



# South Carolina State and River Basin Planning

Lower Savannah-Salkehatchie River Basin Council

Meeting #1, November 2, 2023

Scott Harder

Hydrology Section Chief

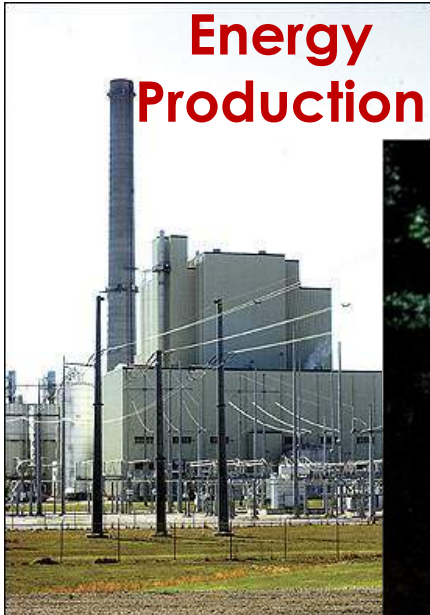
SC Department of Natural Resources

Agenda Item 5





# Water Use in South Carolina

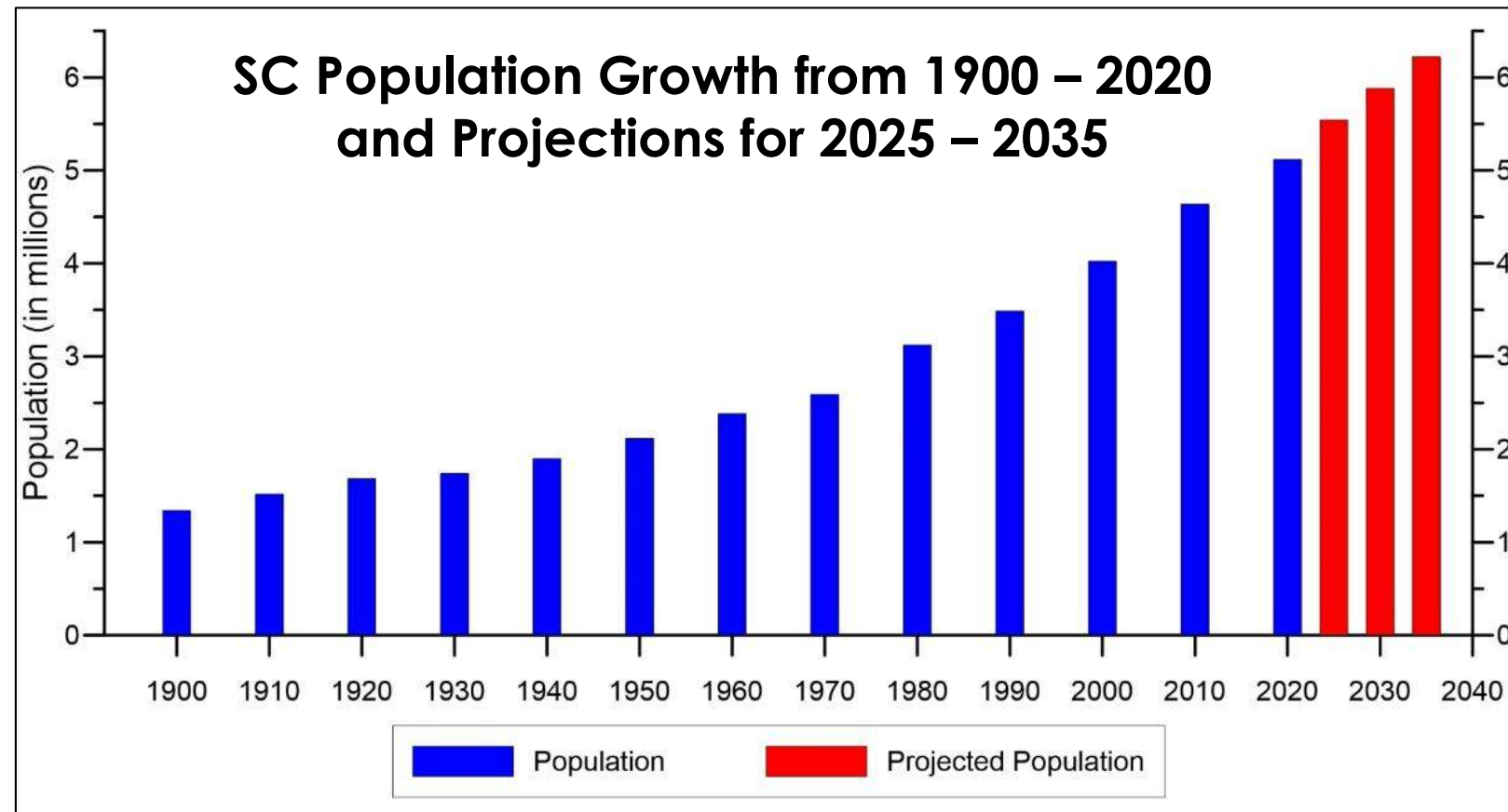


# Why State Water Planning



## Population Growth → Increased Water Demand

- From 1990 – 2020, SC population increased from **3.5** to **5.1** million and is forecasted to increase to **6.2** million by 2035.
- Our growing population may increase future water demands and may increase competition for our water supplies.



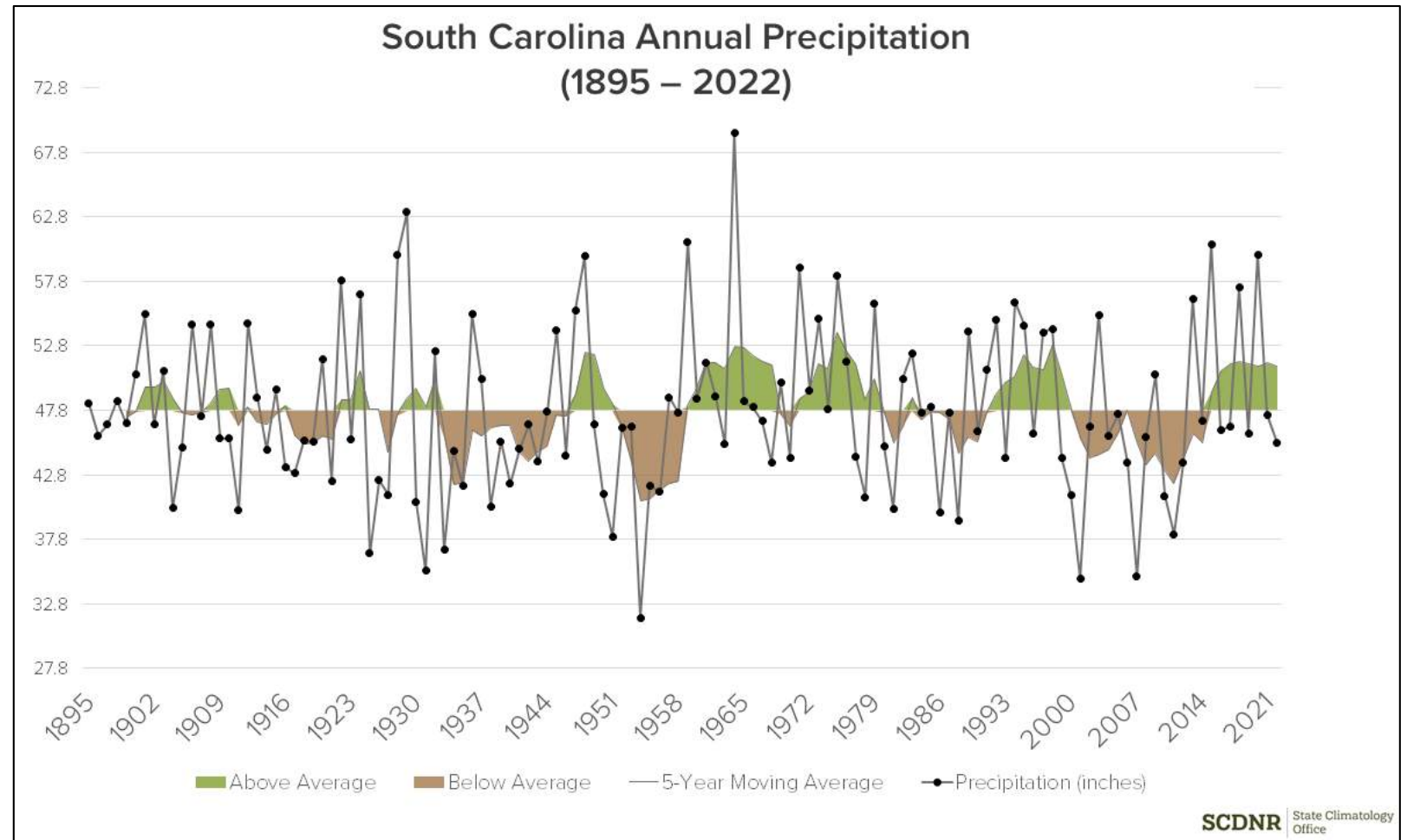
Data from the SC Office of Revenue and Fiscal Affairs, 2021, and U.S. Census Bureau, 2021.



# Why State Water Planning?

## Drought

SC generally has an abundance of water, but recent droughts (**1998-2002, 2007-2008, 2011-2012, 2016, 2019, 2021**) have stressed the State's water resources.



