



# Western Capacity Use Area Groundwater Management Plan: Phase 1

Lance Foxworth

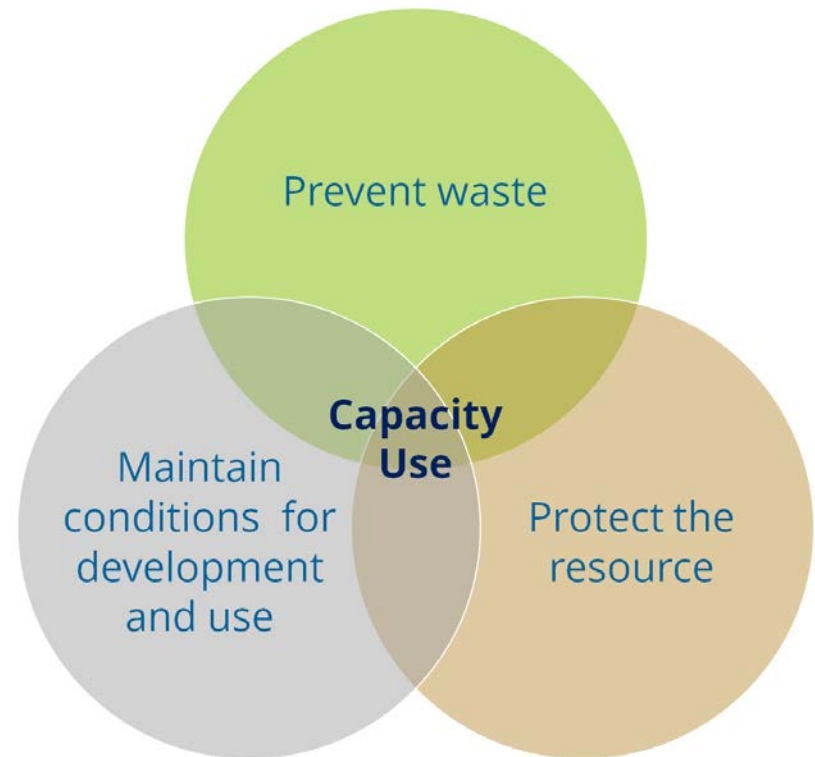
South Carolina Department of Health and Environmental Control  
Healthy People. **Healthy Communities.**

# Phase 1: Components

- **Phase 1:**
  - Executive Summary
  - Introduction
  - Definitions
  - Geo-Political Structure
  - Regional Description
- **Phase 2:**
  - Groundwater Level Trends
  - Current Groundwater Demand
  - Groundwater Demand Trends
- **Phase 3:**
  - Population, Growth, and Water Use Projections
  - Groundwater Management Strategy
  - Groundwater Management Plan Reports

# Executive Summary

- South Carolina's Groundwater Use and Reporting Act (Chapter 5, Section 49-5-60)
- Legislative Mandate and Authority to Establish GMP
- Regional Engagement
- Present and Future Needs



# Introduction

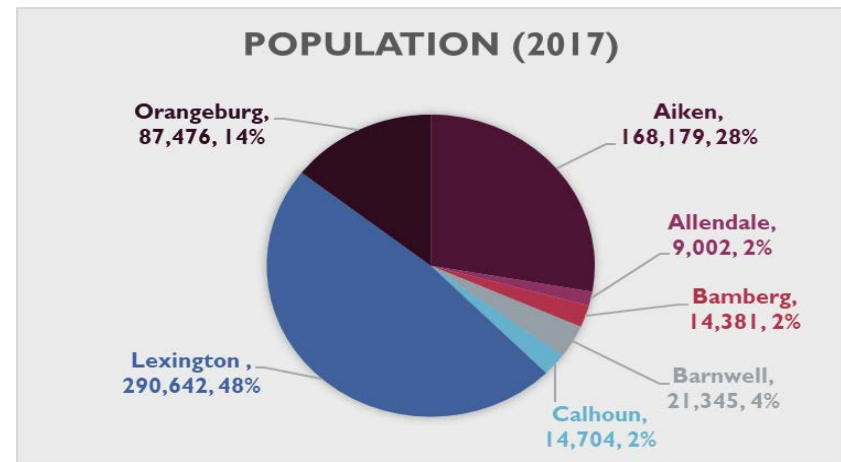
- **WCUA:** Aiken, Allendale, Bamberg, Barnwell, Calhoun, Lexington, and Orangeburg
- Management Strategies and Provide Direction
- General Goals:
  - Ensure sustainable development of the groundwater resource by management of groundwater withdrawals; and,
  - Monitoring of groundwater availability to evaluate conditions.
- **Current** groundwater sources utilized; water demand by type and amount used; aquifer storage and recovery and water reuse;
- **Projected** population and growth; water demand; opportunities for aquifer storage and recovery, as well as water reuse; groundwater and surface water options; and,
- Water conservation measures.
- Adaptive Management and Continuous Improvement

