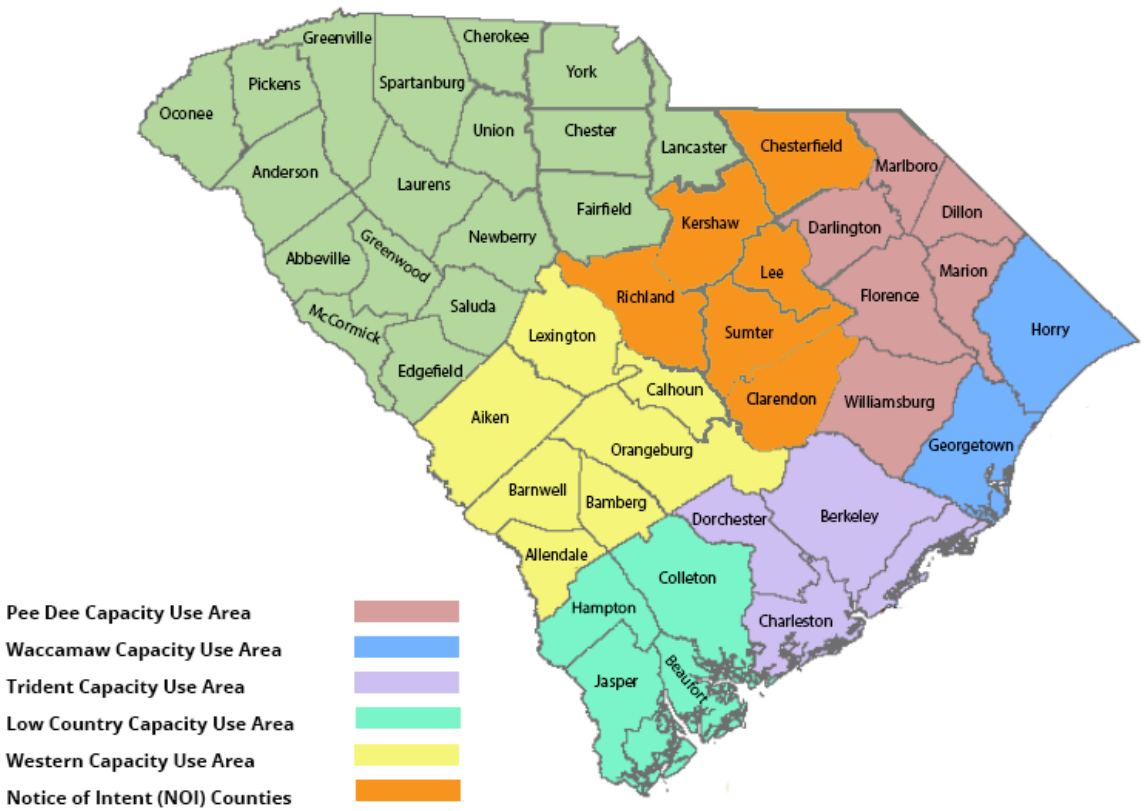
South Carolina Department of Health and Environmental Control

Groundwater Management Planning in the Western Capacity Use Area

Kristy Ellenberg

August 14, 2019

South Carolina Capacity Use Areas



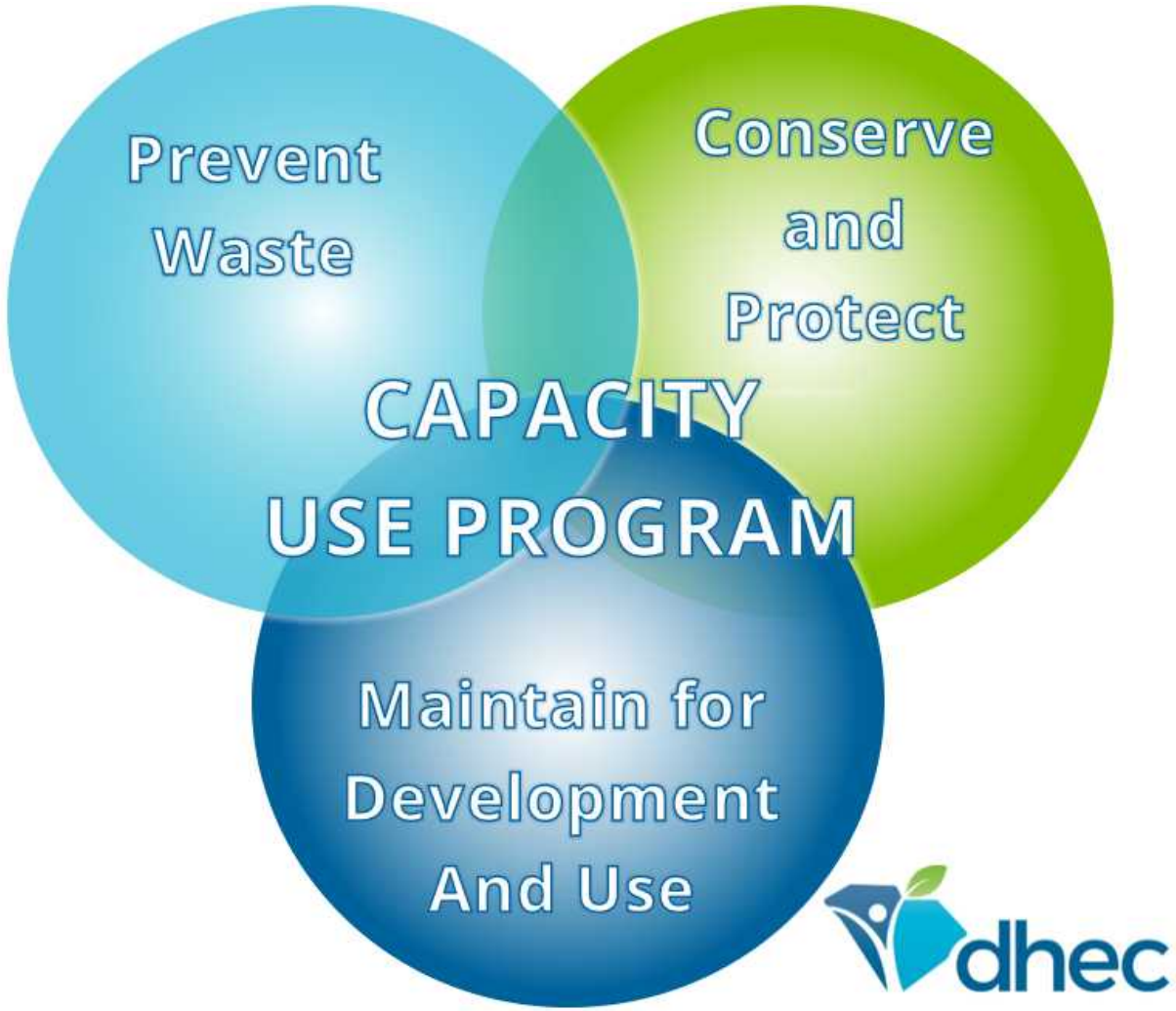
- Pee Dee Capacity Use Area
- Waccamaw Capacity Use Area
- Trident Capacity Use Area
- Low Country Capacity Use Area
- Western Capacity Use Area
- Notice of Intent (NOI) Counties
- Registration Counties

December 2018

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."

SC Code §49-5-20


Prevent Waste
Conserve and Protect
CAPACITY USE PROGRAM
Maintain for Development And Use
dhec

Groundwater Permitting

Groundwater withdrawal permits are required to ***withdraw and use groundwater equal to or greater than three million gallons in any month*** in the counties in these areas.

- Public Water Supply
- Industry
- Irrigation
- Golf Course
- Mining
- Thermo Power

The Need for a Groundwater Management Plan

- 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 Section 49-5-20.
- 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.
- The plan must be approved by the board before the department may issue groundwater withdrawal permits for the area.

SC Code §49-5-60 (B)

South Carolina Department of Health and Environmental Control

November 2018	January & February 2019	March—July 2019	August 2019	September 2019	*November 2019	Post-Plan Approval
DHEC Board Designation of Western Capacity Use Area	Outreach & Information Sharing	Stakeholder Planning Workgroup Convened	Draft Plan Update & Discussions	Draft Plan Finalized & Published	Proposed DHEC Board Review of Plan	Implement Program & Permitting Consistent with the Plan
	Opportunity for Comments				*Public Hearing*	

Groundwater Management Plan Stakeholder Workgroup

- 20 Members
- Balanced representation of groundwater users & stakeholders
- Geographic representation
- Different expertise & perspectives
- Connect to broader stakeholder groups

WCUA Stakeholders Workgroup

- **Becky Ashley**
  - Dominion Energy, Orangeburg County
- **Laura Bagwell**
  - Aiken County Soil & Water Conservation District
- **Peter De Lorme**
  - Citizen, Aiken County
- **Mark Forrester**
  - Gilbert Summit Rural Water District, Lexington County
- **Dean Hutto**
  - Hutto Brothers Partnership, Orangeburg County
- **Hogan Kaney**
  - Supersod, Orangeburg County
- **Hugo Krispyn**
  - Friends of the Edisto/Edisto Riverkeeper, Bamberg County
- **Jeff Lowe**
  - Breezy Hill Water & Sewer Co., Inc., Aiken County
- **Will Martin**
  - Bamberg County Public Works, Bamberg County
- **Ted Millings**
  - Savannah River Site, Barnwell County

WCUA Stakeholders Workgroup

- **Jacob Oswald**
  - AIS, LLC & JCO Farms, Allendale County
- **Nick Rubin**
  - SC Rural Water Association, Statewide
- **Calvin Sawyer**
  - Clemson University, Statewide
- **Tripp Sikes**
  - Town of St. Matthews, Calhoun County
- **Mike Swearingen**
  - Groundwater Association, Statewide
- **Alex Tolbert**
  - Carolina Golf Course Superintendents Association, Orangeburg Country Club
- **Richard Tyner**
  - Archroma, Allendale
- **Andy Wachob**
  - SC Department of Natural Resources, Statewide
- **Jeremy Walther**
  - Walther Farms, Aiken & Barnwell Counties
- **Lawrence L. “Landy” Weathers**
  - Circle W Farms & Weathers Farms, Calhoun County

Tonight's Meeting

- Review key elements of the draft Groundwater Management Plan for the Western Capacity Use Area
- Update on the process and timeline
- Provide an opportunity for questions and discussions
- Share how to continue to provide comment

South Carolina Department of Health and Environmental Control

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	Opportunity for Comments				*Public Hearing*	

Groundwater Capacity Use Areas - Western South Carolina

Open House - Western Capacity Use Area Groundwater Management Plan

August 14, 2019 - 6:00 pm

Clemson Edisto Research and Education Center

(64 Research Street | Blackville, SC 29817)

DHEC's Bureau of Water (BOW) will host an Open House for stakeholders, interested persons, and for the general public within the newly designated Western Capacity Use Area (WCUA) regarding the development of the seven-county area's Groundwater Management Plan (GMP).

The Western Capacity Use Area

On November 8, 2018, the South Carolina Department of Health and Environmental Control Board, as established in Section 49-5-60, approved the designation of all of Aiken, Allendale, Bamberg, Barnwell, Calhoun, Lexington and Orangeburg Counties as the Western Capacity Use Area.

Share This Resource

Downloads & Links

Groundwater Withdrawals Overview

Groundwater Management Planning

What Are Capacity Use Areas?

Process & Plan Development

Visit www.scdhec.gov/westerncapacityuse

Additional Resources

- A Preliminary Assessment of the Groundwater Conditions in Aiken, Allendale, Bamberg, Barnwell, Calhoun, Lexington, and Orangeburg Counties, South Carolina
- March 21, 2019 - Stakeholder Workgroup Meeting Minutes
- March 21, 2019 - Groundwater Management Plan Development Presentation
- March 21, 2019 - Planning Process Presentation
- April 18, 2019 - Stakeholder Workgroup Meeting Minutes
- April 18, 2019 - WCUA GMP Phase 1 Draft Presentation
- May 16, 2019 - Stakeholder Workgroup Meeting Minutes
- May 16, 2019 - WCUA GMP Phase 2 Draft Presentation
- June 20, 2019 - Stakeholder Workgroup Meeting Minutes
- July 18, 2019 - Stakeholder Workgroup Meeting Minutes
- Open House - DRAFT WCUA Groundwater Management Plan

Visit www.scdhec.gov/westerncapacityuse

• The Groundwater Management Plan

The Groundwater Use and Reporting Act requires that a Groundwater Management Plan be developed for each designated Capacity Use Areas to achieve the goals and objectives of conserving and protecting the resources, preventing waste, and providing and maintaining conditions which are conducive to the development and use of water resources.

DHEC convened the first in a series of Groundwater Management Plan Stakeholder Workgroup meetings on March 21, 2019. Workgroup members from the seven county area and state resources represent various groundwater users, academia, government agencies and non-profit organizations. The workgroup is charged with providing input in developing a groundwater management plan for the Western Capacity Use Area. Meetings will continue over a six month period and information from these meetings is included in the resources below.