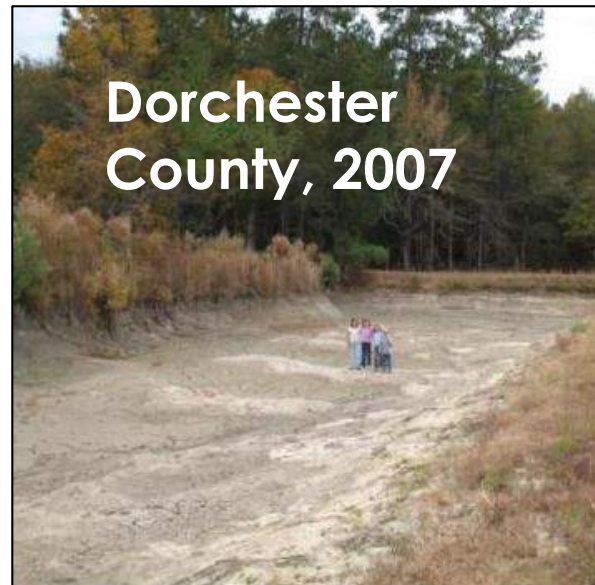
Statewide Average Annual Rainfall (inches) and 5-year Running Average

# Why State Water Planning?



Tree-ring studies indicate the occurrence of more severe and longer-term droughts (Mega-droughts) over the past 400 years.

***Uncertainty in future droughts + increased water demand = the need for comprehensive State and river basin planning.***



**Dorchester  
County, 2007**



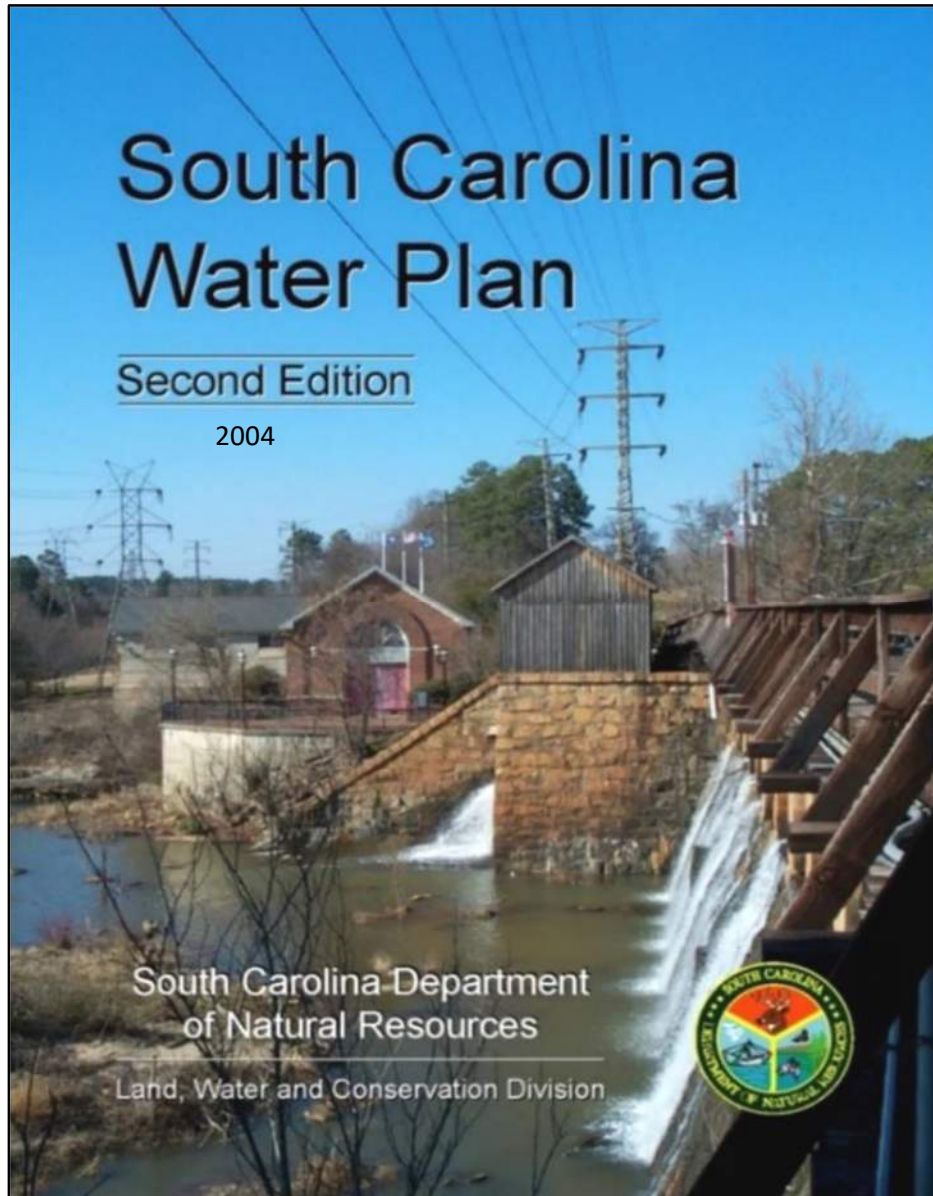
**Lake Marion, 2007**



**Kings Mountain  
State Park, 2008**

*Photos courtesy of National Drought Mitigation Center*

# History of State Water Planning

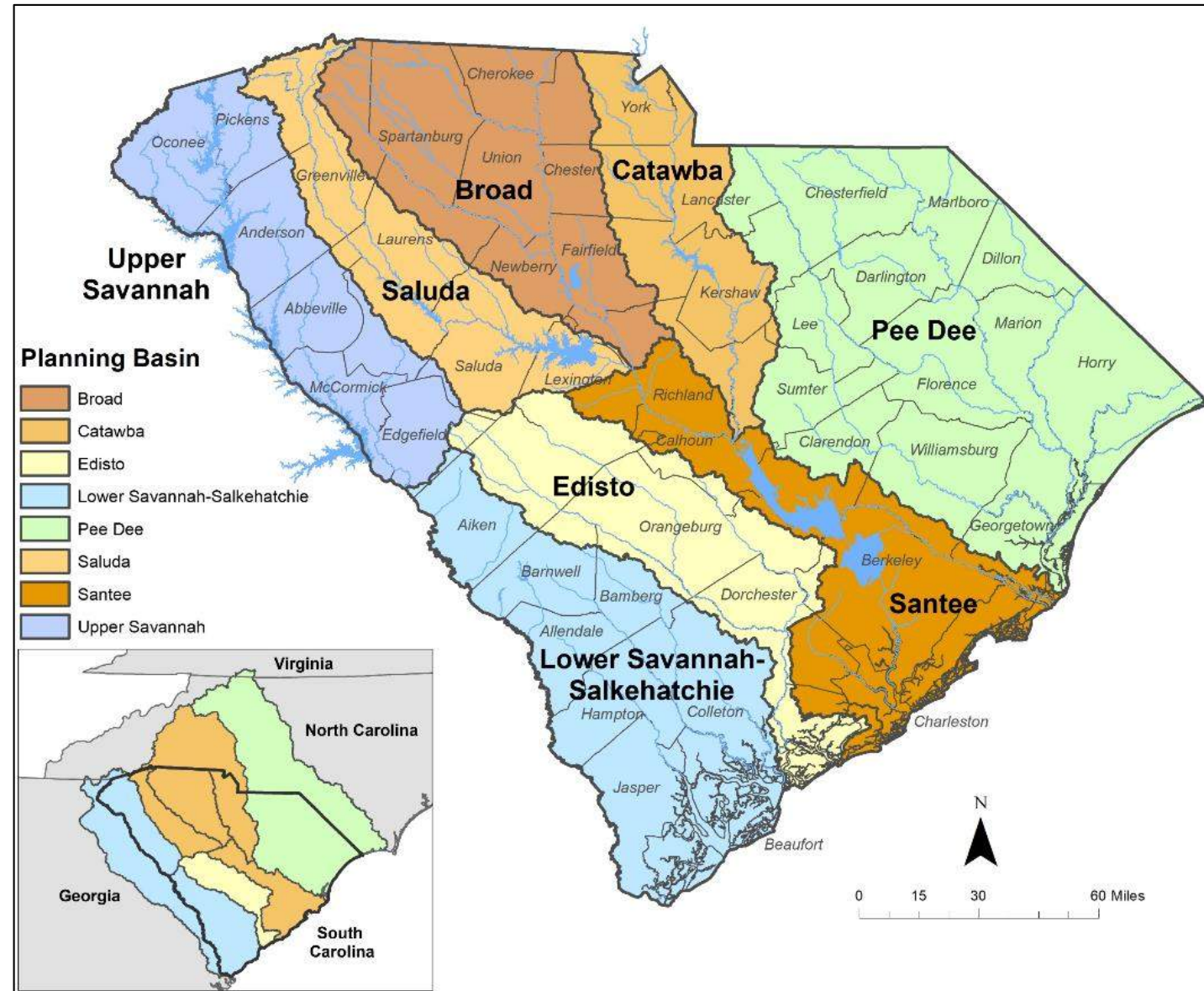


- SCDNR is legislatively mandated to develop a State Water Plan.
- SCDNR published the first edition of the State Water Plan in 1998.
- In 2004, SCDNR published the second edition of the South Carolina Water Plan incorporating lessons learned from the drought of 1998-2002.
- One recommendation was to develop a regional water plan for each major river basin in the State.