# Definitions

- **Adverse Effects:** Undesirable consequences of withdrawing groundwater that may include: changes in water quality, significant reduction in water level of the aquifer, saltwater intrusion, land subsidence, and decreases in stream flow.
- **Best Management Plan:** A document that supports the design, installation, maintenance, and management of water conveyance systems and/or water withdrawal systems (water supply, commercial, industrial, agricultural, etc.), which promotes water conservation, and protects water quality.
- **Groundwater Withdrawer:** Any person withdrawing groundwater at or in excess of three (3) million gallons during any one month from a single well or multiple wells within a one-mile radius of any existing or proposed well.
- **Groundwater User:** A person using groundwater for any purpose.
- **Person:** An individual, firm, partnership, association, public or private institution, municipality or political subdivision, local, state, or federal government agency, department, or instrumentality, public water system, or a private or public corporation organized under the laws of this State or any other state or county.
- **Reasonable Use:** The use of a specific amount of water without waste that is appropriate under efficient practices to accomplish the purpose for which the appropriation is lawfully made.
- **Sustainable Use:** Use of ground water in a manner that can be maintained for an indefinite time without causing unacceptable environmental, economic, or social consequences.

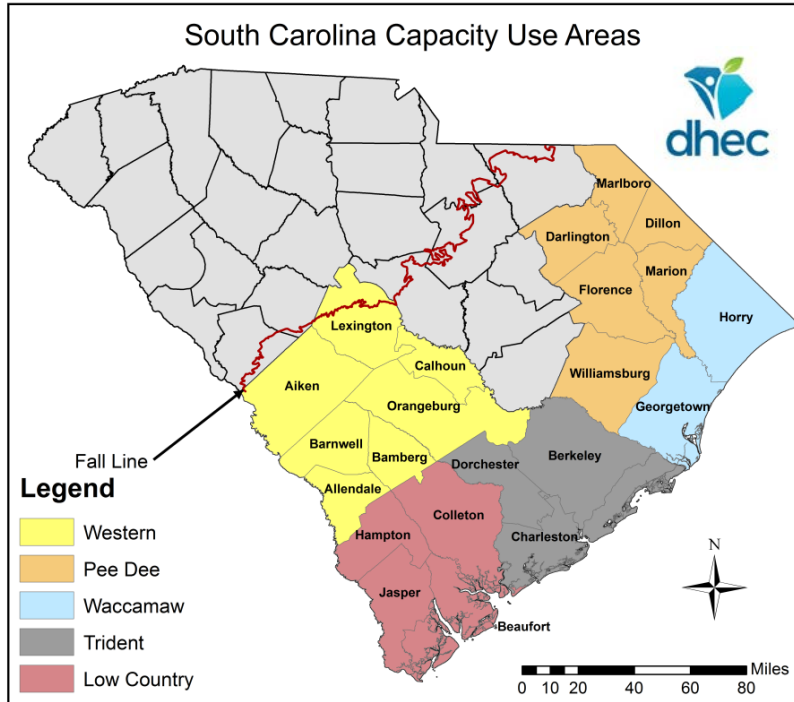
# Geopolitical Structure

- Two COGs in WCUA
  - “uniform geographical framework within which the planning, programming, and delivery of services by state, federal, and local government might be undertaken with maximum efficiency and effectiveness.”
  - LSCOG (39-member; 6-county)
  - CMCOG (53-member; 4-county)
    - Lexington (18-members)
- Population: 605,729 (2017)
- SCDHEC Has Permit Authority for All Withdrawals



- Forms of Government:
  - Council-Administrator: Aiken, Bamberg, Lexington, Orangeburg
  - Council: Allendale, Barnwell, Calhoun