Throughout this process, members of the public may ask to receive information and/or share public comments by filling out the form here. When a draft Groundwater Management Plan is available, a public meeting will be scheduled to discuss the plan and seek further input. The plan must be approved by the DHEC Board. A formal public hearing would be included in the board meeting to allow for further comments at that time.

Once an approved plan is adopted, it will not address any specific permits, yet it will guide the initial groundwater management strategy and provide direction for future groundwater management goals.

Visit www.scdhec.gov/westerncapacityuse

South Carolina Department of Health and Environmental Control

Phase I: Introductory Western Capacity Use Area Information

Lance Foxworth

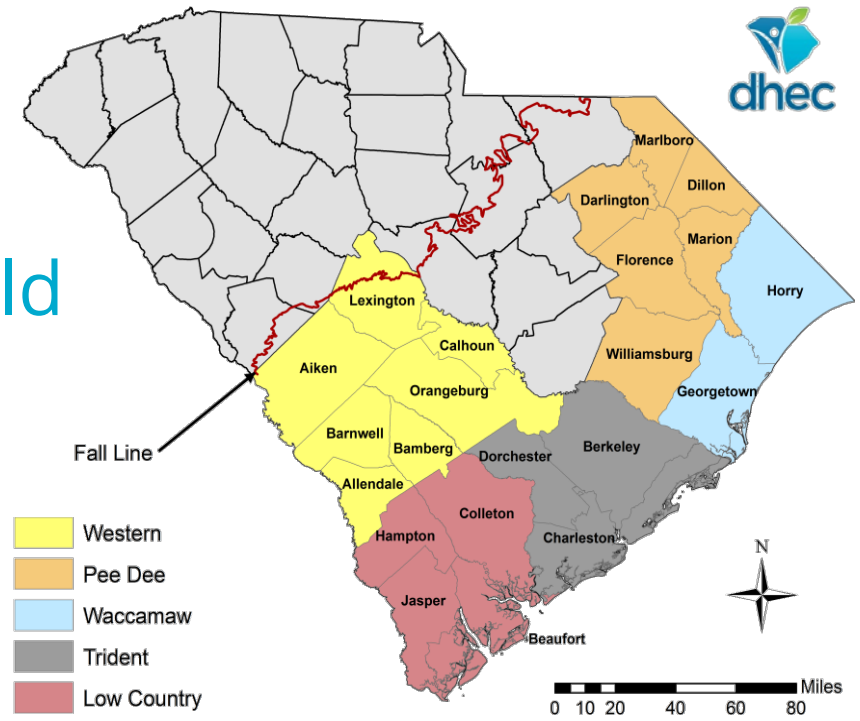
August 14, 2019

Executive Summary

- "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." *SC Code §49-5-20*
- Acknowledges variations in the State in social and economic requirements, aquifers, hydrogeologic setting, local needs/interests, and regional characteristics.
- Differences inform the plan and DHEC coordinates with local stakeholders to achieve the stated goals.
- Key guiding principle: Sustainable Use

Introduction

- 5th Capacity Use Area
- 3 million gallons per month threshold
- GMP guides strategies and evaluations (adaptive approach)
- 3 General Goals:



1. Ensure sustainable use of the groundwater resource by management of groundwater withdrawals;
2. Monitor groundwater conditions to evaluate availability; and
3. Promote educational awareness of the resource and its conservation.

Introduction (Cont.)

- 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.

- First Plan; Updates to come as data are developed
- No quantitative thresholds (triggers) in the GMP

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

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

Stakeholder Workgroup: the SC DHEC designated committee, diverse in geographic and type-use representation, maintained as an advisory and collaborative partner concerning groundwater permitting, planning, education, and evaluation of the WCUA

Definitions (Cont.)

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 adverse environmental, economic, or social consequences

Water Use Type	General Reasonable Use Guidelines
Aquaculture (AQ)	• Size of operation (acreage) • Depth of holding ponds, lagoons, or lakes • Refill rates
Golf Course (GC)	• Based on current systematic and industry based standards • Application rates • Acreage irrigated • Duration of irrigation
Industry (IN)	• Based on current systematic and industry based standards • Variability based on size and type of industry
Irrigation (IR)	• Based on current systematic and industry based standards • Crop type • Irrigation method • Acreage irrigated • Duration of irrigation • Stress period buffering
Mining (MI)	• Based on current systematic and industry based standards • Variability based on size and type of industry
Hydro Power (PH)	• N/A
Thermo Power (PT)	• Based on current systematic and industry based standards • Availability of alternative water sources
Nuclear Power (PN)	• Based on current systematic and industry based standards
Water Supply (WS)	• Based on current systematic and industry based standards • Population served • Per capita use
Other (OT)	• Variability based on size and type of industry

Geo-Political Structure

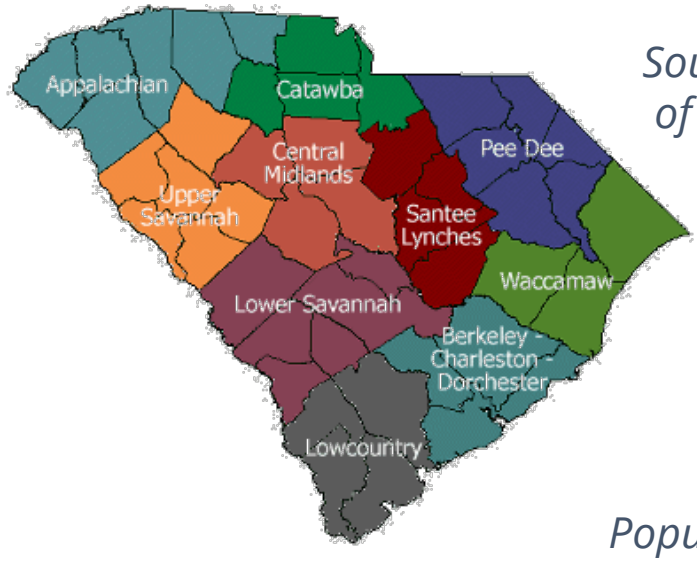
Lower Savannah COG: Aiken, Allendale, Bamberg, Barnwell, Calhoun, Orangeburg

Central Midlands COG: Fairfield, *Lexington, Newberry, Richland

Council-Administrator: Aiken, Bamberg, Lexington, Orangeburg

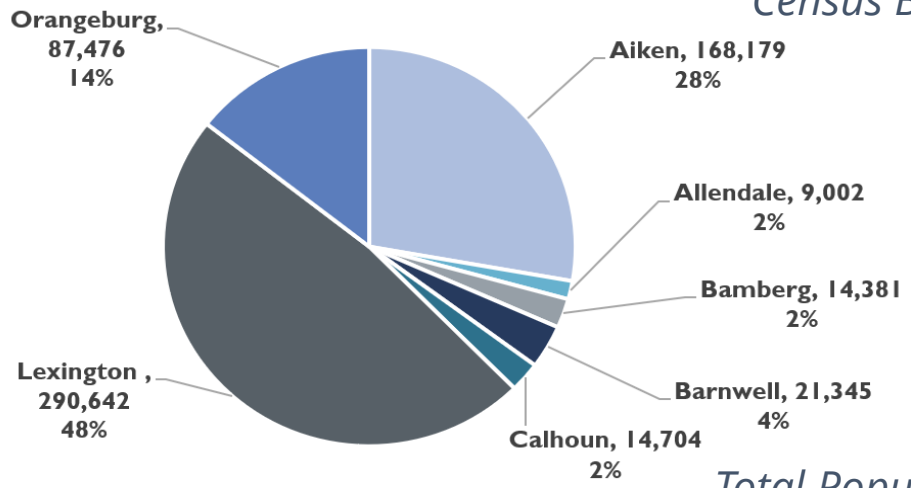
Council: Allendale, Barnwell, Calhoun

SC DHEC has final permit authority for all groundwater withdrawals in the WCUA



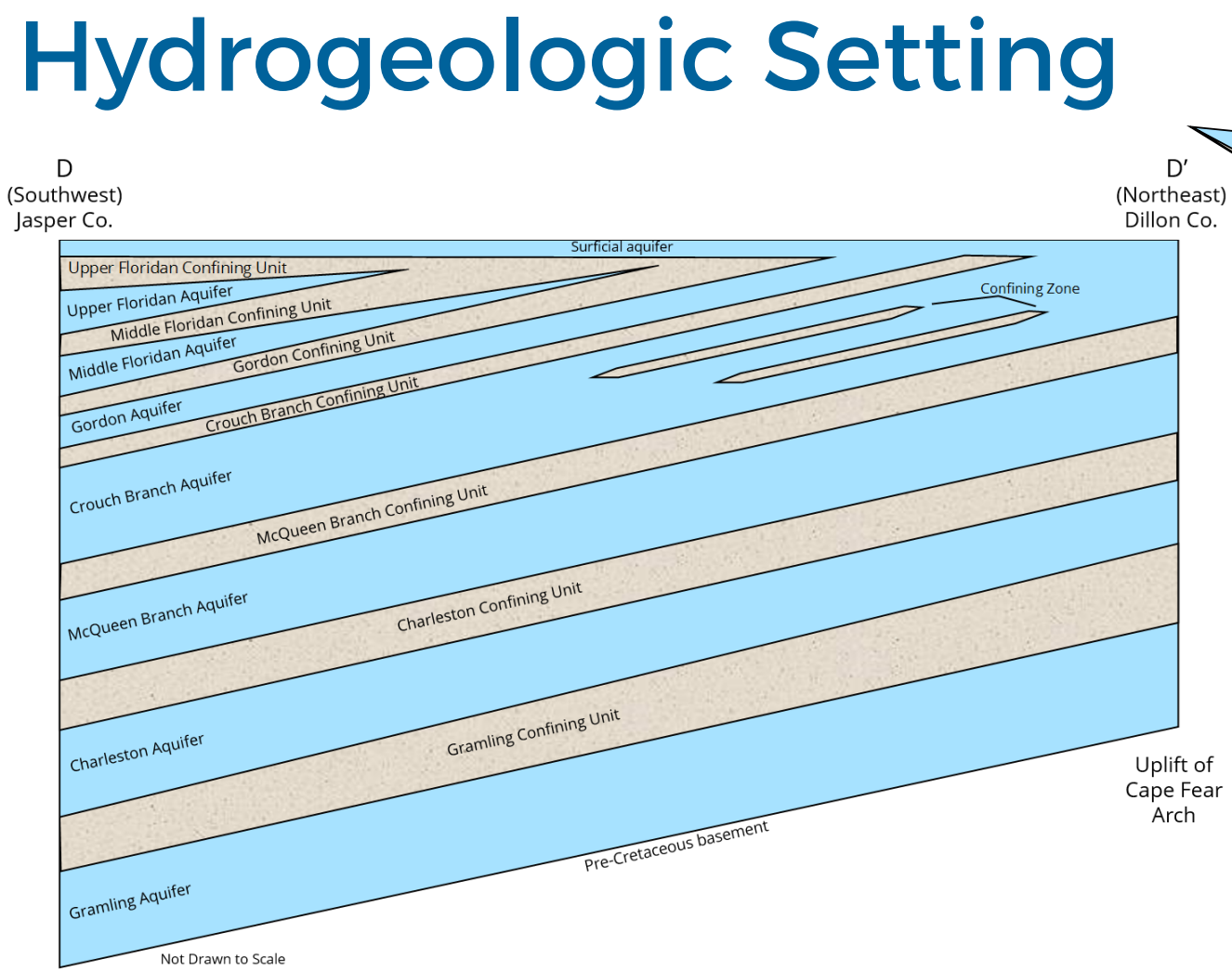
South Carolina Council of Governments (COG)