# South Carolina's Eight Planning Basins



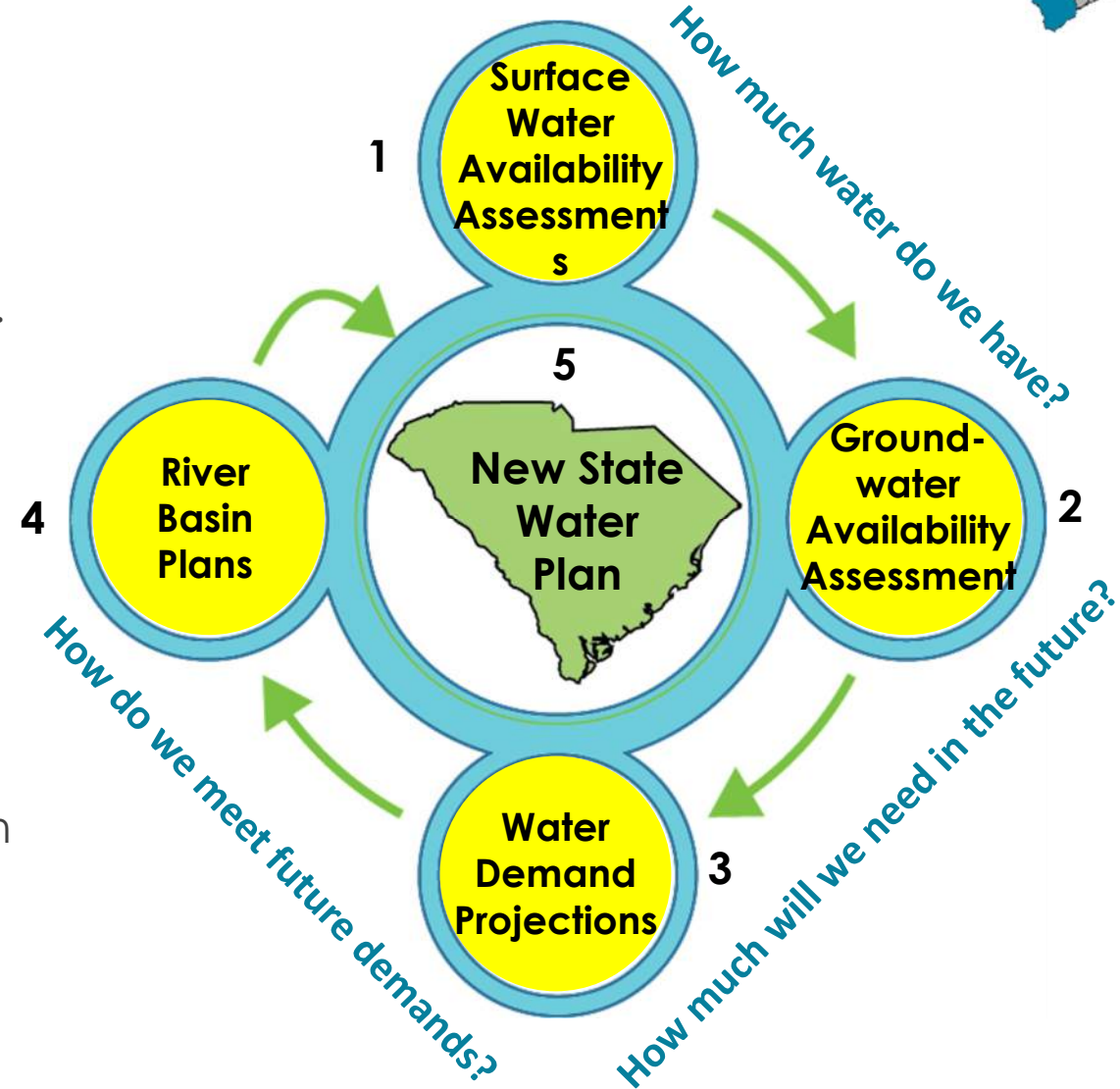
- River Basin Plans will be developed for the State's eight major river basins using a "bottom-up" approach where stakeholders in each basin lead the development of their basin plan.
- Collectively, the River Basin Plans will form the foundation of a new State Water Plan.



# 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 regional models to be developed over the next several years.
- 3. Water Demand Projections** – methodology report completed in October 2019.
  - Projections completed for Edisto and Broad basins.
  - Projections for Pee Dee, Saluda, and Upper Savannah basins in progress.
- 4. River Basin Plans**
  - Publication of South Carolina State Water Planning Framework.
  - Broad, Saluda, Upper Savannah and Pee Dee basin planning in progress.
  - Lower Savannah-Salkehatchie basin is the 6<sup>th</sup> basin to begin planning activities.
  - Edisto River Basin Plan completed June 2023.
- 5. State Water Plan** – River Basin Plans will form the foundation of a new State Water Plan.



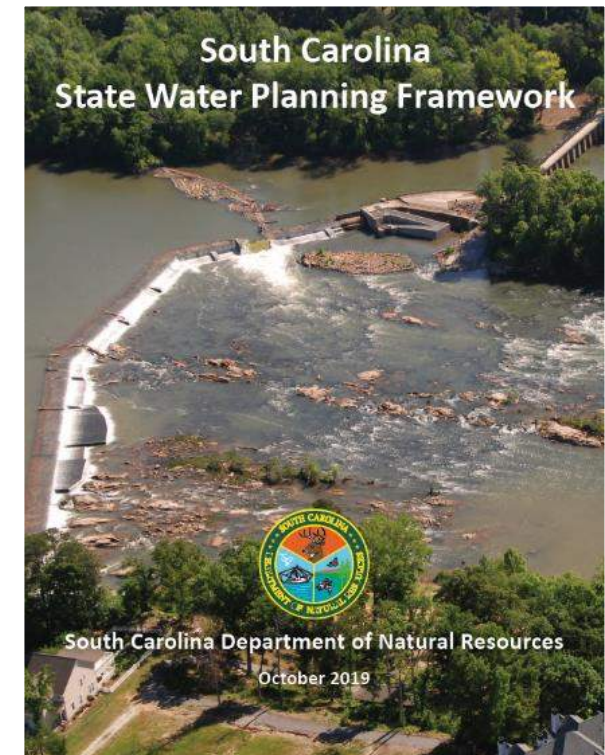
## Cooperators:





# Planning Process Advisory Committee

- Convened by SCDNR in March 2018.
- Purpose - develop a guidance document (Planning Framework) for developing River Basin Plans and for updating the State Water Plan.
- South Carolina State Water Planning Framework (Planning Framework) was published in October 2019 after an 18-month process.



Planning Framework is available for review and download at:  
<https://hydrology.dnr.sc.gov/water-planning-framework.html>

# PPAC Committee Members

Jeffery Allen

David Baize

David Bereskin/Jeff Boss

Jesse Cannon

Fred Castles, III

Clay Duffie

Steve Hamilton

Erika Hollis

J.J. Jowers, Jr.

Eric Krueger

Jeff Lineberger

Jill Miller

Dean Moss, Jr.

Myra Reece

Ken Rentiers

Bill Stangler

Landrum Weathers

Scott Willett

Charles Wingard

Clemson University

SCAWWA/WEASC

Greenville Water

Santee Cooper

Catawba-Wateree Water  
Management Group

Mt. Pleasant Waterworks (retired)

The Dunes Golf and Beach Club

Upstate Forever

Bamberg County citizen, Edisto  
Engineers and Surveyors, Inc.

The Nature Conservancy

Duke Energy

South Carolina Rural Water Association

Beaufort Jasper WSA (retired)

South Carolina Department of  
Health and Environmental Control

South Carolina Department of Natural Resources

Congaree Riverkeeper

Farmer

Anderson Regional Joint Water System

Walter P. Rawl and Sons, Inc.



For more information, visit:

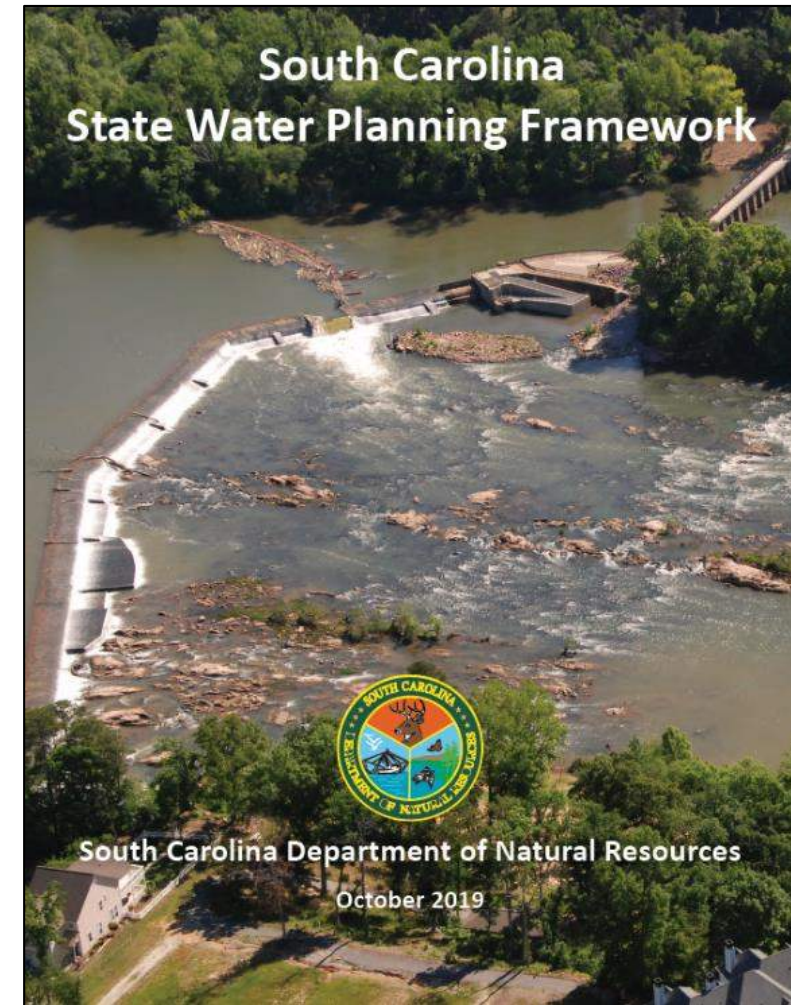
[https://www.clemson.edu/public/water-assessment/State Water Planning Process Advisory Committee.html](https://www.clemson.edu/public/water-assessment/State_Water_Planning_Process_Advisory_Committee.html)



