Recommendations

1. Place a hold on the groundwater withdrawal rates for current permit holders in the Crouch Branch aquifer.
2. No new wells that increase withdrawal rates should be permitted for construction and production in the Crouch Branch aquifer. Keep in place until the Waccamaw Area undergoes its next 5-year review in 2024. At that time, the hold on new construction should be re-evaluated based on new water level information
3. Applications which propose to use the Crouch Branch aquifer should be diverted to the surficial, McQueen Branch, Charleston, or Gramling aquifers in Georgetown and Horry Counties as appropriate for the proposed use.

Waccamaw GWMP Groundwater Evaluation Recommendations

4. Encourage surface water as a source for future water demands.

5. Conduct a targeted public education campaign on water conservation practices and the extent of the current over-pumping evidence.

6. Each new and renewal permit for water supply wells should require that a water audit be conducted annually in accordance with the American Water Works Association policy statement for Water Loss Management, Metering and Accountability

Santee-Lynches Initial Groundwater Evaluation Observations

1. Water level measurements and potentiometric surfaces indicate declines up to 60 ft in the Crouch Branch aquifer and 80 ft in the McQueen Branch aquifer below Sumter and Clarendon Counties
2. 50% increase in reported gw use from 2013 to 2018, mostly in the agricultural irrigation category, supported by increased irrigated acreage reported by the USDA and an increase of irrigation wells constructed
3. Increases in gw use correspond to periods of drought across SC
4. The Department lacks sufficient well data to determine which aquifer is most utilized for gw source

Santee-Lynches Initial Groundwater Evaluation Recommendations

5. Groundwater resources in Chesterfield, Clarendon, Kershaw, Lee, and Richland Counties have been developed to the extent that reasonable regulation and a permitting program will provide the benefit of protecting, preserving and developing the area's gw resources