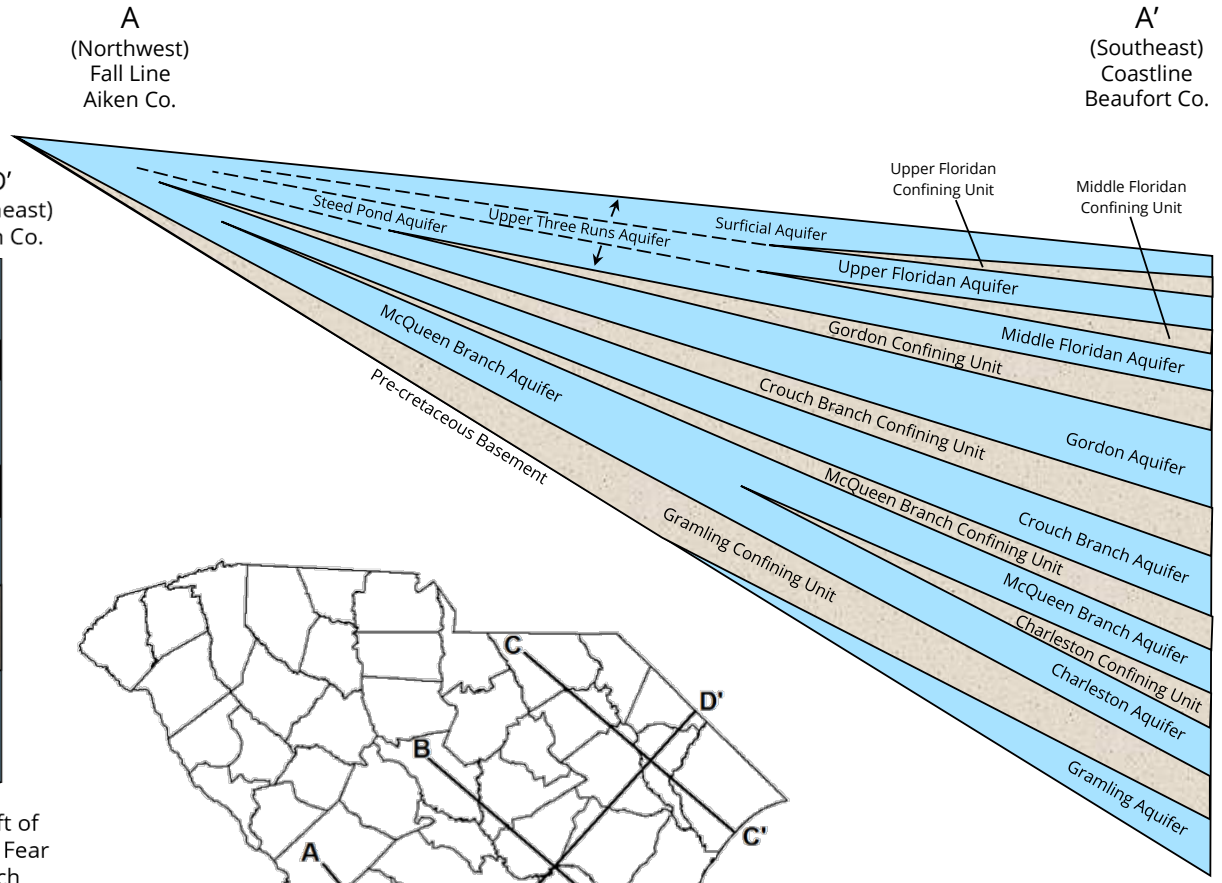
Population by County (U.S. Census Bureau, 2017)

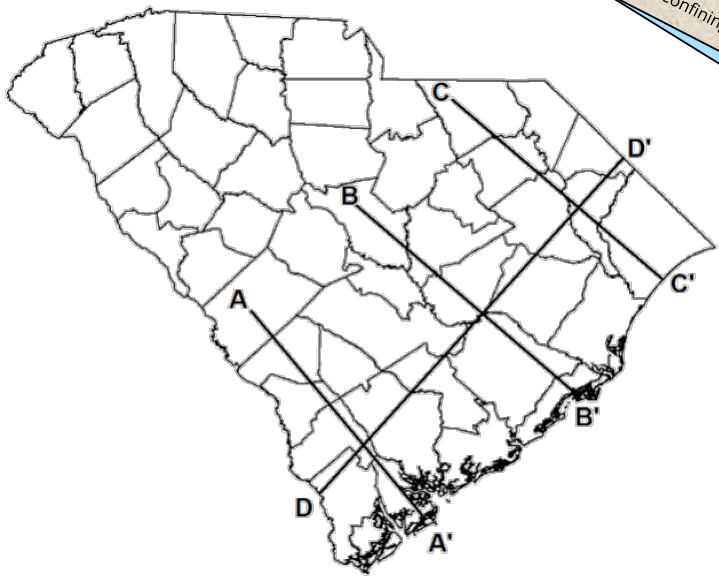


Total Population: 605,729

Hydrogeologic Setting







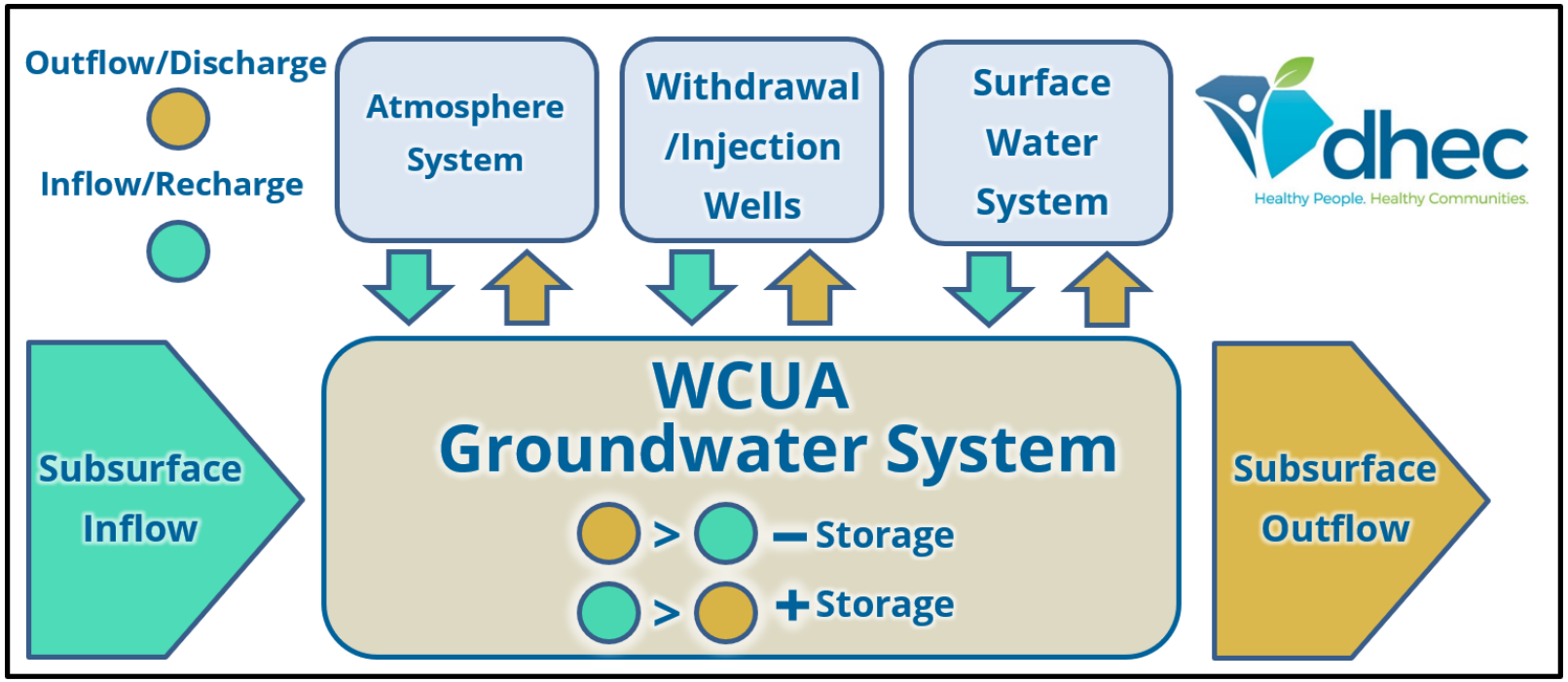
Water Budget

Inflow Examples:

- Precipitation
- N.C. Rivers
- Septic Fields

Outflow Examples:

- Rivers to Ocean
- Evapotranspiration
- Natural Springs



Inflow – Outflow = Change in Water Storage

***A water budget is a valuable tool; however, cannot be applied to individual permit decisions**

Regional Description

7 Counties

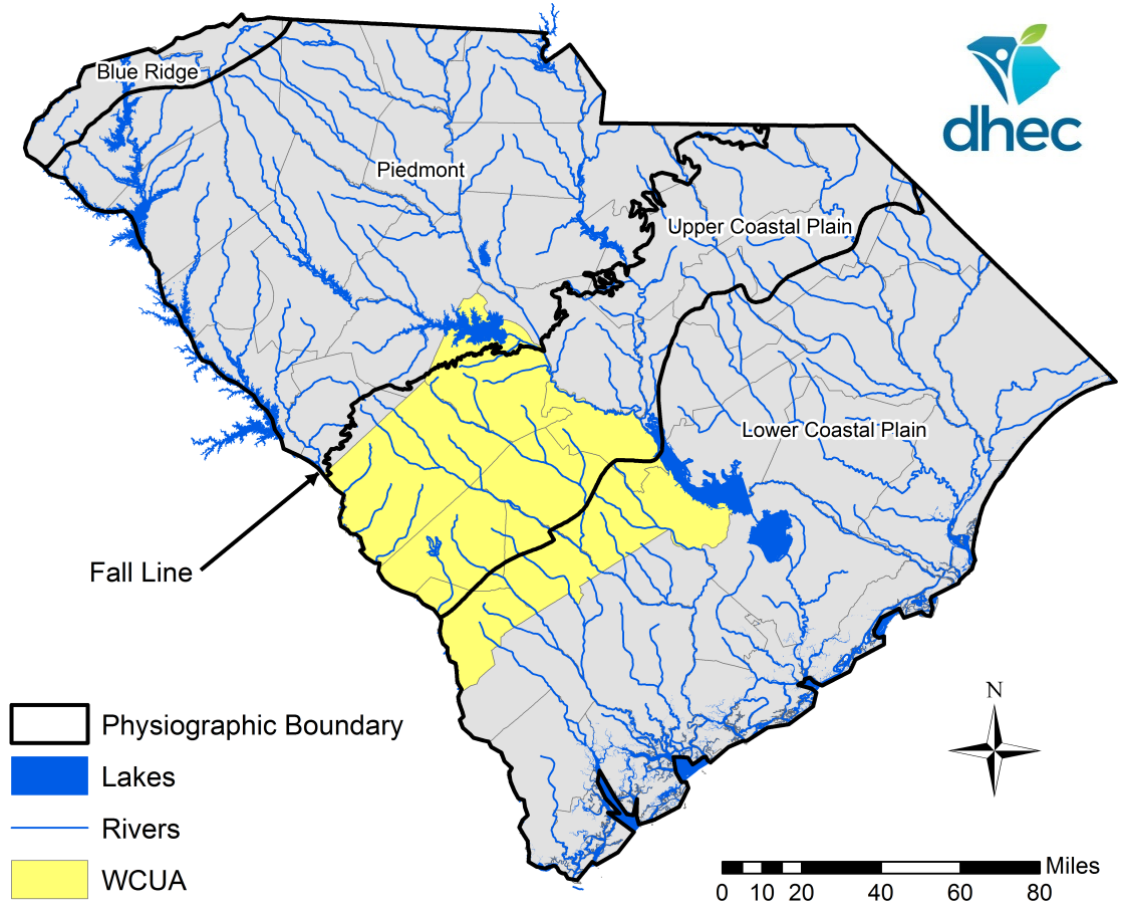
4,723 mi² Total Area

- Orangeburg ¼ of Total Area

117 mi² Surface Water

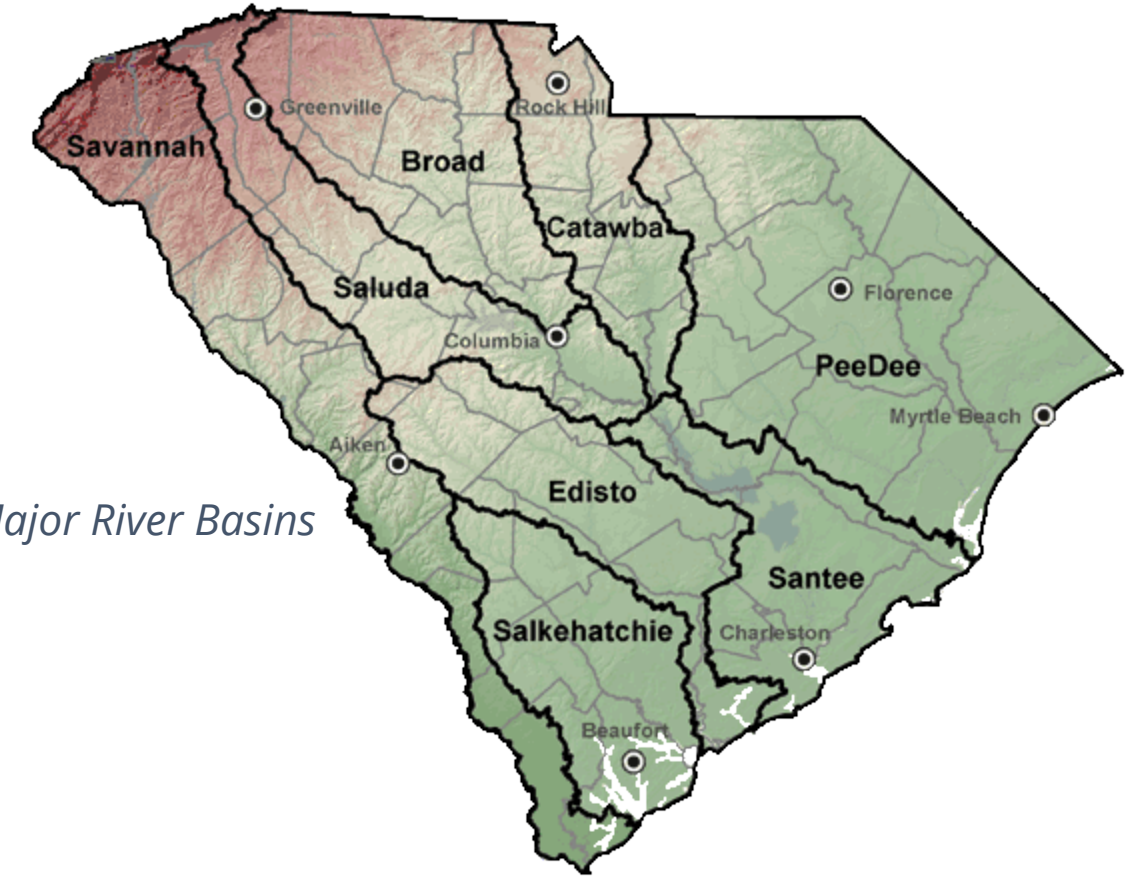
- (59 mi² in Lexington alone, Lake Murray)