# Contents of Planning Framework

## Sections:

1. Executive Summary
  2. Introduction
  3. River Basin Planning Process
  4. Methodologies for Evaluating Water Availability
  5. River Basin Plan Table of Contents
  6. River Basin Planning Process Implementation
  7. River Basin Plan Implementation
  8. State Water Plan
- Appendix: River Basin Council Bylaws



Planning Framework is available for review and download at:

<https://hydrology.dnr.sc.gov/water-planning-framework.html>



# Stakeholder Participation

Edisto River Basin Council Field Trip



PPAC Meeting



Broad River Basin Council Meeting



Pee Dee River Basin Council Meeting



Edisto Basin Water Demand Projection Stakeholder Meeting



SWAM Model Stakeholder Meeting



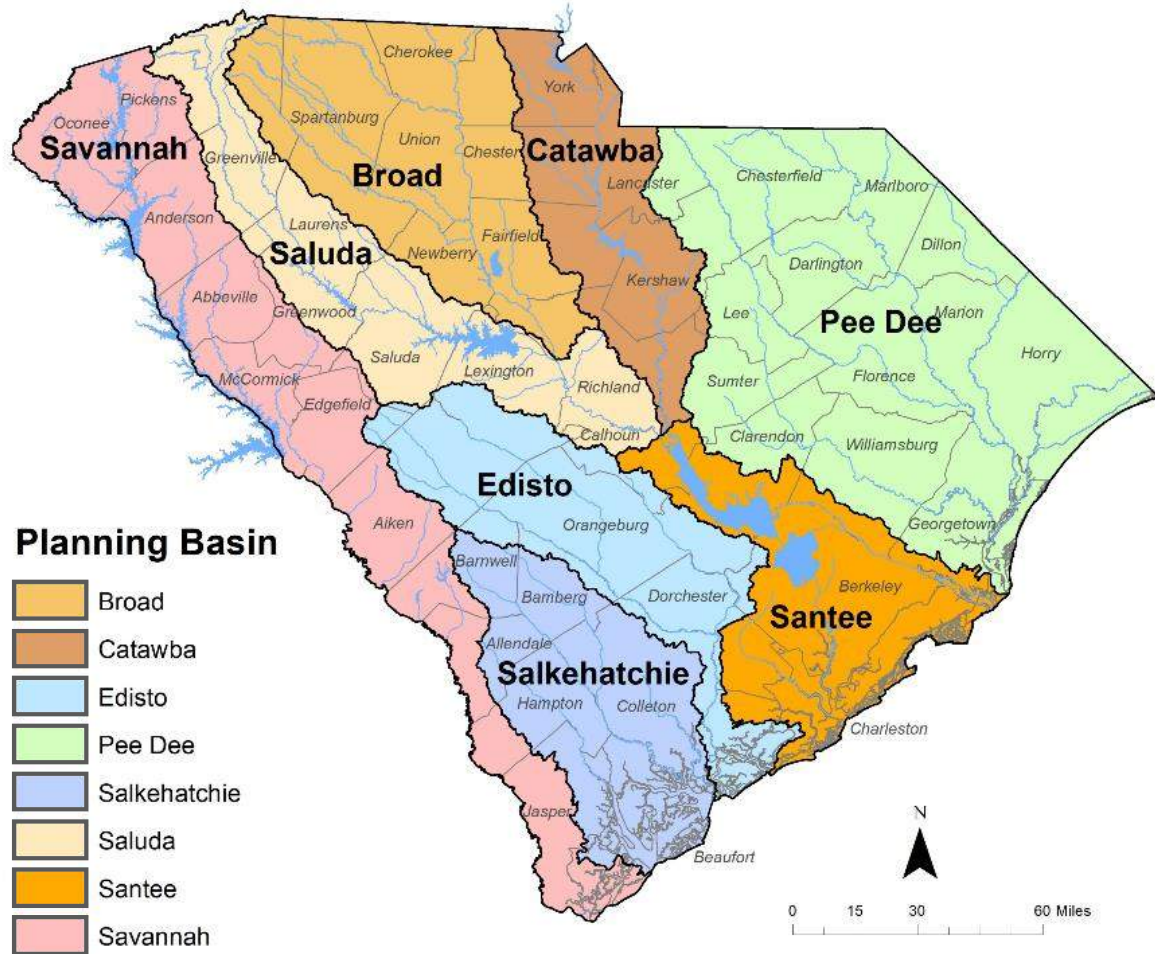


# **SC River Basin Planning: Status and Long-term Schedule**

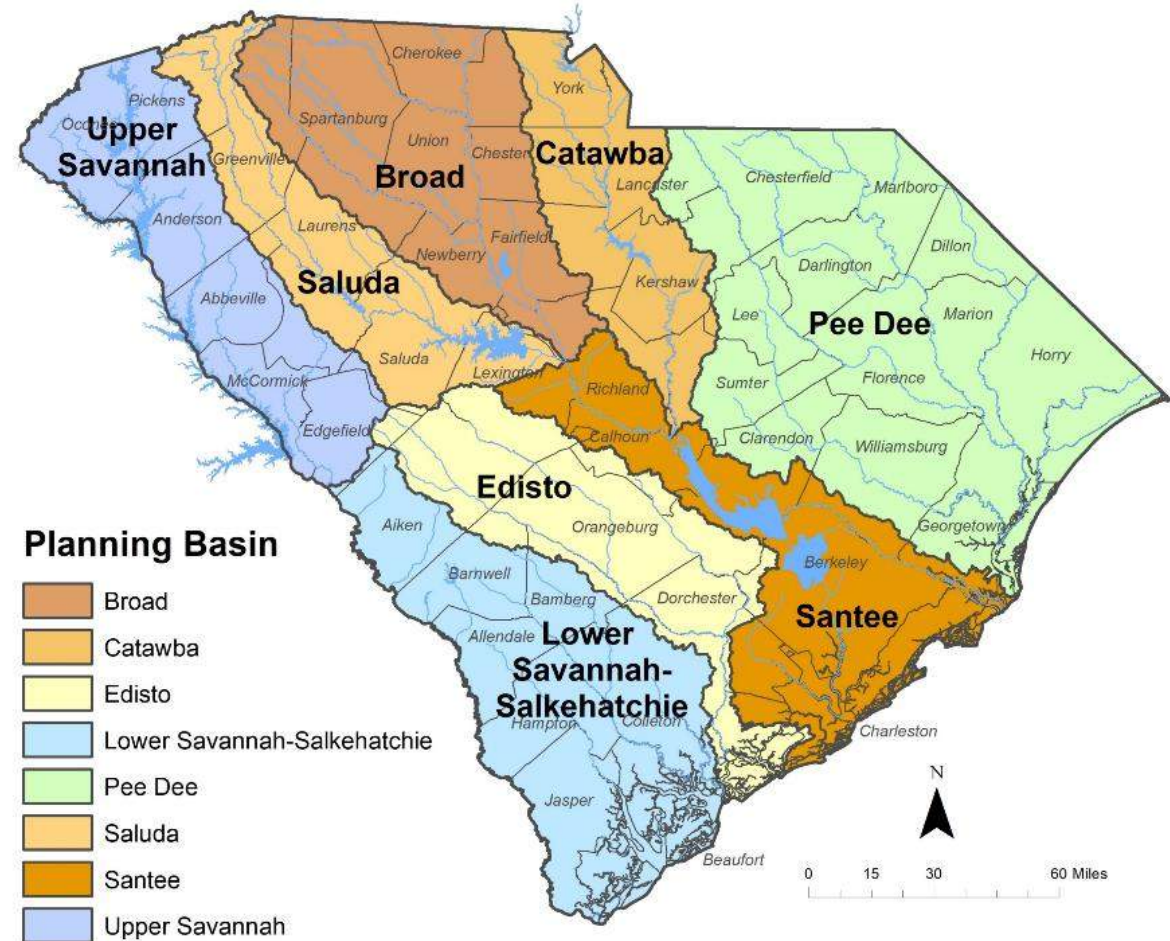
# Recent Changes to Planning Basin Boundaries