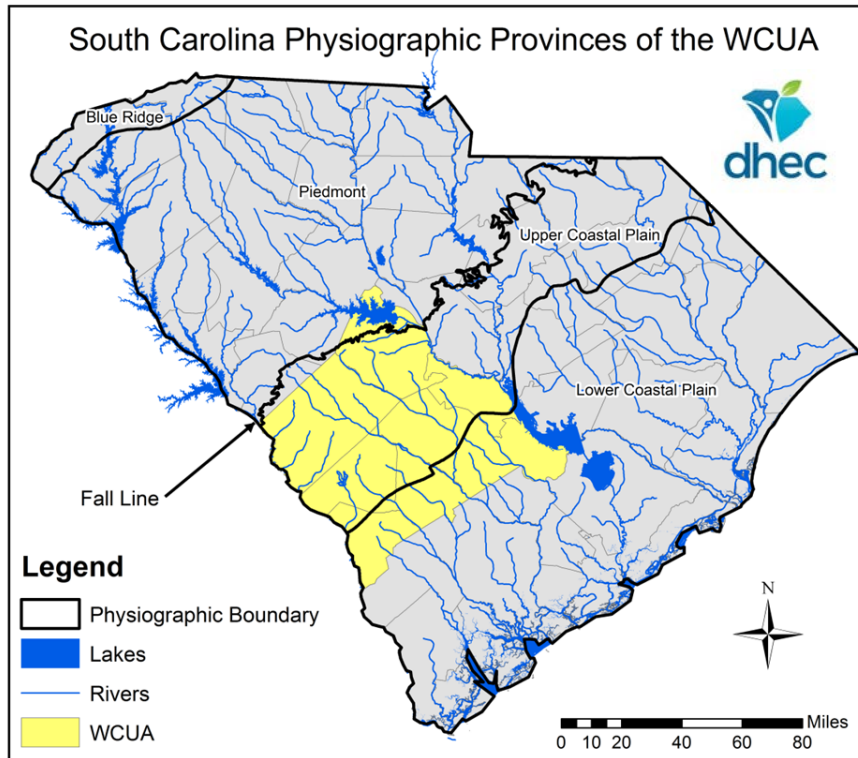
# Regional Description



- 7-County Area
- Southwestern South Carolina
- Total Area: 4,723 mi<sup>2</sup>
  - Surface Water Area: 117mi<sup>2</sup> (2.4%)
  - Largest County: Orangeburg (23.9%)
  - Smallest County: Calhoun (8.3%)
  - Largest SW Area: Lexington (50.4%)
  - Smallest SW Area: Bamberg (1.88%)
- **N-S:** 100.36 mi / **E-W:** 103.61 mi
- Surficial Regional Border Features



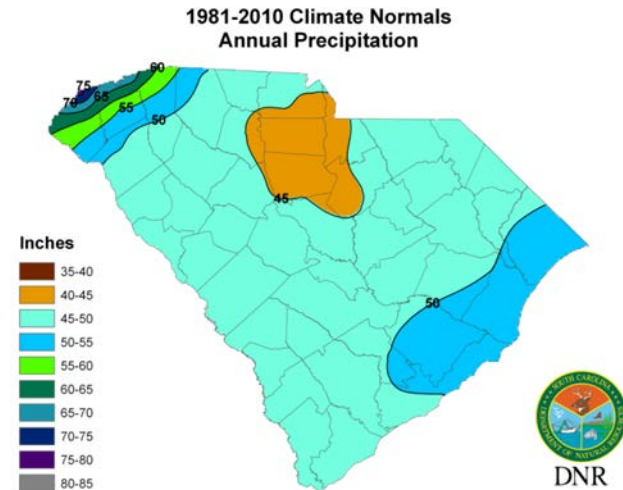
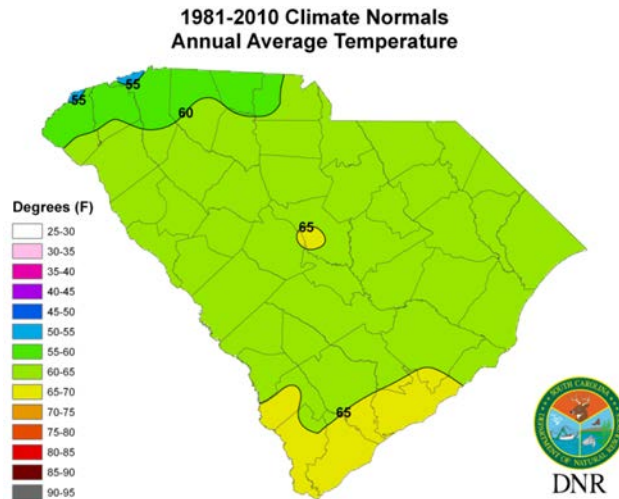
# Regional Description (cont.)