Physiographic Features Bound WCUA

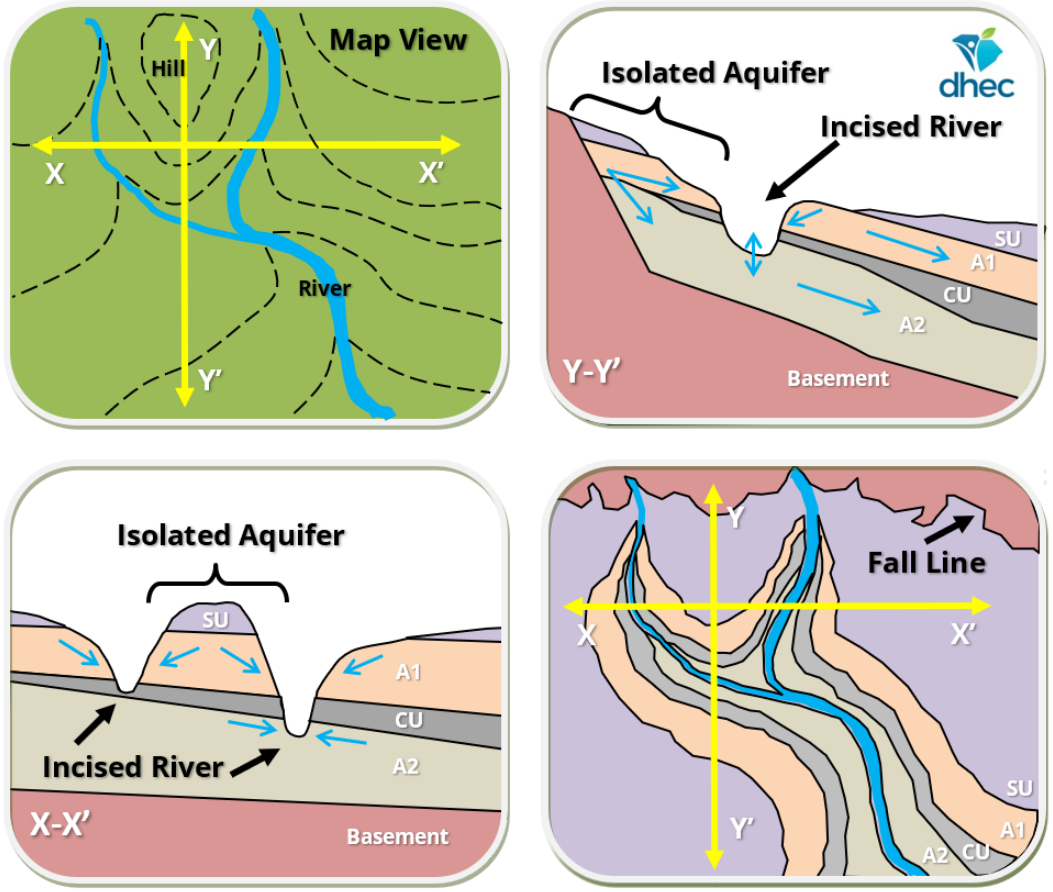


Physiographic Provinces of South Carolina and Major Water Bodies

Regional Description (Cont.)

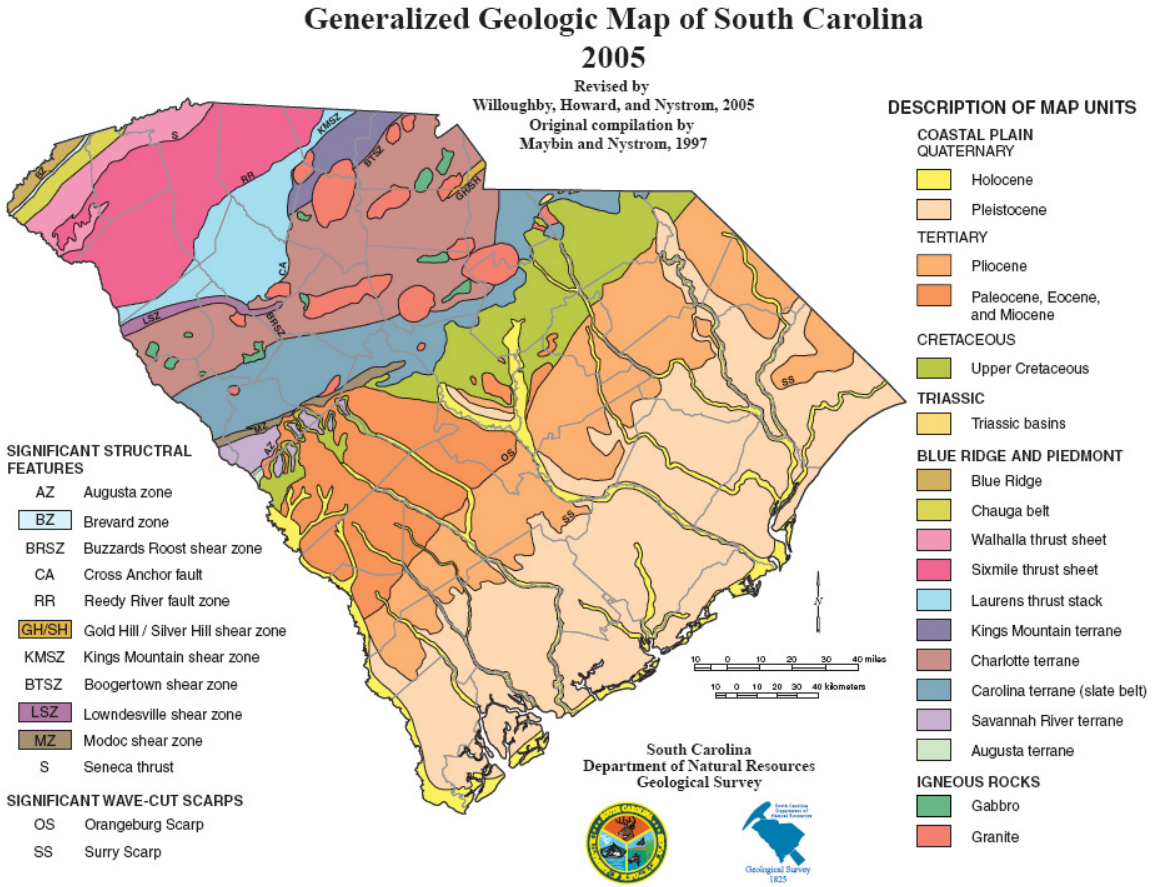


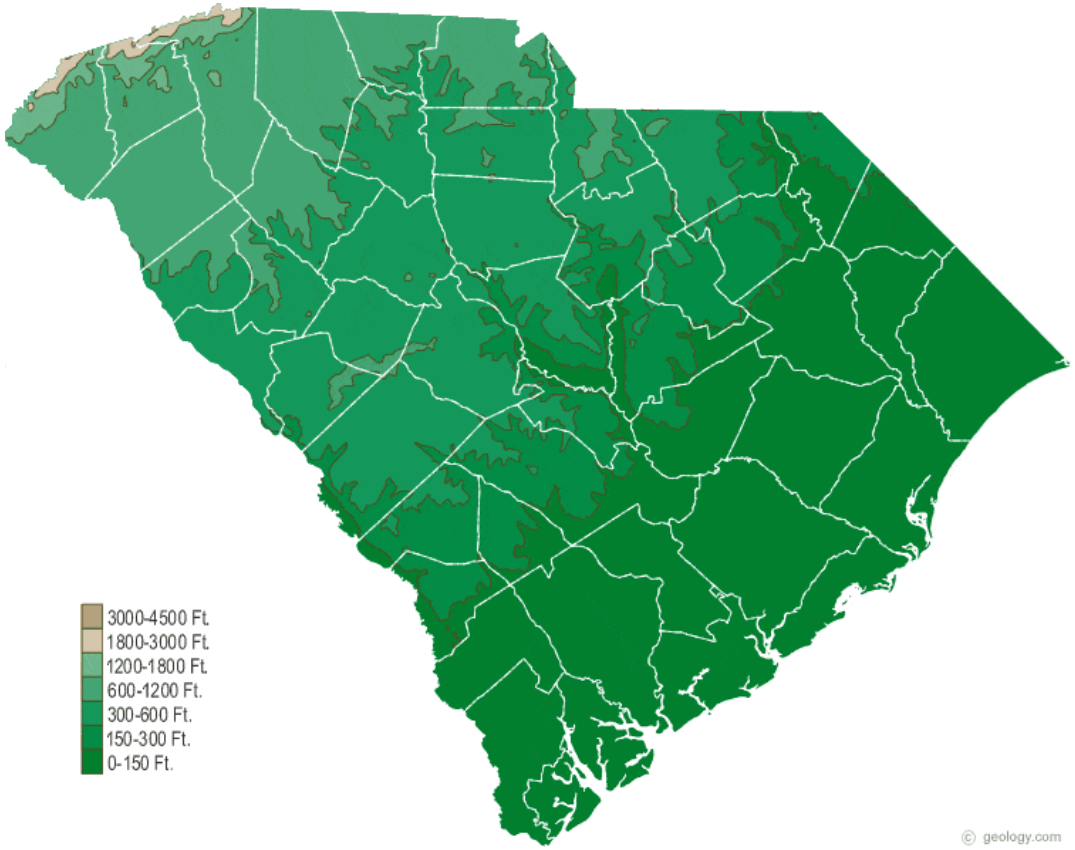
SC Major River Basins



Incising Rivers Isolate Aquifer Units

Regional Description (Cont.)





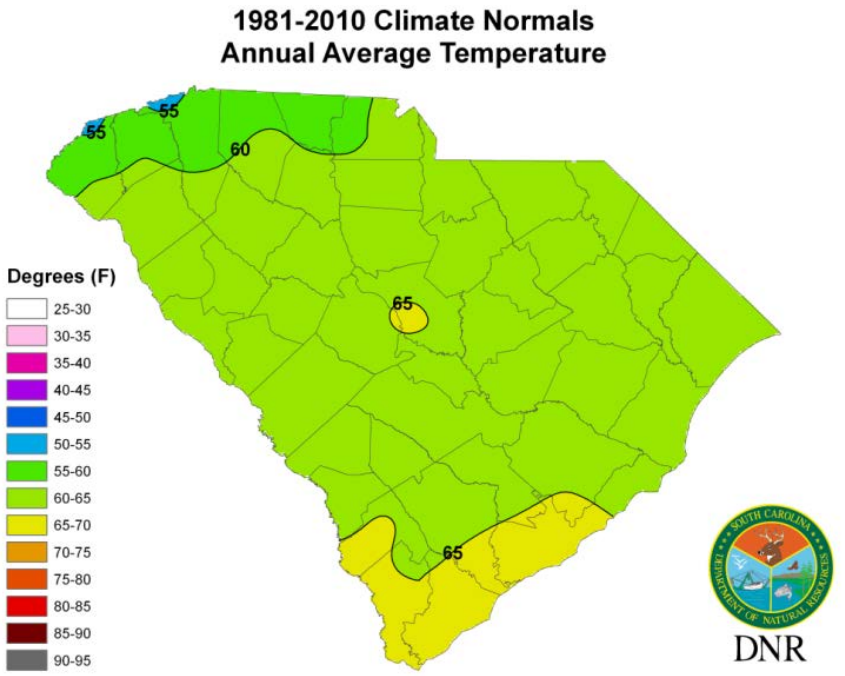
Regional Description (Cont.)