## Original Planning Basins



## Revised Planning Basins

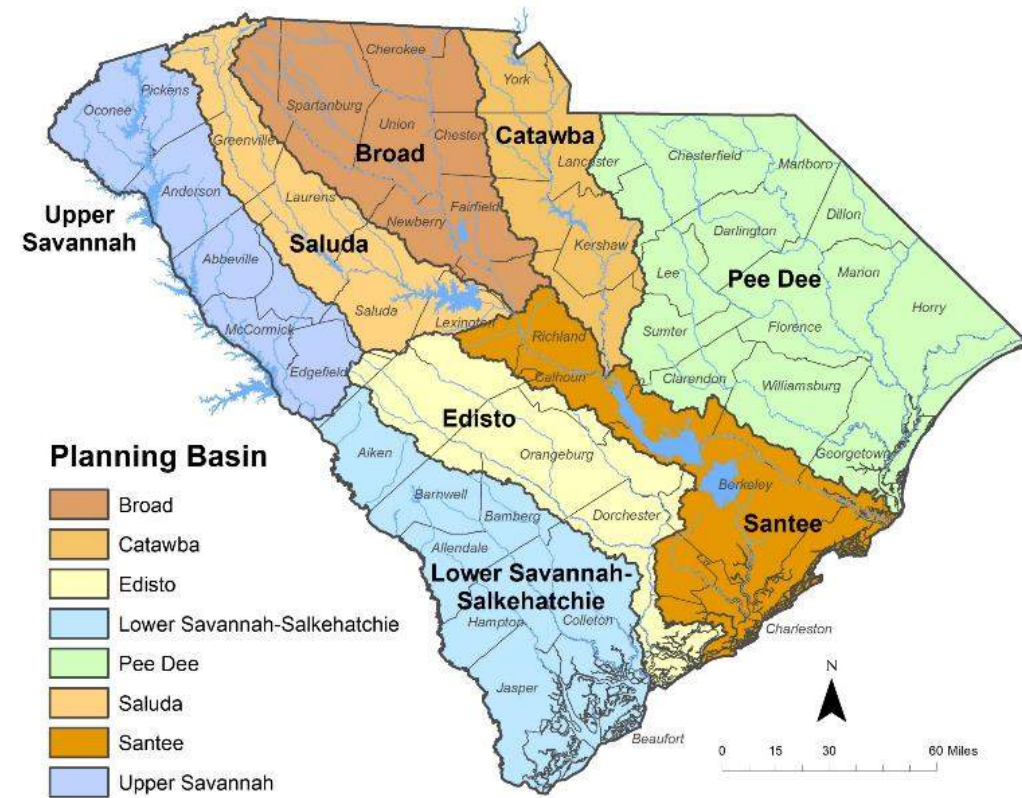


Impacted basins include the Salkehatchie, Saluda, Santee, and Savannah basins

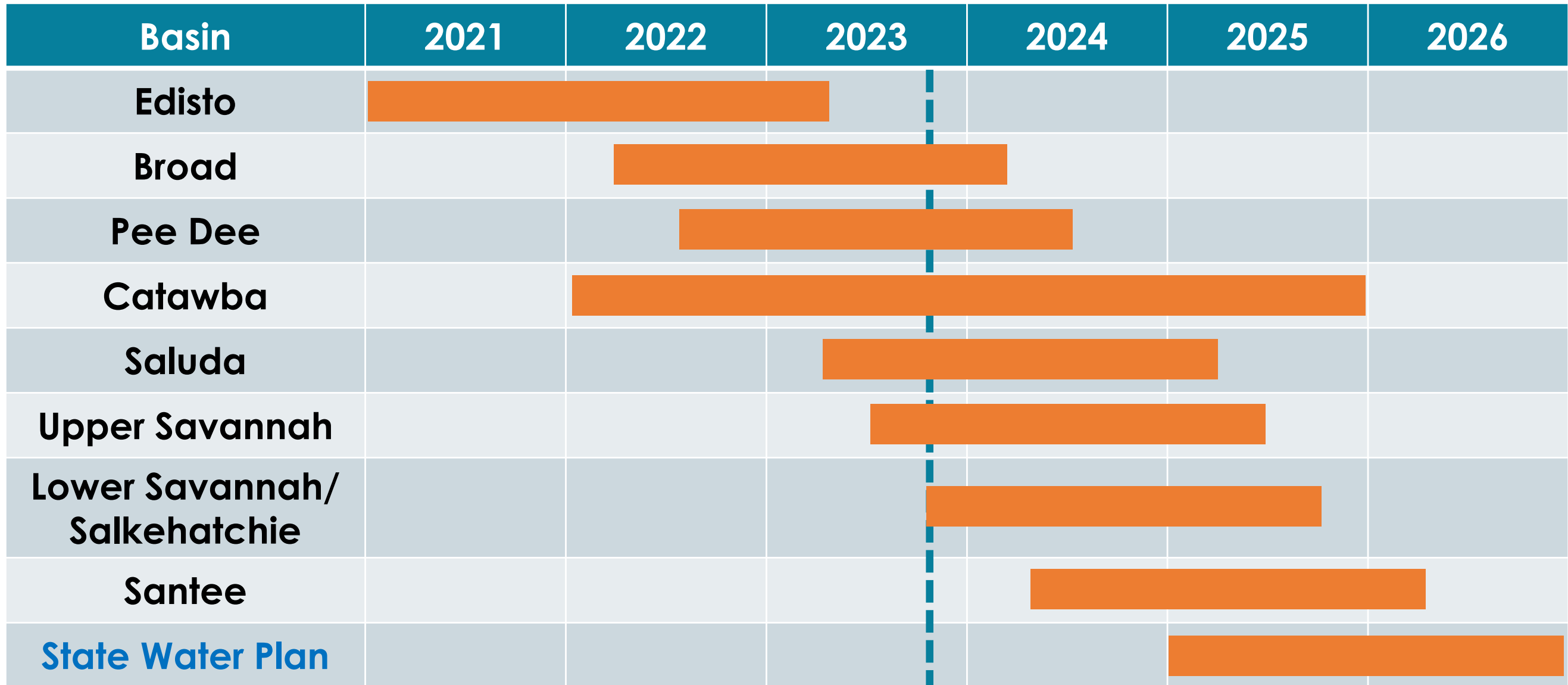
# River Basin Planning Current Status



Basin	Status
Edisto	June 2020 – June 2023
Broad	March 2022 – present
Pee Dee	June 2022 – present
Saluda	March 2023 - present
Upper Savannah	June 2023 - present
Lower Savannah/ Salkehatchie	November 2023 - present
Santee	Scheduled to begin Spring 2024
Catawba	CWWMG's Integrated Resource Plan in progress



# State Water Plan - Schedule





# Edisto River Basin Plan



- Final Plan and Executive Summary available at: <https://hydrology.dnr.sc.gov/edisto-river-basin-plan.html>
- River Basin Plan completed in June 2023.

A screenshot of the SCDNR Hydrology website. The header includes 'SCDNR Hydrology' and navigation links: 'About Us', 'Water Planning', 'Programs', 'Data', 'Publications', and 'Calendar'. The main heading is 'Edisto Basin Planning' with a sub-heading 'Activities and reports on water planning in the Edisto River basin.' Below this is an 'Overview' section with text: 'In May 2023, the Edisto River Basin Plan was completed by the Edisto River Basin Council under the guidance of the South Carolina State Water Planning Framework. Formal council meetings began in June 2020, and the council met on a monthly basis over a three year period to work on the plan. The River Basin Plan includes a review of both surface water and groundwater availability over a 50-year planning horizon and documents water management strategies that will help ensure water is available for all future uses. Meeting agendas, presentations, recordings, and summaries for each council meeting and other public meetings can be accessed here. Please revisit this website for periodic updates and new information regarding Edisto River basin planning activities.' A 'Document Links' section lists 'Edisto River Basin Plan - Full Report' and 'Edisto River Basin Plan - Executive Summary'. To the right is a small thumbnail titled 'Edisto River Basin Plan' showing a river scene.

A large image for the 'EDISTO RIVER BASIN PLAN 2023'. The top half shows a river flowing through a dense forest with sunlight filtering through the trees. The bottom half is a collage of three smaller images: an irrigation system in a field, a group of people in a meeting, and a group of people in a canoe on the river.



# Draft Broad River Basin Plan

- Draft Plan and Executive Summary available at: <https://hydrology.dnr.sc.gov/broad-river-basin-plan.html>.
- Public meeting to introduce draft plan and solicit comments scheduled for November, 29<sup>th</sup>, 2023.

SCDNR Hydrology    About Us    Water Planning    Programs    Data    Publications    Calendar

