SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

# Capacity Use Area Groundwater Management Plans

Ashley Pritchett

# 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

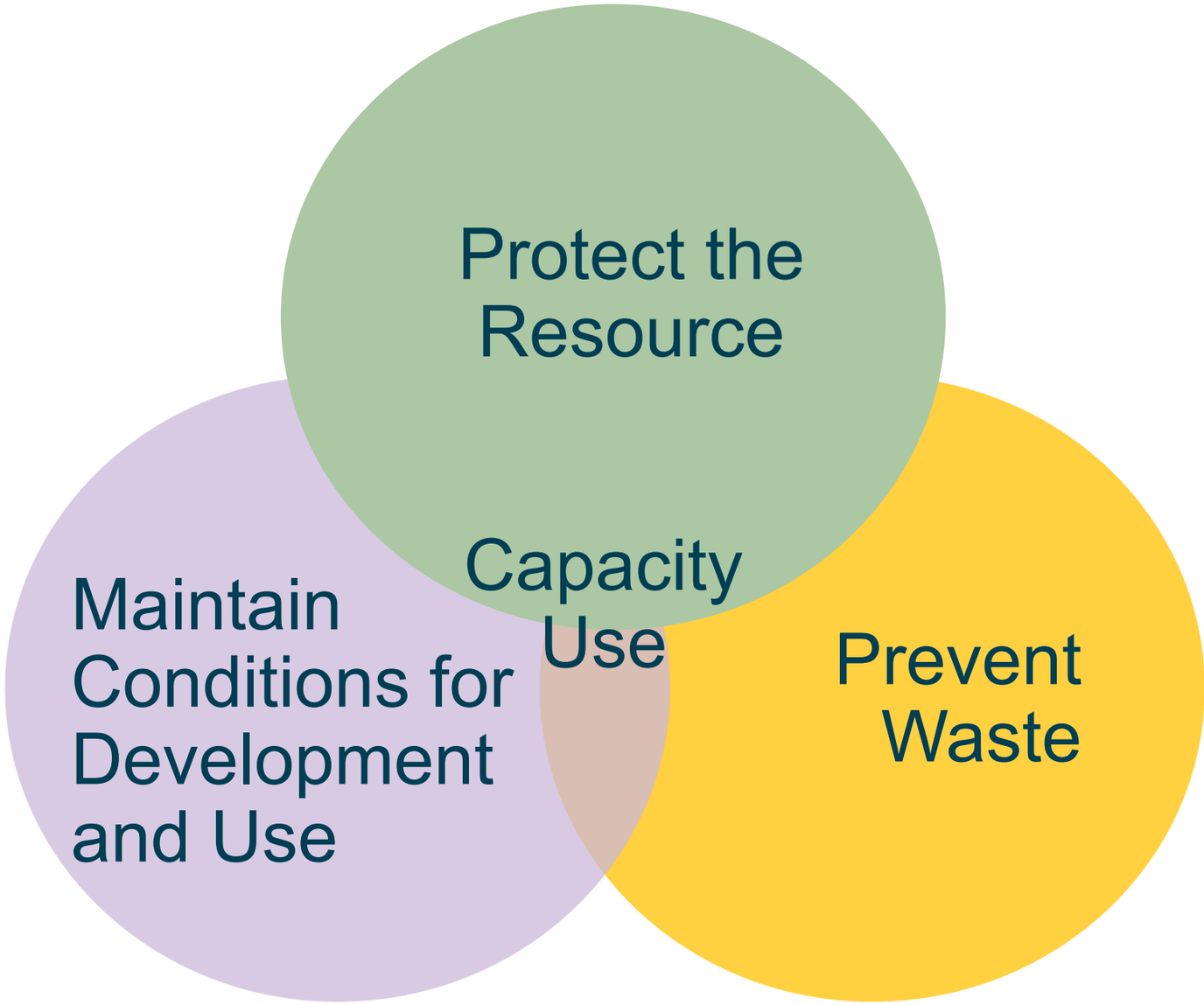
- Since June 2012
- Issue permits / registrations statewide if over 3 million gallons in any month
- All registered and permitted surface water withdrawers report their annual water use to the Department