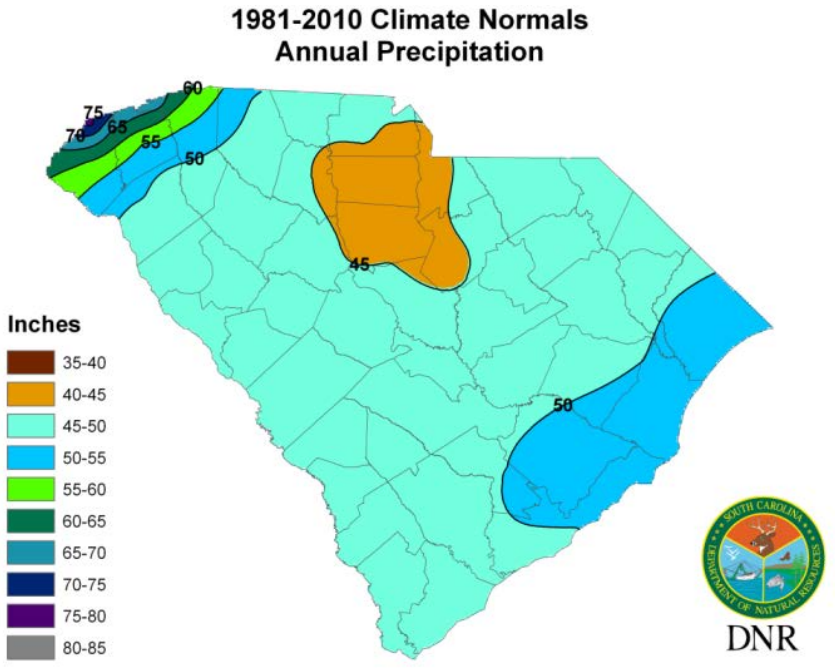
WCUA Avg Annual Temperature: 63.57F

Normal Max: 75.73F

Normal Min: 51.41F

WCUA Avg Annual Precipitation: 47.78 in

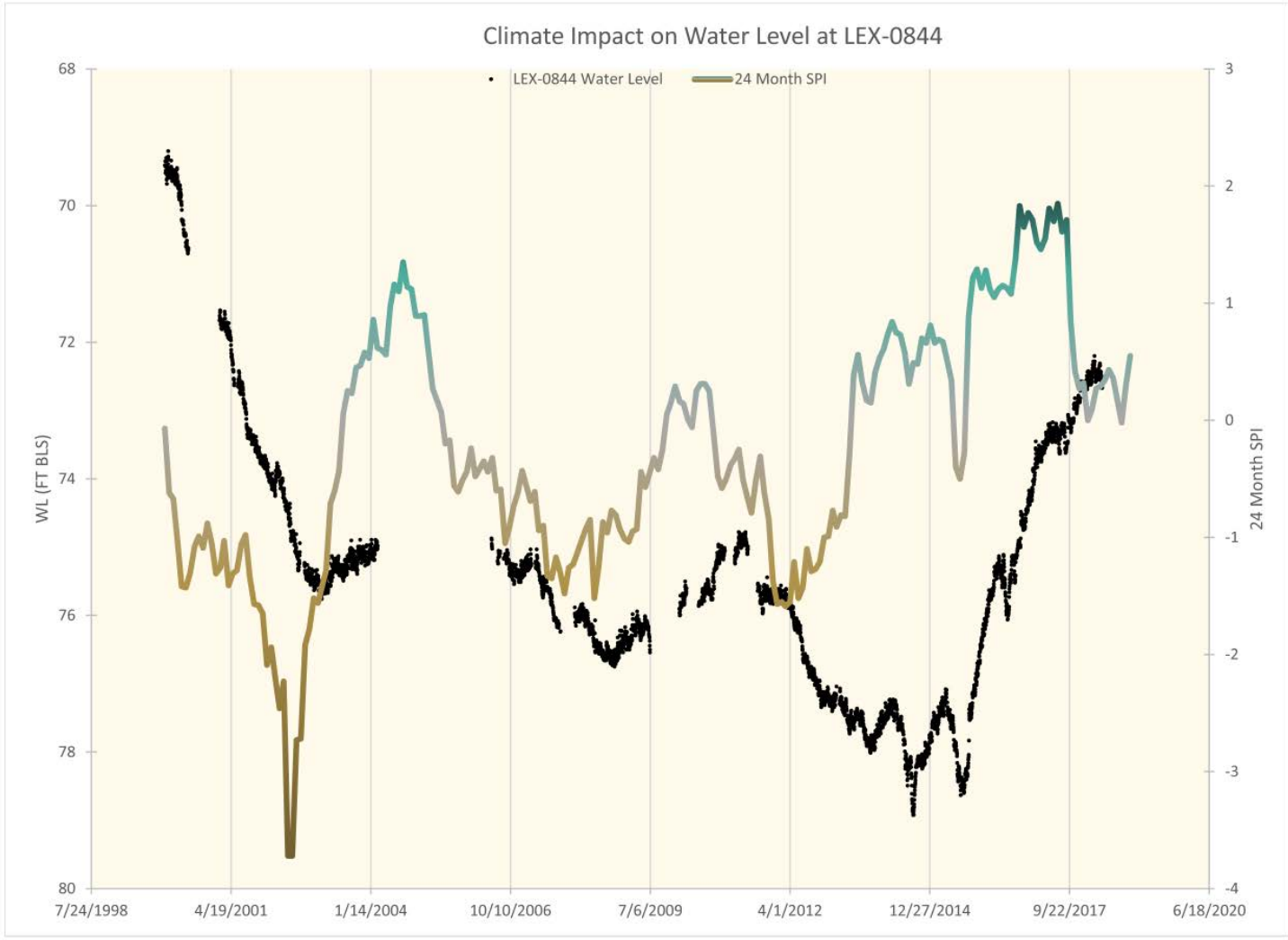




Regional Description (Cont.)

Climate Impacts Water Levels in our Aquifers

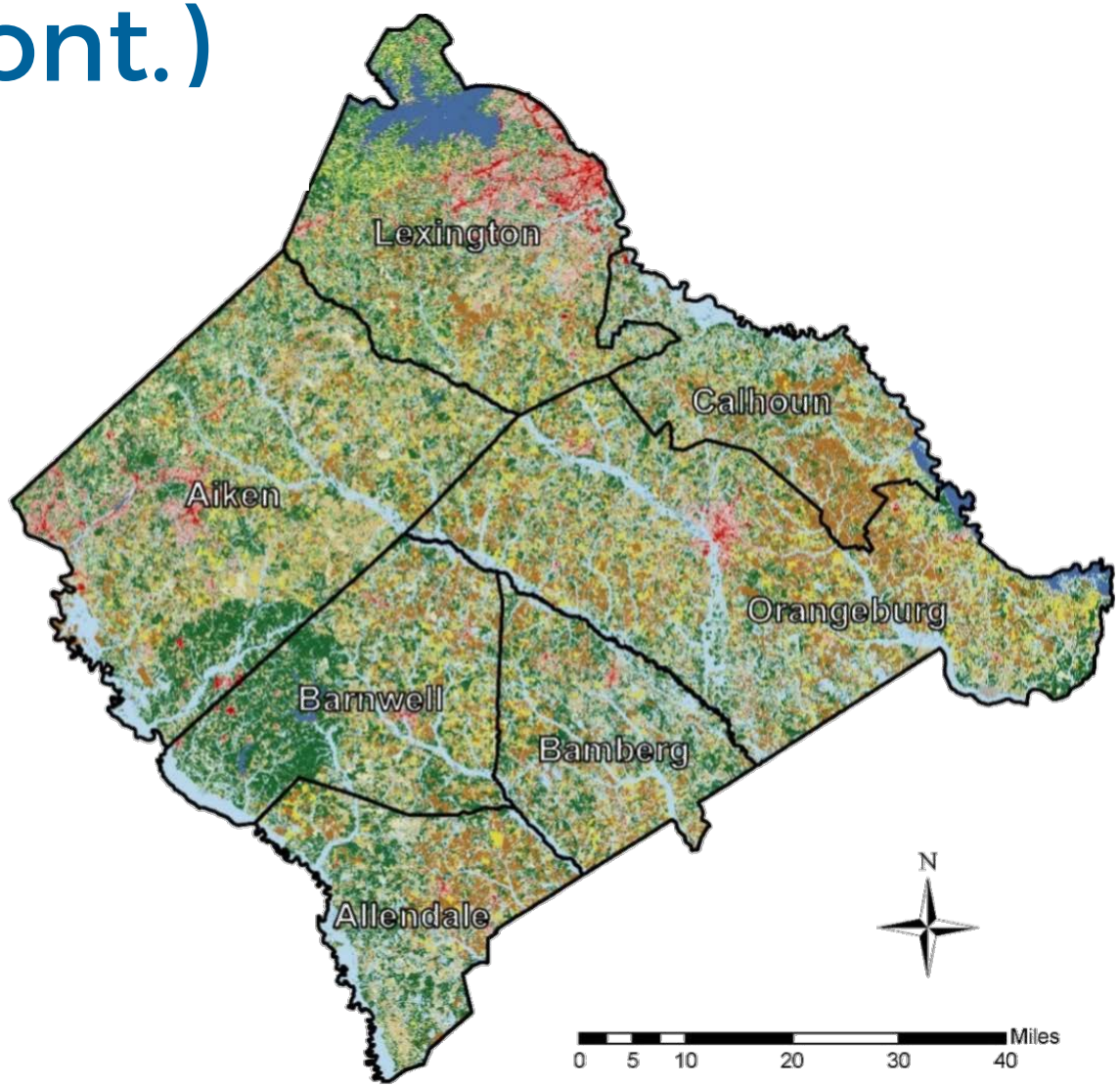
Aquifers Closest to Surface are More Greatly Affected



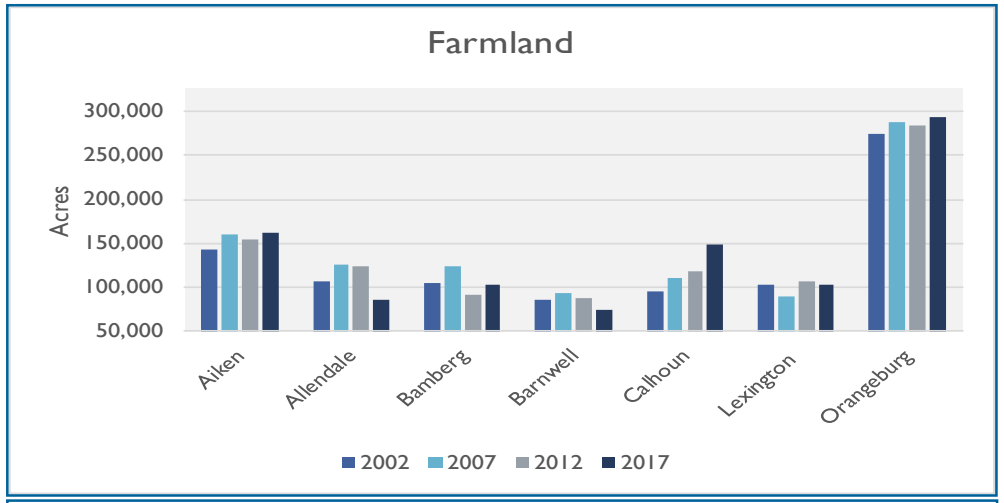
Regional Description (Cont.)

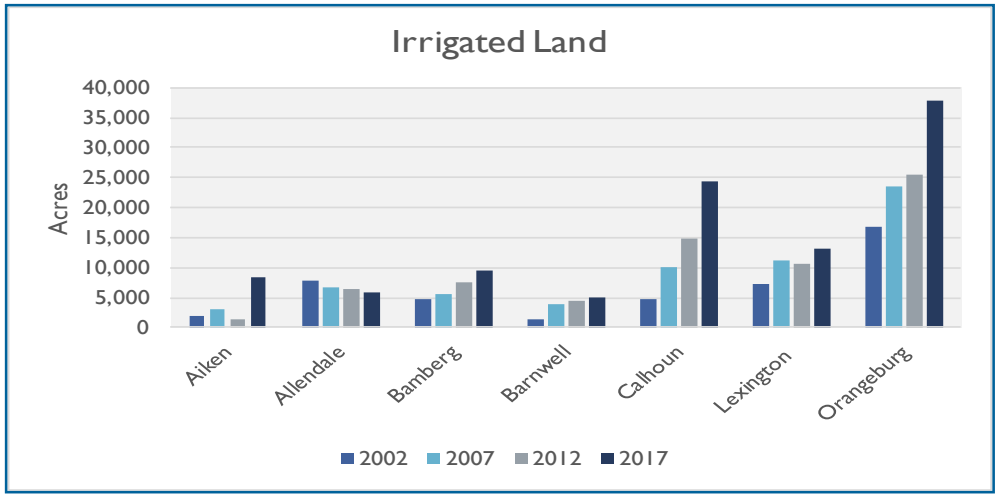
South Carolina Land Cover (NLCD 2011)

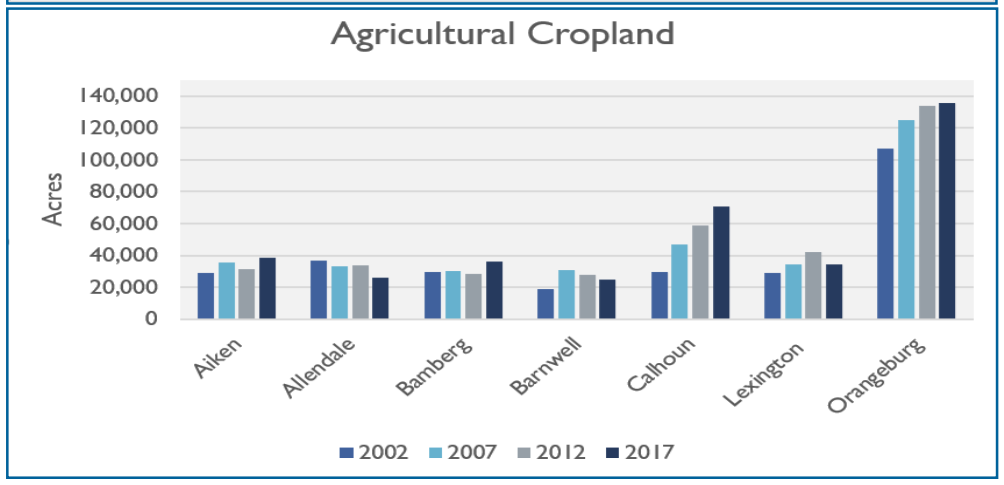
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, High Intensity
- Barren Land (Rock/Sand/Clay)
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Cultivated Crops
- Woody Wetlands
- Emergent Herbaceous Wetlands



Regional Description (Cont.)