## Draft Broad River Basin Plan

Draft Broad River Basin Plan Access and Public Meeting Information

**Draft Broad River Basin Planning Documents:**

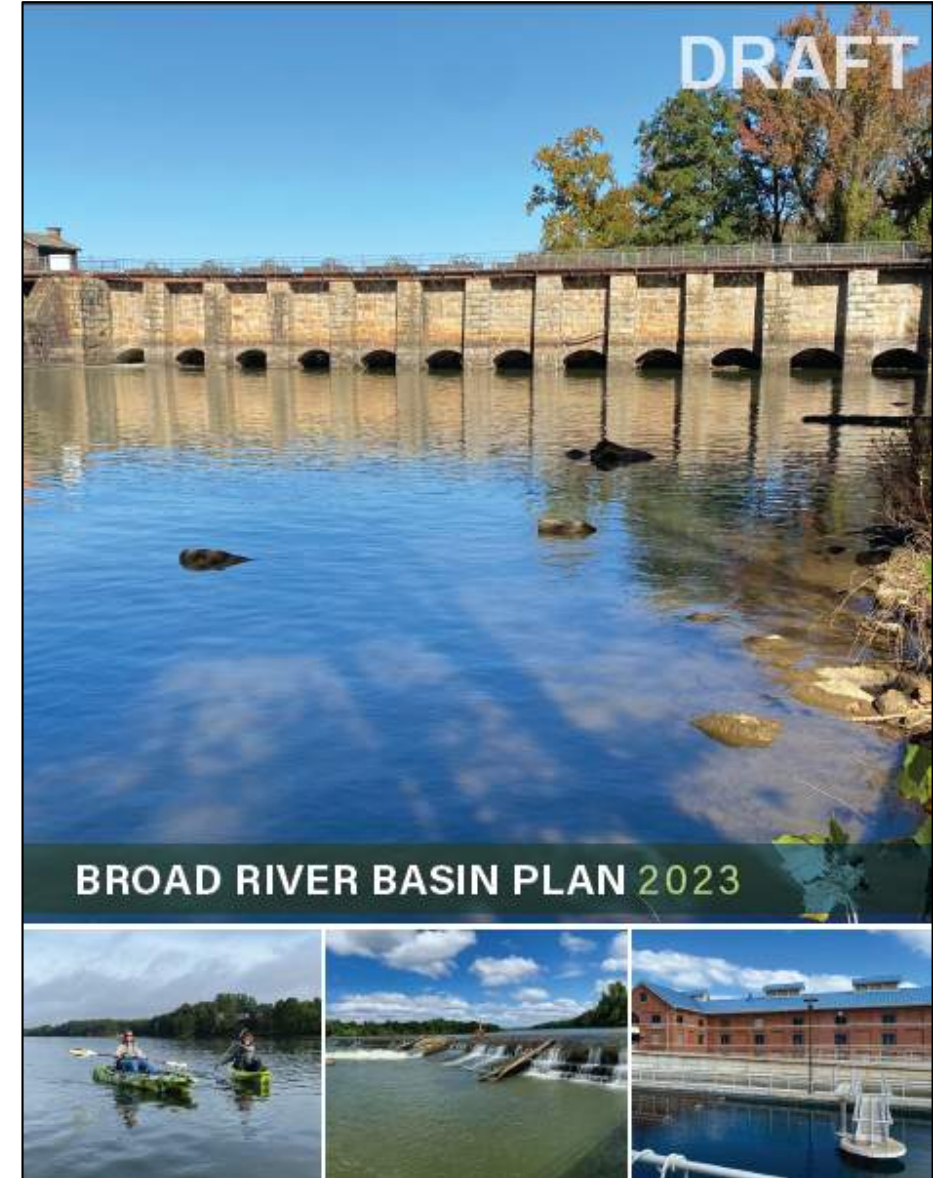
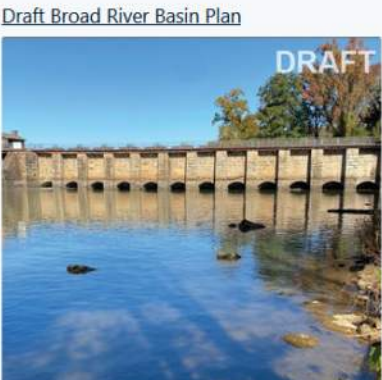
- [Draft Broad River Basin Plan \(Full Report\)](#)
- [Draft Broad River Basin Executive Summary](#)
- [Draft Broad River Basin Plan Summary Flyer](#)

**Public Meeting Information:**

**Date and Time:** November 29<sup>th</sup>, 2023, 6:00 PM - 8:00 PM  
**Meeting Agenda**

**Location:**  
Spartanburg County Office of Emergency Services  
175 Community College Dr.  
Spartanburg, SC 29303

**Public Comment Period and Submission Process:**  
Public comments on the draft Broad River Basin Plan will be accepted from **November 29<sup>th</sup>, 2023 through January 2<sup>nd</sup>, 2024**. Comments should be submitted





# Lower Savannah- Salkehatchie River Basin Planning

Lower Savannah-Salkehatchie River Basin Council

Meeting #1, November 2, 2023

Brooke Czwartacki

Hydrologist

SC Department of Natural Resources





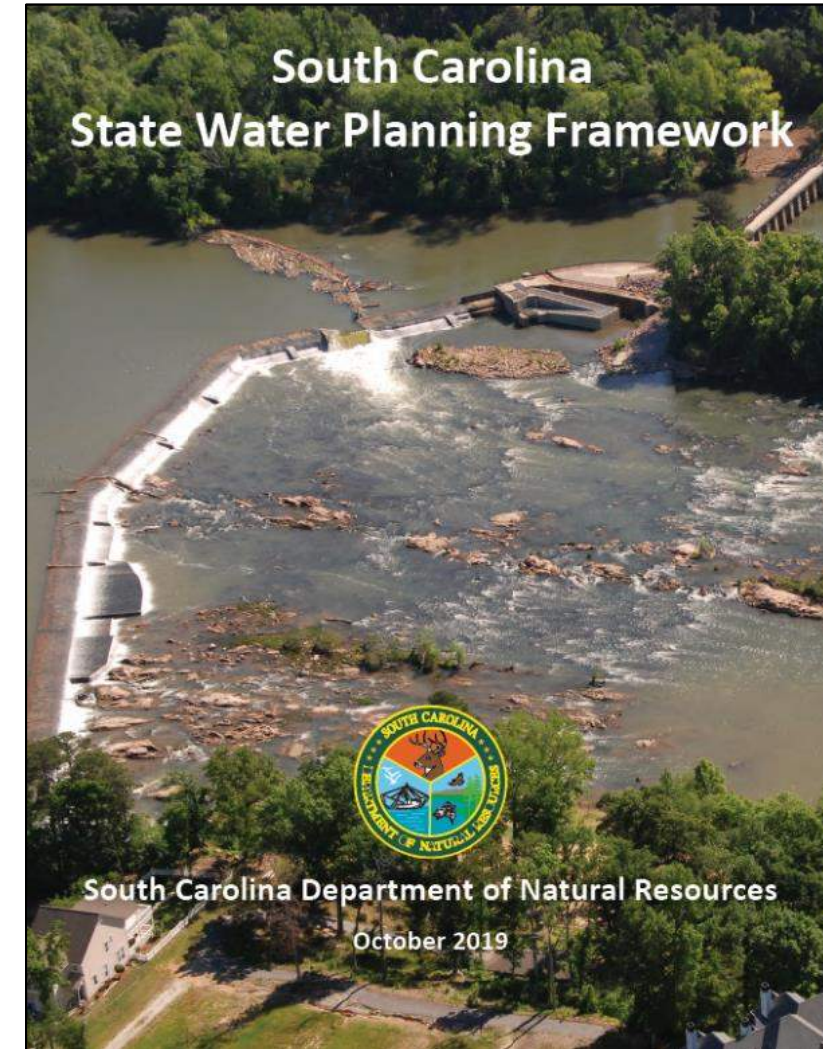
# What is a River Basin Plan?

# What is a River Basin Plan?



## A River Basin Plan answers four questions:

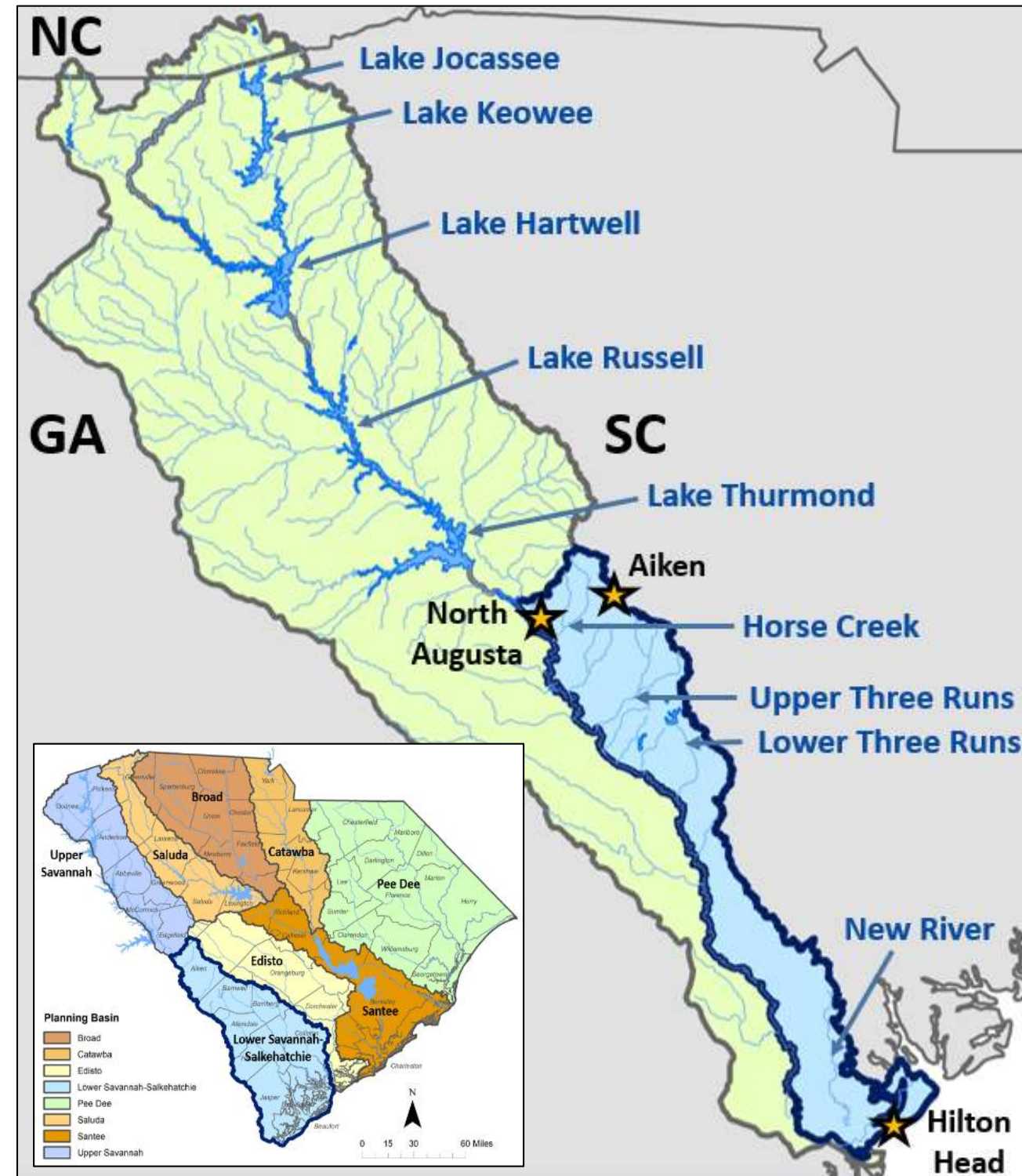
1. What is the basin's current available water supply and demand?
2. What are the current permitted and registered water uses?
3. What will be the basin's water demand over the Planning Horizon, and will the water supply meet the demand?
4. What water management strategies will be employed to ensure the supply meets or exceeds the projected demand over the Planning Horizon?