# 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 Plans

# 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 |

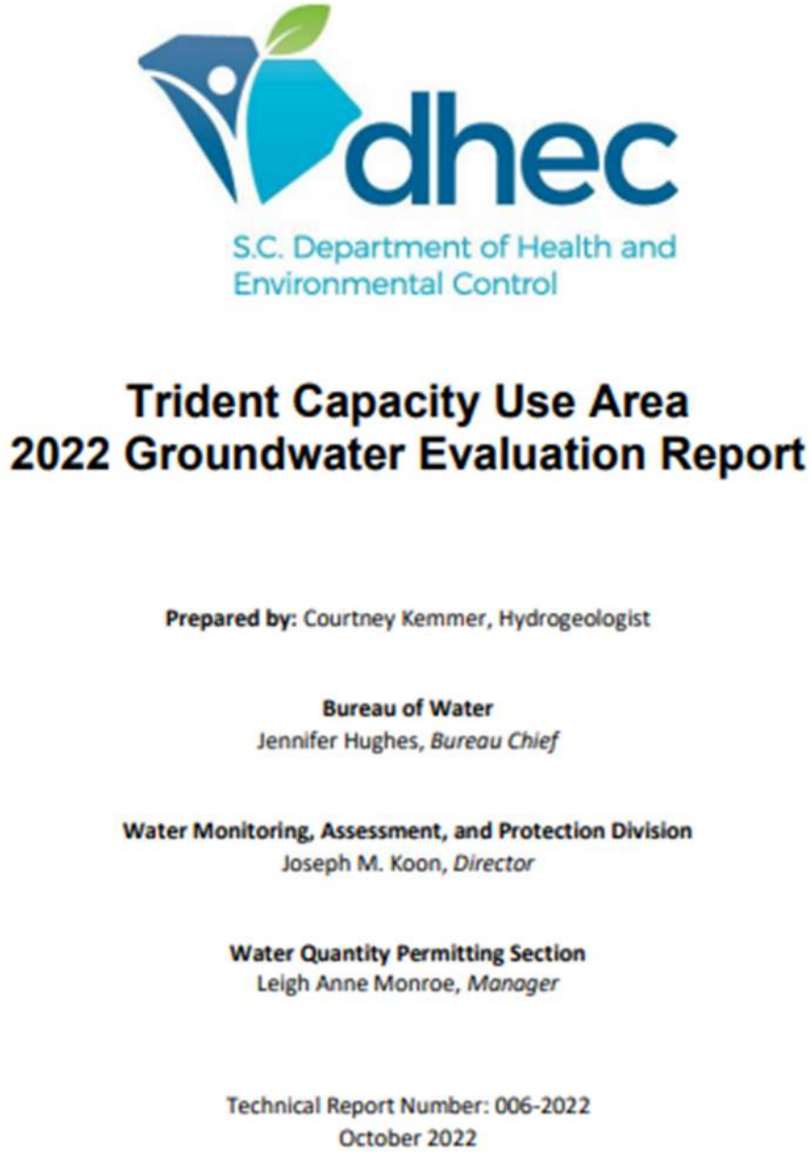
# Capacity Use Area Evaluations

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).



S.C. Department of Health and Environmental Control

**Trident Capacity Use Area**
**2022 Groundwater Evaluation Report**

**Prepared by:** Courtney Kemmer, Hydrogeologist

**Bureau of Water**
Jennifer Hughes, *Bureau Chief*

**Water Monitoring, Assessment, and Protection Division**
Joseph M. Koon, *Director*

**Water Quantity Permitting Section**
Leigh Anne Monroe, *Manager*

Technical Report Number: 006-2022
October 2022

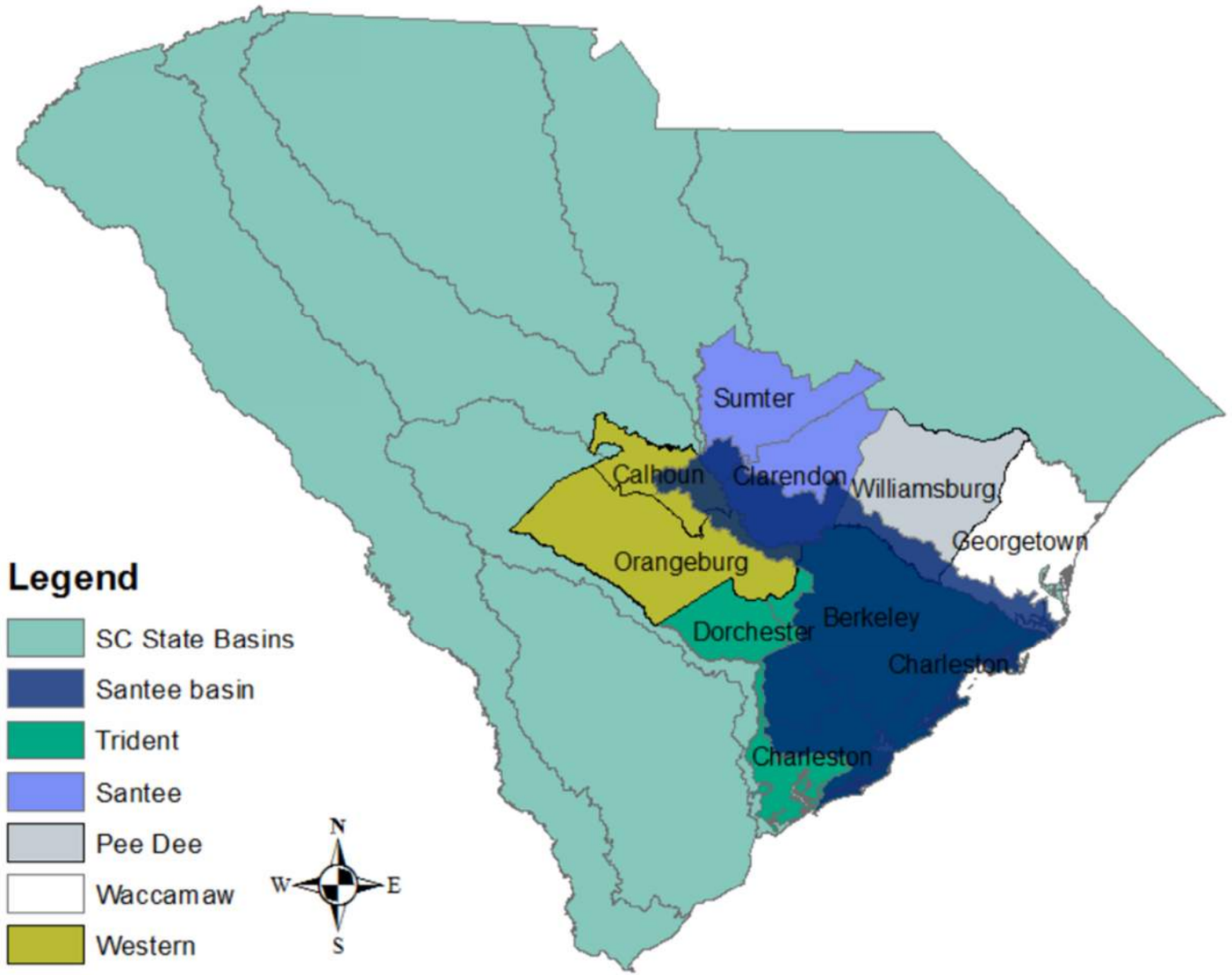
# Aspects of Water Use Addressed in Groundwater Management Plans:

- 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

# Groundwater Management Plans Across the Santee Basin

**Charleston, Dorchester, Berkley, Georgetown, Williamsburg, Clarendon Sumter, Orangeburg, and Calhoun counties**

SC DES


Sumter
Calhoun
Clarendon
Williamsburg
Georgetown
Orangeburg
Berkeley
Dorchester
Charleston
Charleston
Legend
SC State Basins
Santee basin
Trident
Santee
Pee Dee
Waccamaw
Western
N
W
E
S

# Table of Contents

# Groundwater Management Plan 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

# Groundwater Management Plan 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.

Strategy: Manage Through Regulation, Assessment, and Planning

Strategy: Establish a conservation educational plan for the general public and existing groundwater withdrawers.

# Current Groundwater Limitations:

## Trident CUA (Berkeley, Charleston, and Dorchester) Charleston and Gramling Aquifers Recommendations

- Staff evaluations of applications for withdrawal increases to existing permits and new permit applications should include a groundwater model assessment.
- Further groundwater pumping reductions in and around the central eastern Charleston County area pumping cone are needed to stabilize groundwater levels and to minimize the risk of saltwater intrusion and land subsidence in the region.
- Recommendation in place since 2018

# Current Groundwater Limitations:

## **Waccamaw CUA (Horry and Georgetown)** Crouch Branch Aquifer and McQueen Branch Aquifer Recommendations

- **No increases in groundwater withdrawal rates** should be allowed for existing wells in the Crouch Branch or McQueen Branch aquifers in the Waccamaw Area counties until the next 5-year review in 2029. At that time, the decision will be revisited based on updated water level data.
- **No new wells with increased withdrawal rates** should be approved for the Crouch Branch or McQueen Branch aquifers in the Waccamaw Area counties until the 2029 review, when the decision will be reassessed using new water level data.
- **New or renewed permit applications** requesting higher withdrawal rates from the Crouch Branch or McQueen Branch aquifers should instead use the Surficial, Charleston, or Gramling aquifers in Georgetown and Horry Counties, depending on the intended use.
- These recommendations have been in place since 2019.

# Current Groundwater Limitations:

## Western CUA (Aiken, Allendale, Bamberg, Barnwell, Calhoun, Lexington, and Orangeburg) Crouch Branch Aquifer and Middendorf Aquifer System Recommendations

- Staff evaluations of applications for withdrawal increases to existing permits and new groundwater withdrawal permits in areas of concentrated, high-capacity pumping may include a staff conducted groundwater model assessment to determine the potential for the development of pumping cones and potential interference on any neighboring wells.
- Applications for increased or new pumping in the Crouch Branch and McQueen Branch Aquifers in Calhoun and Orangeburg County may include a staff conducted model assessment.

# Current Groundwater Limitations:

## Pee Dee CUA (Darlington, Dillon, Florence, Marion, Marlboro, and Williamsburg) Crouch Branch Aquifer Recommendations

- New or modified Groundwater Withdrawal Permit Applications which propose to use the Crouch Branch aquifer in the in those areas of the Pee Dee Capacity Use area where the potentiometric surface has declined below Mean Sea Level should be diverted to the alternative aquifers when available as appropriate for the proposed use.
- Recommendation in place since 2020

SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

# Get in touch

**Ashley Pritchett**

Ashley.Pritchett@des.sc.gov

803-898-4220

des.sc.gov

@SouthCarolinaDES