- 1/3 of WCUA Land Cover is Dedicated to Farmland Operations
- Farmland: 6.2% increase since 2002
- Cropland: 30.3% increase since 2002
- Irrigated Land: 134.7% increase since 2002
- Varies from County to County

South Carolina Department of Health and Environmental Control

Phase II: Water Use Data

Dr. Andrea Hughes

August 14, 2019

Current Demand

Table 2: WCUA: Current Number of Wells by Permit Category and County

Water Use Category	Aiken	Allendale	Bamberg	Barnwell	Calhoun	Lexington	Orangeburg	Totals
Aquaculture (AQ)	0	0	0	0	0	0	0	0
Golf Course (GC)	4	0	0	0	1	2	3	10
Industry (IN)	45	3	0	2	1	10	9	70
Irrigation (IR)	50	44	64	44	164	80	308	754
Mining (MI)	0	0	0	0	1	10	1	12
Hydro Power (PH)	0	0	0	0	0	0	0	0
Thermo Power (PT)	0	3	0	0	0	0	2	5
Nuclear Power (PN)	0	0	0	0	0	0	0	0
Water Supply (WS)	92	12	13	24	8	20	21	190
Other (OT)	0	0	0	0	0	0	0	0
TOTAL	**191**	**62**	**77**	**70**	**175**	**122**	**344**	**1,041**

Current Demand

Table 3: WCUA: Reported Water Use by Permit Category and County, 2018

Water Use Category	Aiken	Allendale	Bamberg	Barnwell	Calhoun	Lexington	Orangeburg	Totals	Percent Of Total
Aquaculture	0	0	0	0	0	0	0	0	0%
Golf Course	17	0	0	0	1	21	78	117	0.3%
Industry	620	739	0	133	3	345	376	2,215	5.4%
Irrigation	2,269	3,223	2,372	1,578	5,349	3,480	9,267	27,539	67.5%
Mining	0	0	0	0	0	1,212	463	1,675	4.1%
Hydro Power	0	0	0	0	0	0	0	0	0%
Nuclear Power	0	0	0	0	0	0	0	0	0%
Thermo Power	0	136	0	0	0	0	982	1,118	2.8%
Water Supply	5,034	468	339	1,023	378	523	372	8,137	19.9%
Other	0	0	0	0	0	0	0	0	0%
TOTAL	**7,941**	**4,566**	**2,711**	**2,734**	**5,731**	**5,581**	**11,538**	**40,801**	**100%**
Percent of Total	**19.5%**	**11.2%**	**6.6%**	**6.7%**	**14.0%**	**13.7%**	**28.3%**	**100%**	

[a]Water use is reported in Millions of Gallons (MG). For example, 9,210 is 9,210,000,000 gallons.

Current Demand

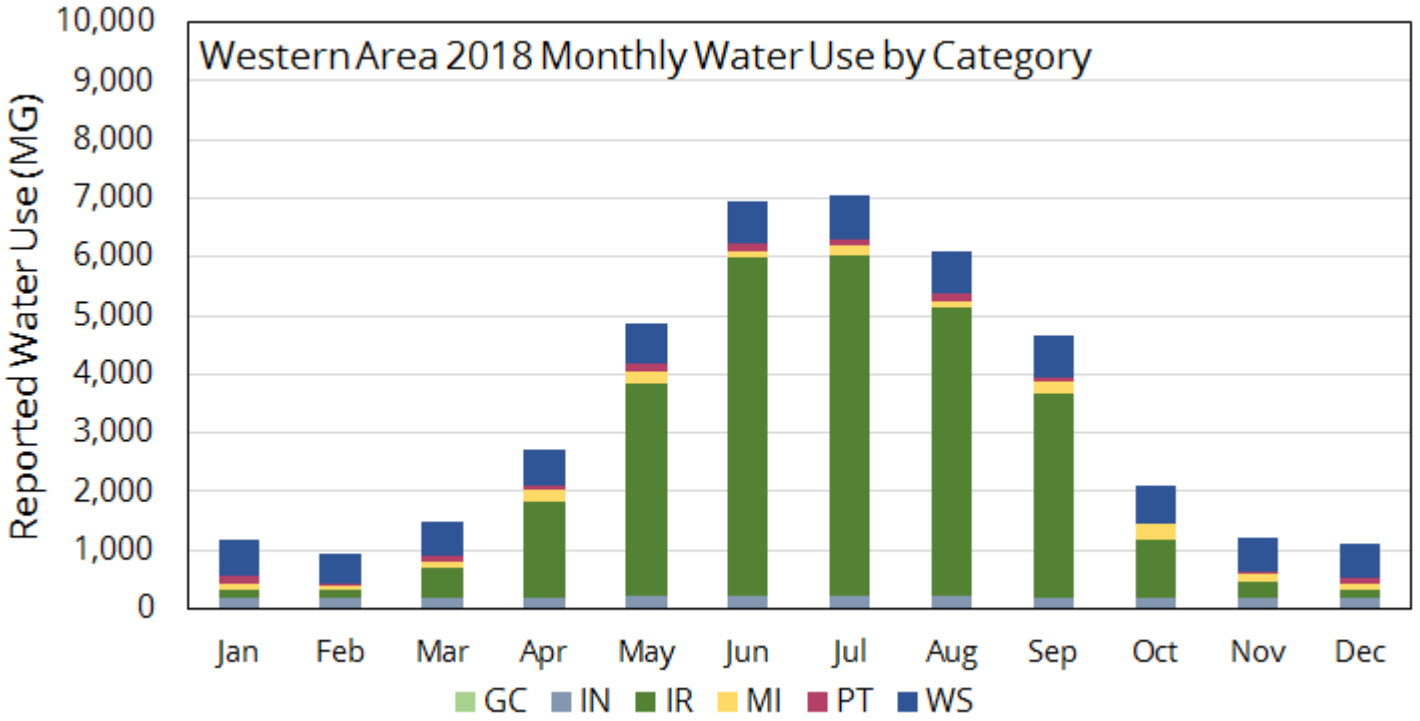
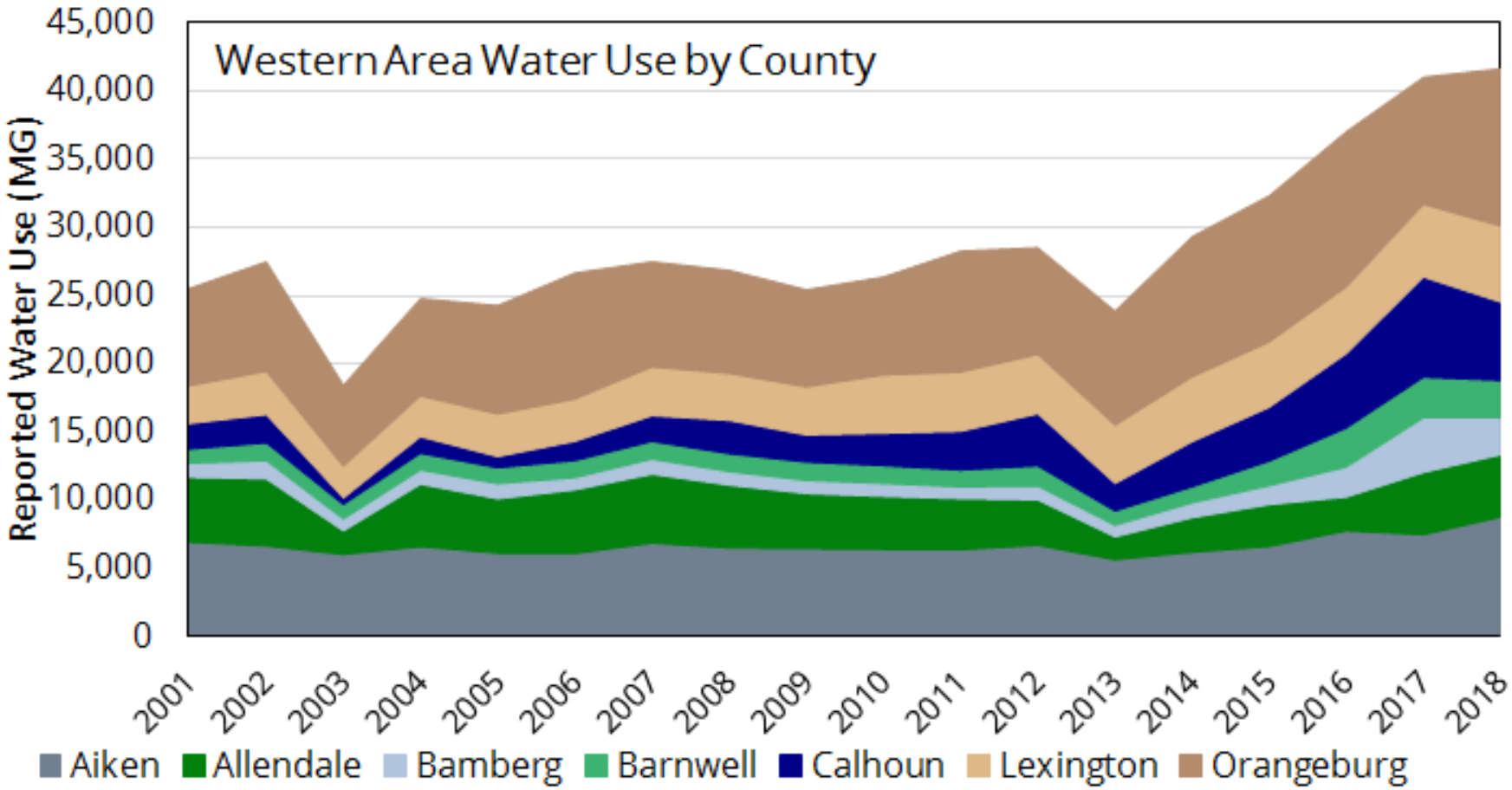
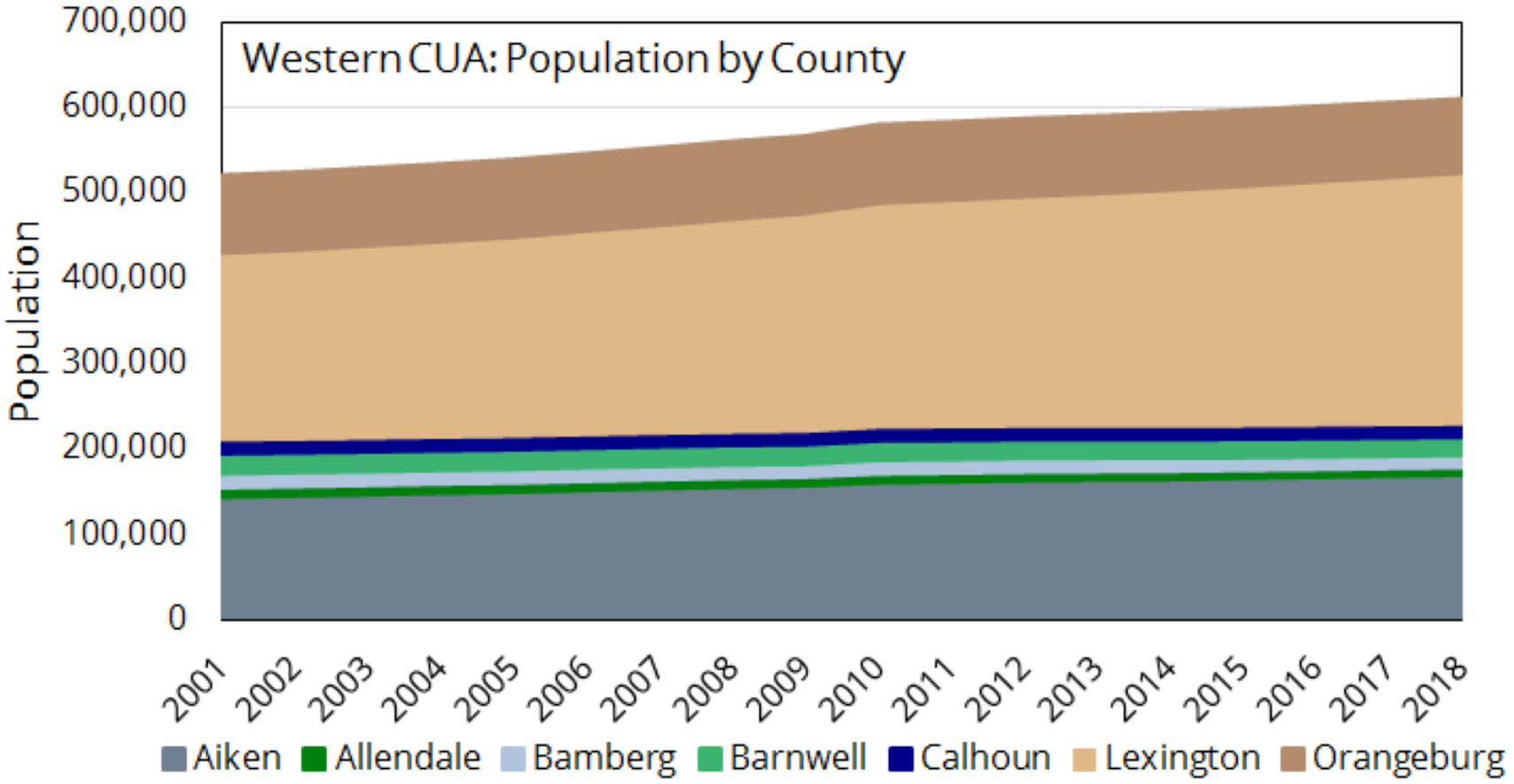