***Proactive Water Management, not Reactive!***

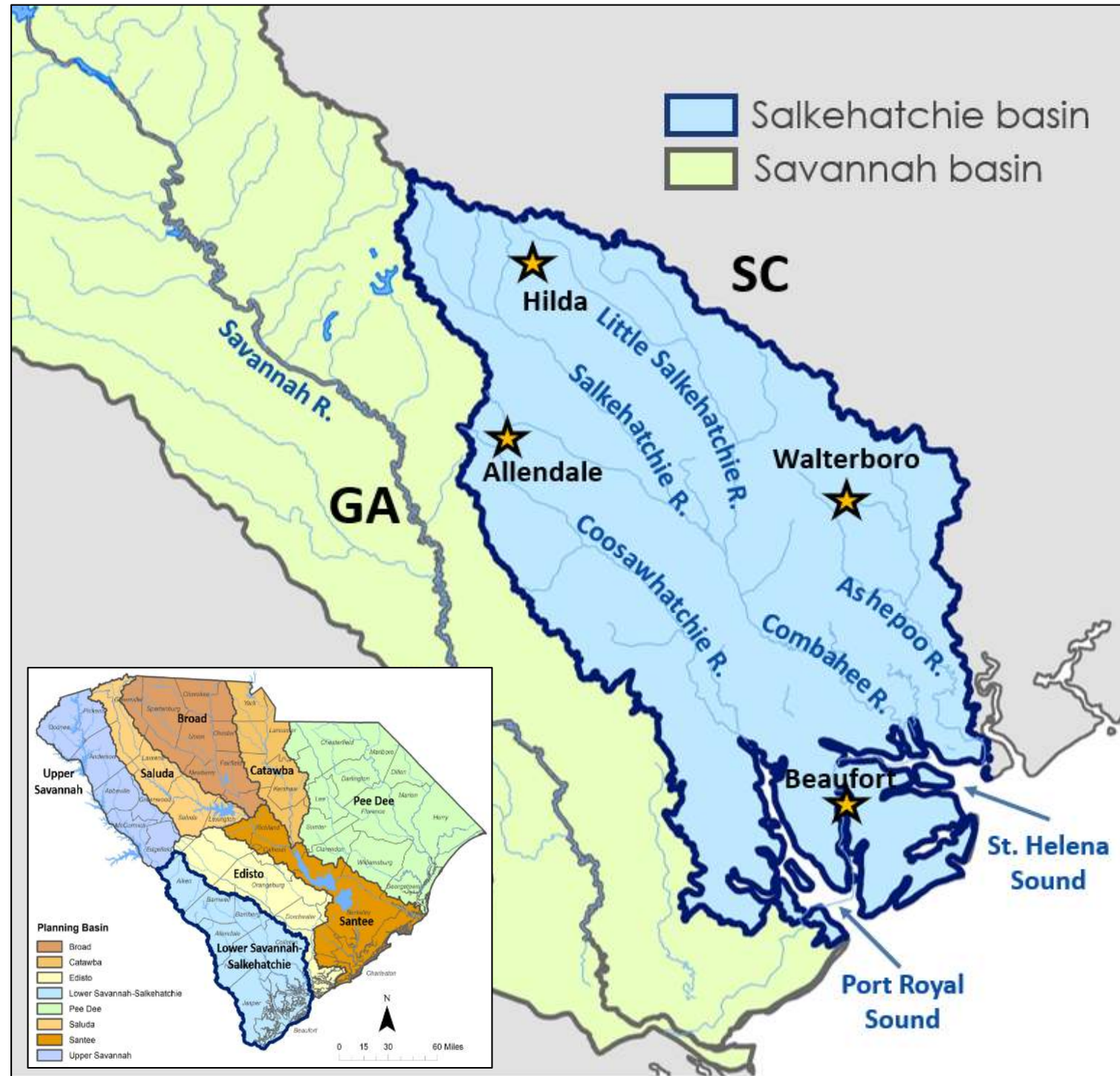
# Savannah Basin Overview

- Length = 314 miles, with headwaters in the mountains of SC, GA, and NC.
- Spans 3 states – NC, GA, SC.
- Area = 10,971 sq. mi.
  - GA – 5,821 sq. mi. (53.1%)
  - SC – 4,979 sq. mi. (45.4%)
  - NC – 171 sq. mi. (1.6%)
- Upper basin dominated by reservoirs operated by Duke Energy and the U.S. Army Corps of Engineers.
- Lower Savannah Basin:
  - 1,759 sq. mi.
  - Outside of Savannah River Site, no major reservoirs.



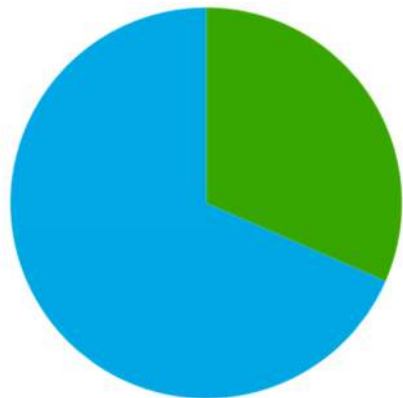
# Salkehatchie Basin Overview

- Basin entirely lies in SC.
- Area = 2,725 sq. mi.
- Salkehatchie, Coosawhatchie, and Ashepoo are the major rivers draining the middle and lower Coastal Plain regions in the basin.
- No major reservoirs.
- The basin contains the most extensive estuarine water bodies in the State.

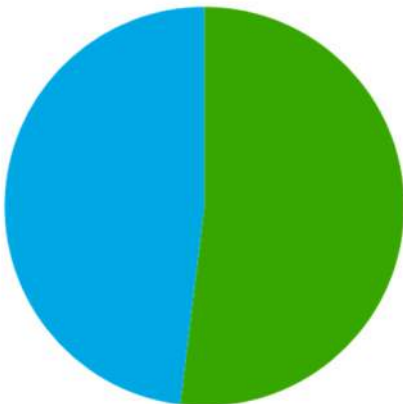


# Lower Savannah-Salkehatchie Water Withdrawals

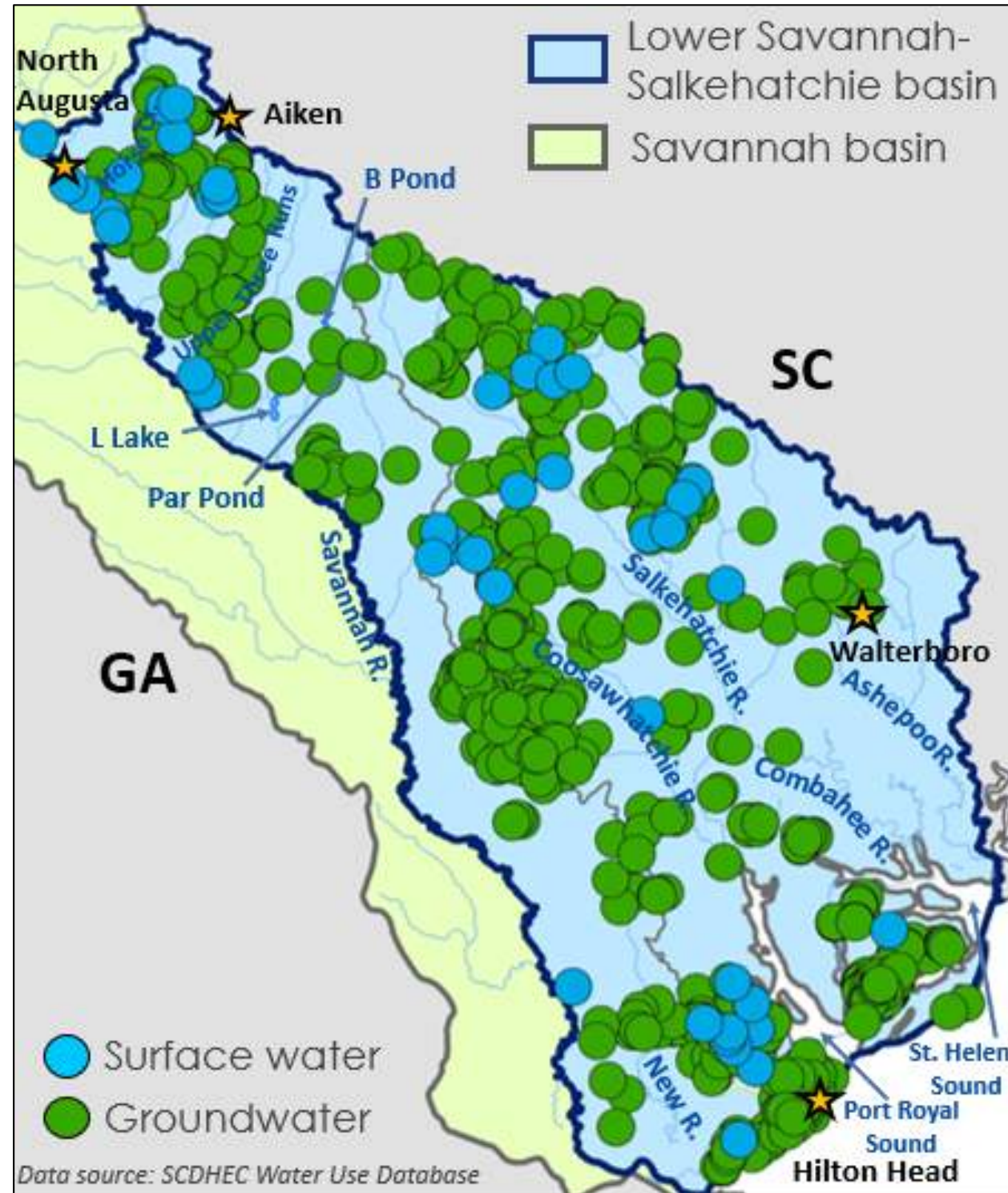
- Both surface water and groundwater are important resources in the basin.