- 5/8 Major SC River Basins
  - Savannah, Edisto, Salkehatchie, Saluda, Santee
- Significant Rivers
- Largest Lakes (man-made)
  - Lake Murray
  - Lake Marion
  - Par Pond
- Elevation: 60-650 ft Above MSL
- Generalized Geology
  - Fall Line »»» Lower Coastal Plain



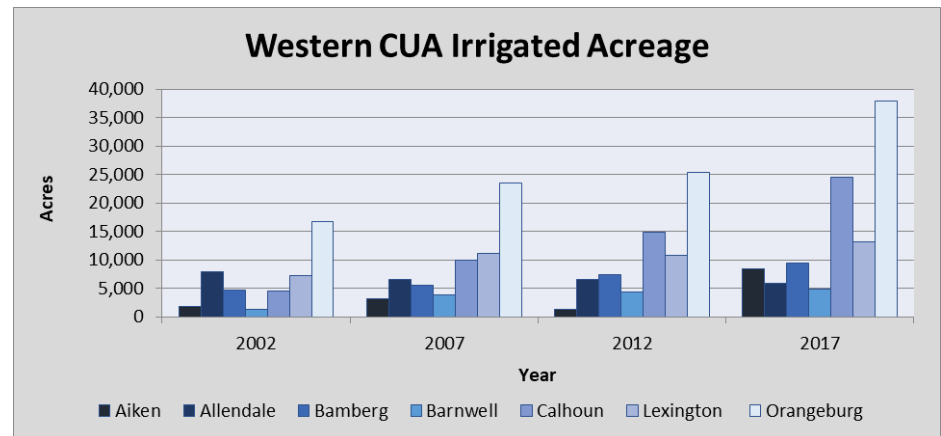
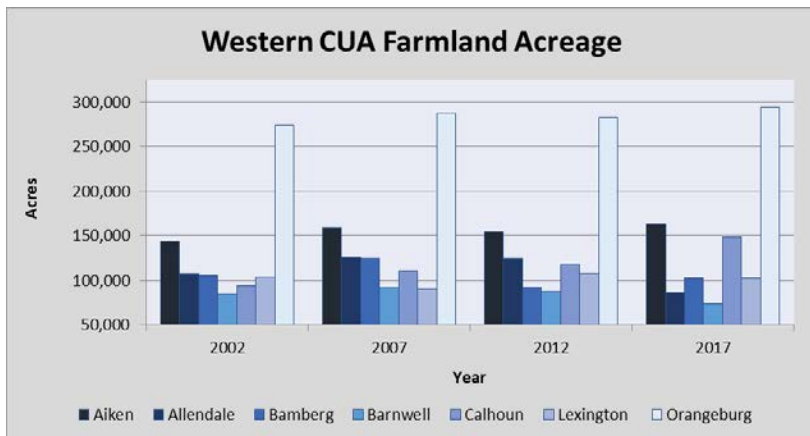
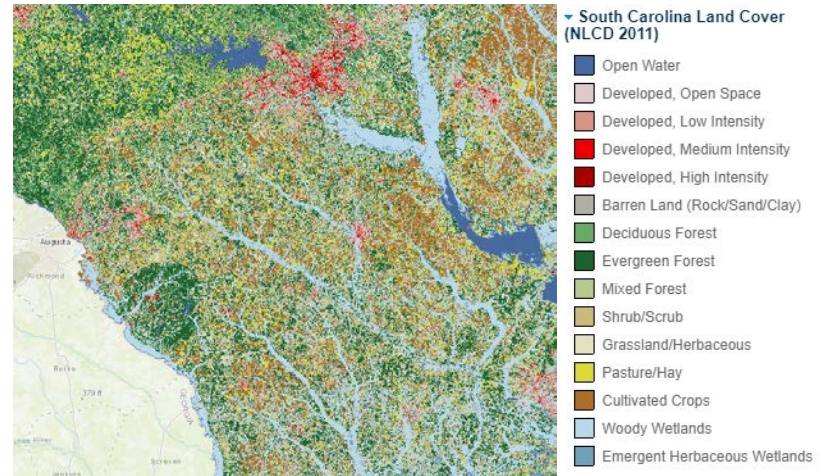
# Regional Description (cont.)



- Sub-Tropical Climate
- Warm Humid Summer
- Mild Winters
- Mountain/Ocean Influences
- Avg. Annual Temp.: 63.57°F
- Normal Max: 75.73°F
- Normal Min: 51.41°F
- Avg. Annual Precip.: 47.78 in

# Regional Description (cont.)

- Rural Region
- Scattered Urban
- Predominantly:
  - Forest, Wetlands, Farmlands
- One-Third of Region: Farmland
- Varied Growth by County (6.2%)
- Increased Irrigated Acres (134.7%)



# Questions?

Lance Foxworth  
Hydrogeologist  
Capacity Use Program  
(803)-898-4151  
foxworlm@dhec.sc.gov

## Stay Connected

---