Figure 13: WCUA: Reported Monthly Water Use by Category, 2018

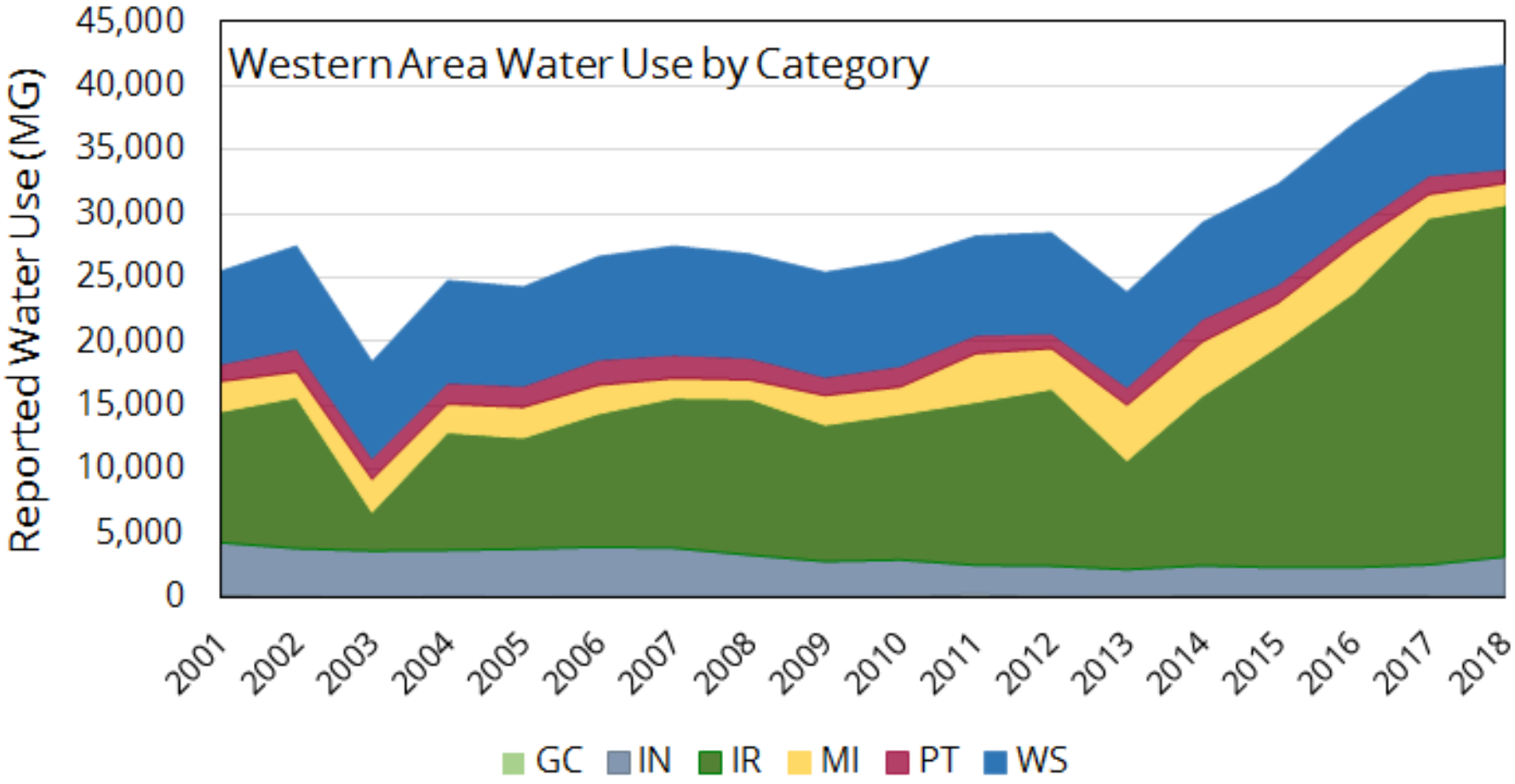
Historic Demand/Past Use Comparison: Water Use by County

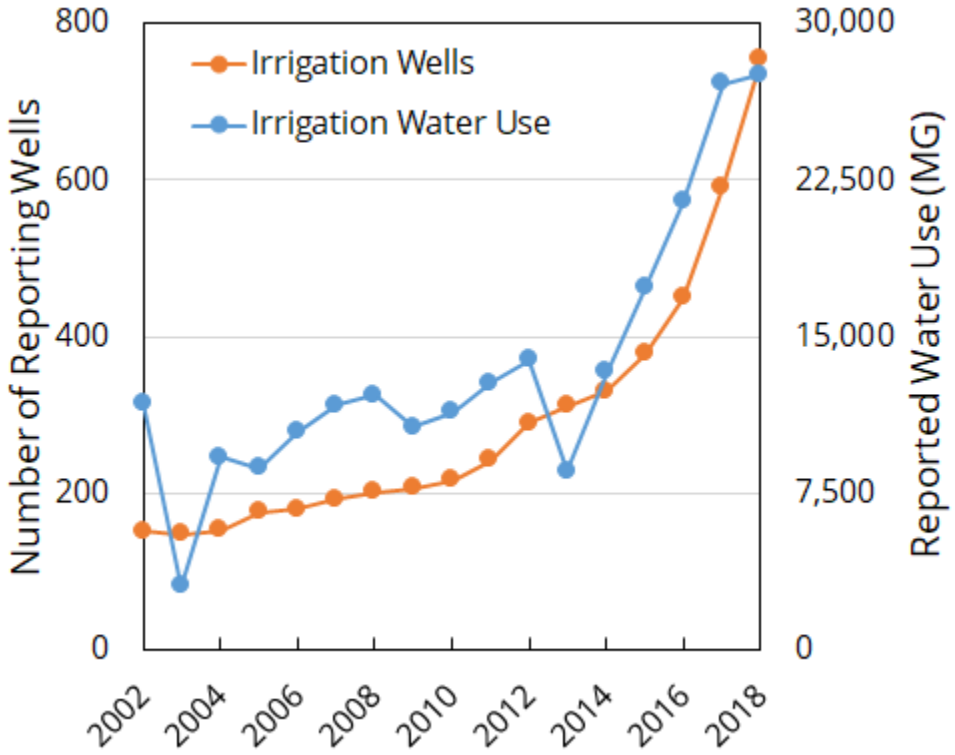


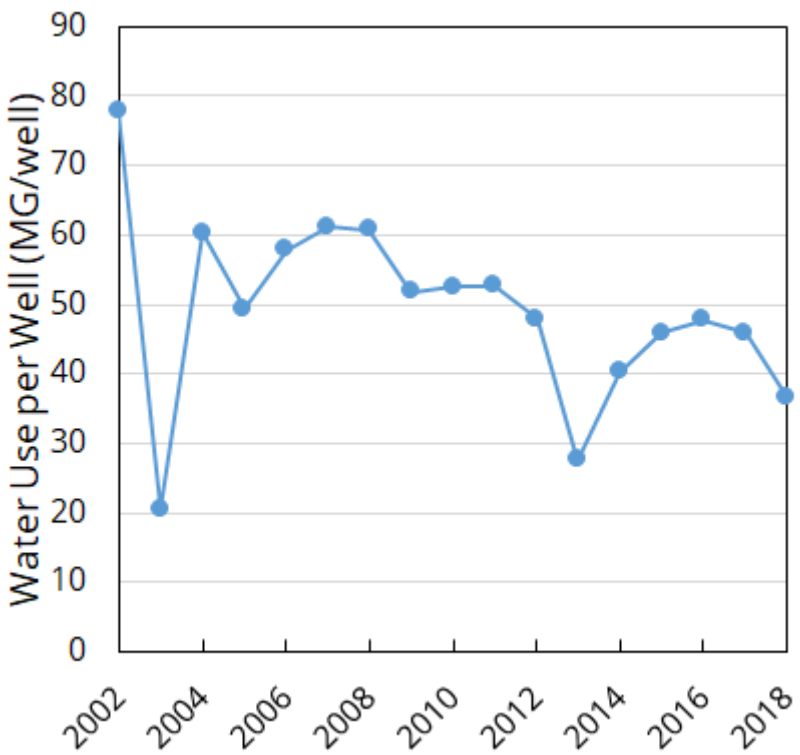
Historic Demand/Past Use Comparison: Population



Historic Demand/Past Use Comparison: Water Use by Use Category




Irrigation Wells
Irrigation Water Use
Number of Reporting Wells
Reported Water Use (MG)
800
600
400
200
0
30,000
22,500
15,000
7,500
0
2002
2004
2006
2008
2010
2012
2014
2016
2018


Water Use per Well (MG/well)
90
80
70
60
50
40
30
20
10
0
2002
2004
2006
2008
2010
2012
2014
2016
2018

South Carolina Department of Health and Environmental Control

Phase III: Strategies and Reports

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Strategy #1: Establish a Comprehensive Groundwater Monitoring Program

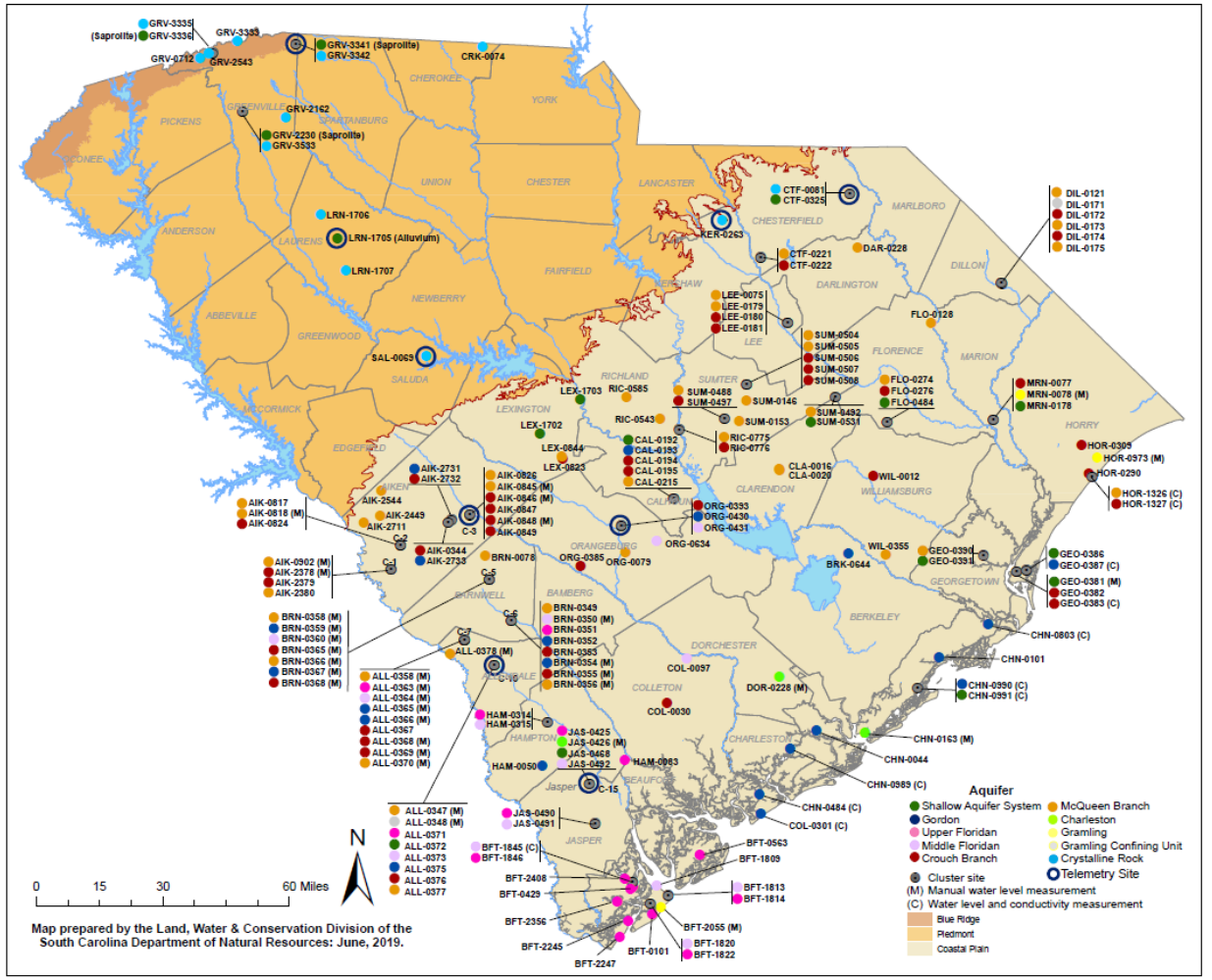
With increases in population, irrigated acreage, and a growing industrial base, water demand (from both surface and groundwater) is increasing at an expanding rate. Although water level declines are a normal response to groundwater withdrawals, not stabilizing these declines may cause serious impairment to the aquifers and groundwater quality of the region. SC DHEC will pursue partnerships with local entities, groundwater users, and other agencies (both Federal and State) to facilitate the most effective use of resources in designing and maintaining a monitoring network for the WCUA. Both SC DNR and SC DHEC maintain several groundwater level monitoring locations in the WCUA.

Although the WCUA has the most extensive groundwater monitoring network of all the Capacity Use Areas, expanding the current network will allow more accurate monitoring of groundwater level conditions and facilitate scientifically-based recommendations for strategies to address any stressed conditions identified in the aquifers used in the area. A goal for the comprehensive groundwater monitoring network should be a complete coverage and network of wells for each aquifer in each of the Western Area Counties.

Strategy #1: Establish a Comprehensive Groundwater Monitoring Program – Action Elements

- **Provide** accurate data on the amount and rate of groundwater level changes;
- **Provide** groundwater withdrawers with timely and accurate information to effectively manage withdrawal activities;
- **Establish** the correlation between groundwater pumping and water level changes, both on a local and regional scale; and
- **Guide** management efforts to minimize potential impairment of the aquifers and track progress in reversing water level declines.
- **Cooperate** with local, state, and federal partners to expand groundwater monitoring networks and sharing of well data;
- **Promote** partnerships in the state to identify wells that may be incorporated and of benefit to the well network; and
- **Identify** wells scheduled for abandonment that may be incorporated and of benefit to the well network.

Strategy #1: Establish a Comprehensive Groundwater Monitoring Program – Map of Current Network



Strategy #2: Identify Geographic Areas of Concern and Level/Reduce Pumping Where Appropriate

Prior to each permit renewal cycle, SC DHEC will consider the best available information on the geologic and hydrogeologic characteristics of the aquifer(s) and groundwater withdrawals of the area to protect against or abate unreasonable, or potentially unreasonable, adverse effects on the aquifer(s) and water users of the WCUA. Measures that SC DHEC may require applicants, permit holders, and groundwater withdrawers to take may include, but not be limited to, the following:

Strategy #2: Identify Geographic Areas of Concern and Level/Reduce Pumping Where Appropriate – Action Elements

- **Reduce/Level** groundwater withdrawals in areas of concentrated pumping;
- **Reduce/Level** groundwater withdrawals in areas where it is found to be in the public interest or general welfare, or to protect the water resource;
- **Utilize** other available freshwater aquifers than those currently used;
- **Utilize** conjunctive use of aquifers, or waters of less desirable quality, where water quality of a specific character is not essential;
- **Utilize** the groundwater model of the coastal aquifers that has been developed by the USGS and SC DNR to determine the potential for adverse effects;
- **Prohibit** the hydraulic connection of aquifers that could result in deterioration of water quality in freshwater aquifers;

Strategy #2: Identify Geographic Areas of Concern and Level/Reduce Pumping Where Appropriate – Action Elements

- **Implement** abandonment of wells, which will be filled with cement grout, plugged, and sealed;
- **Implement** abandonment of wells that have penetrated zones of undesirable water quality where such wells are found to cause contamination of freshwater aquifers where undesirable water quality is defined as not meeting the standards for Class GB Waters as listed in *Water Classifications & Standards*, R.61-68.H.9;
- **Implement** construction and use of observation or monitoring wells;
- **Implement** reasonable and practical methods to conserve and protect the water resources and to avoid or minimize adverse effects of the quantity and quality of water available to persons whose water supply has been materially reduced or impaired as a result of groundwater withdrawals; and
- **Implement** such other necessary and appropriate control or abatement techniques as are technically feasible.

Strategy #3: Review Permit Applications Based on Demonstrated Reasonable Use

Proposed withdrawals will be evaluated considering reasonable use and need, aquifer(s) being utilized, potential adverse effects on adjacent groundwater withdrawers, previous reported water use, anticipated demand for the proposed activities, availability of alternate water sources, and reported water use at facilities with similar activities. Applications for groundwater withdrawal will incorporate a “Water Use Plan” or a “Best Management Strategy” detailing actual or proposed water use activities and all conservation techniques for site specific water management including, but not limited, to:

Strategy #3: Review Permit Applications Based on Demonstrated Reasonable Use – Action Elements

- **Provide** appropriate documentation that the proposed water use is a beneficial use of the resource and necessary to meet the reasonable needs of the applicant;
- **Describe** in detail the applications for which the water is being withdrawn and approximate quantities utilized in each application;
- **Identify** the aquifer(s) currently utilized and the hydrogeologic (groundwater quality, specific capacity/yield, etc.) factors for utilization, and if a less utilized aquifer is suitable to meet the facility's need;
- **Identify** additional or alternate sources of water, including surface water, effluent, or recycled water, among others, suitable to meet the needs of the applicant and supplement, minimize, or eliminate groundwater sources;
- **Identify** reasonable and appropriate conservation methods or practices that maximize efficiency of current water use and reduce current water demand; and
- **Identify** any existing or anticipated adverse effects on other groundwater withdrawers, including public use, and strategies to eliminate or minimize these effects.

Strategy #4: Establish an Educational Plan for the General Public and Existing Groundwater Withdrawers

General public, stakeholder, and permittee education outreach and awareness are a cornerstone to the development of successful water management strategies. SC DHEC will coordinate with the Stakeholder Workgroup and other appropriate partners to develop educational resources, strategies, and incentives for conservation. An effective water management educational plan should incorporate the following:

Strategy #4: Establish an Educational Plan for the General Public and Existing Groundwater Withdrawers – Action Elements

- **Provide** audience-based public education and outreach programs;
- **Provide** best available information on current systematic and industry-based standards;
- **Engage** with state and local governments;
- **Establish** and **promote** conservation measures through:
  - Enhanced water use efficiency;
  - Identification of water losses and establishment of corrective actions; and
  - Preparation for water shortages and implementation of appropriate responses.

Strategy #5: Mange Through Regulation and Planning

The Groundwater Use and Reporting Act provides for regulation of water withdrawals in South Carolina. Groundwater regulation is necessary 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. As data are developed on the groundwater resources of the designated Capacity Use Areas, the regulations will be reviewed to ensure adequate adherence to the legislative declaration of policy laid out in Title 49, Chapter 5-20.

SC DNR is responsible for developing and updating the State Water Plan. A groundwater model of the coastal aquifers has been developed by the USGS and SC DNR. As the results of the modeling effort and the updates to the State Water Plan become available, they will help inform potential regulatory and policy changes and will be incorporated into this Groundwater Management Plan.

Strategy #6: Establish a Plan for Continual Stakeholder Engagement and Awareness of Groundwater Development

As part of the permitting process, stakeholder involvement, comment, and recommendations will be incorporated during the public comment period of the permit application. SC DHEC requires groundwater withdrawers to post a public notice in a newspaper of general circulation for one day within the CUA in which the groundwater is to be withdrawn. SC DHEC additionally posts public notices for the entirety of the 30-day public comment period on the Environmental Public Notices page of the official SC DHEC website. Continuous engagement with stakeholders and other interested persons is important to promote awareness of groundwater development and general education. An effective plan for continued engagement should incorporate the following:

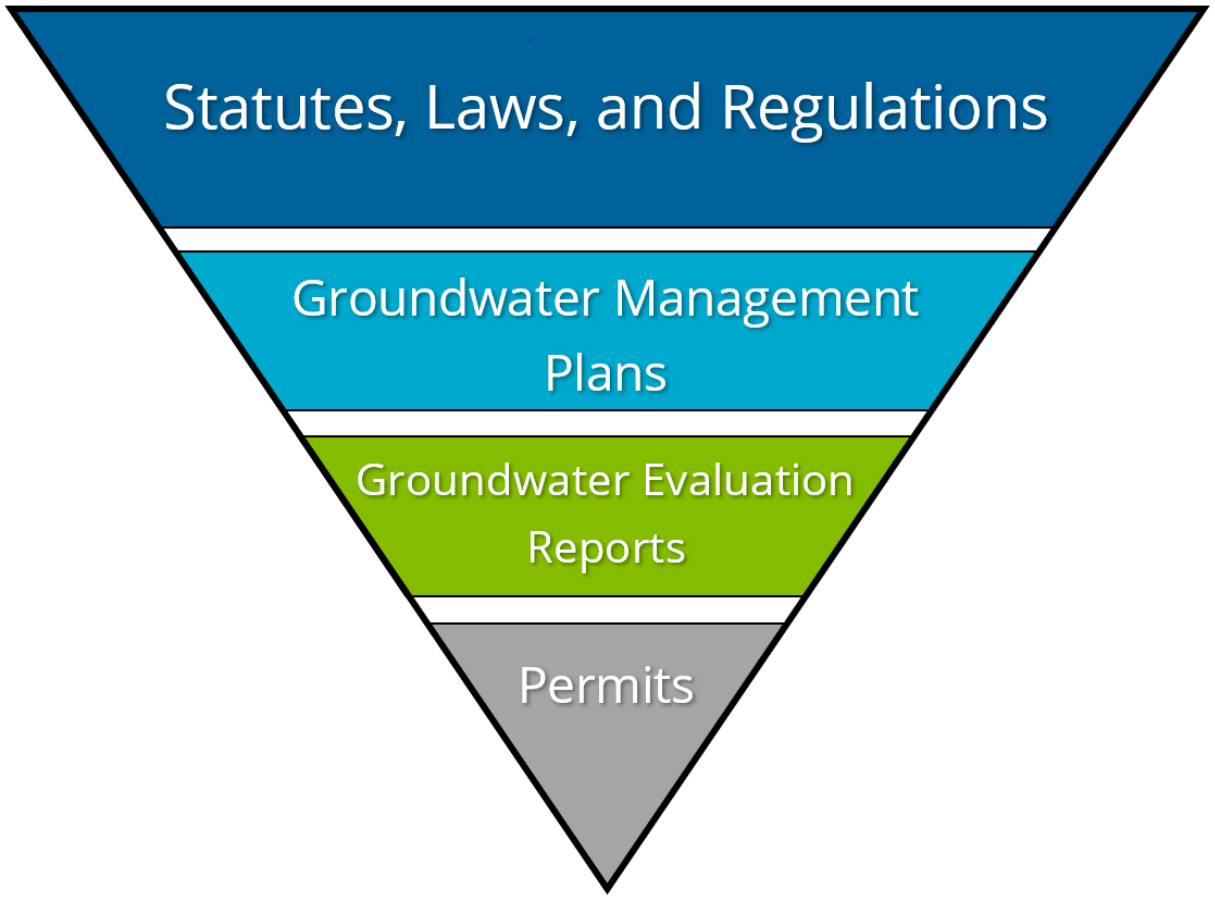
Strategy #6: Establish a Plan for Continual Stakeholder Engagement and Awareness of Groundwater Development

- **Maintain** the Stakeholder Workgroup that is diverse in geographic and type-use representation to serve in an advisory role and as a partner for engagement within the WCUA communities;
- **Provide** and **maintain** the Stakeholder Workgroup to receive direct notice of proposed permitting actions during the public notice period;
- **Provide** the Stakeholder Workgroup a forum for SC DHEC to present each quinquennial draft GMP Report, receive comments for consideration as the draft is finalized, and evaluate whether considerations are needed for an updated GMP and a reconvening of the Stakeholder Workgroup to do such; and
- **Provide** the Stakeholder Workgroup an annual update of water use and conditions in the WCUA.

Groundwater Management Plan Reports

Every 5 years, total annual groundwater withdrawals will be compiled and compared to available aquifer potentiometric maps. The report will include the following information:

- Listing of all permitted withdrawers, permitted withdrawal limits, and average groundwater withdrawal;
- Evaluation of withdrawal by category and by aquifer; and
- Identification of the aquifer(s) and area(s) with observed and potential adverse effects and all withdrawers utilizing the aquifer(s).



Groundwater Management Plan Reports

Based on the information developed for the plan report, modifications of groundwater withdrawals in identified areas will be reviewed and subsequently the Groundwater Management Plan may be amended. The report will also evaluate, as information is developed, changes in water quality of the aquifers, available storage capacity of the aquifers, project future rates of withdrawal, and estimate future groundwater declines from the projected withdrawal rates. Through time, a safe sustainable yield for each aquifer will be developed and subsequent withdrawal limits will be based on this available yield. The final report and updated GMP will be shared with the stakeholders and the permit renewals will be issued consistent with the report and the plan.

South Carolina Department of Health and Environmental Control

Questions, Comments, Discussion

Questions and Comments may also be made online at:

www.scdhec.gov/westerncapacityuse

OR

Submitted on one of the provided notecards after the Open House

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