Including Energy

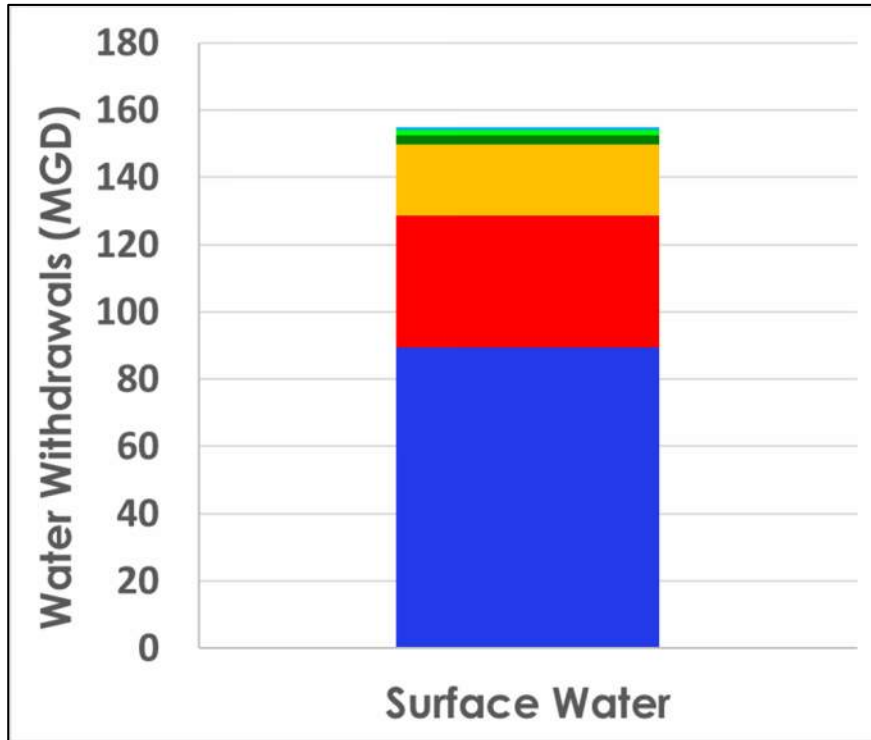


Excluding Energy

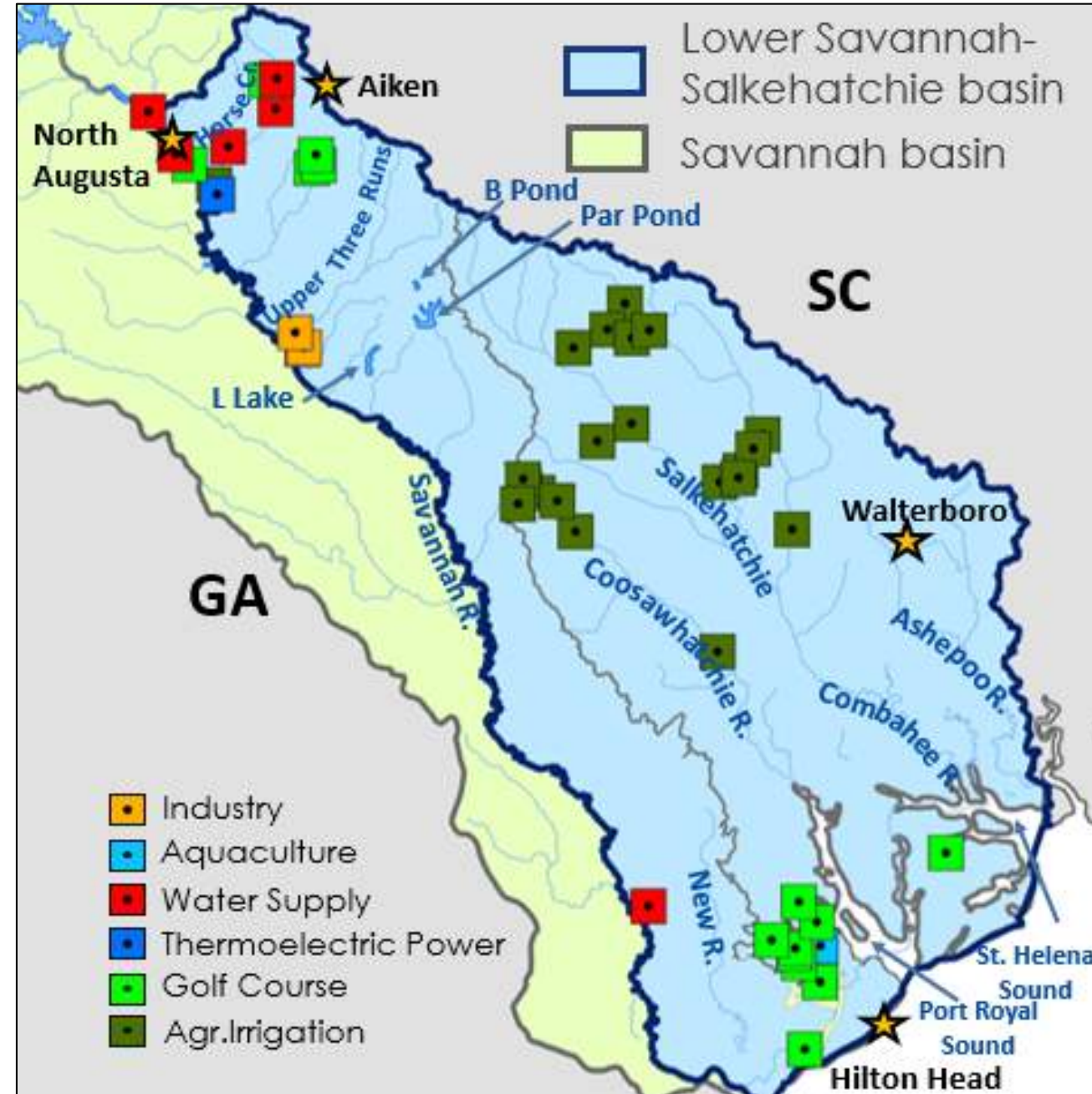




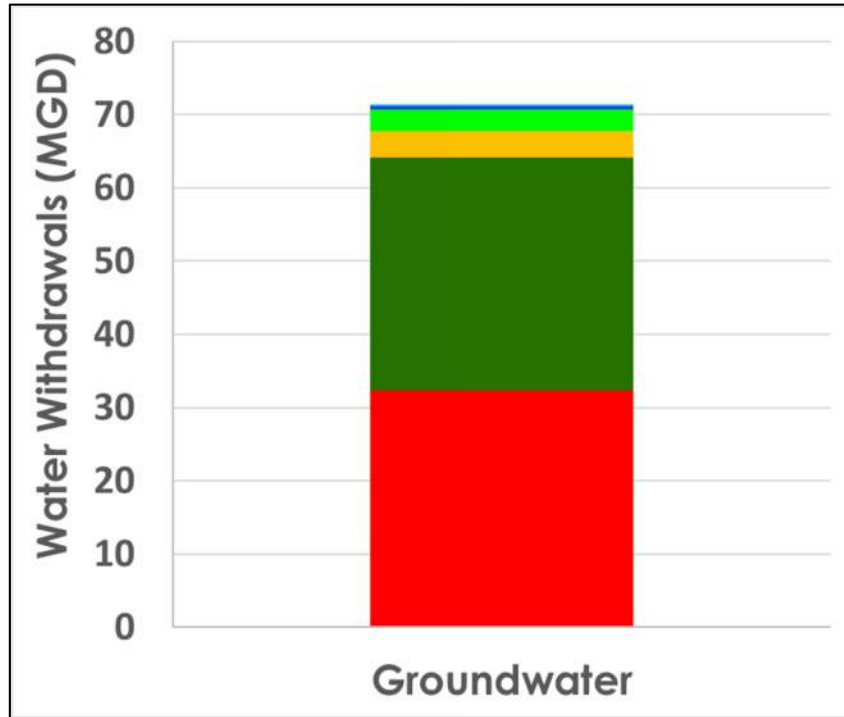
# 2022 Reported Surface Water Withdrawals



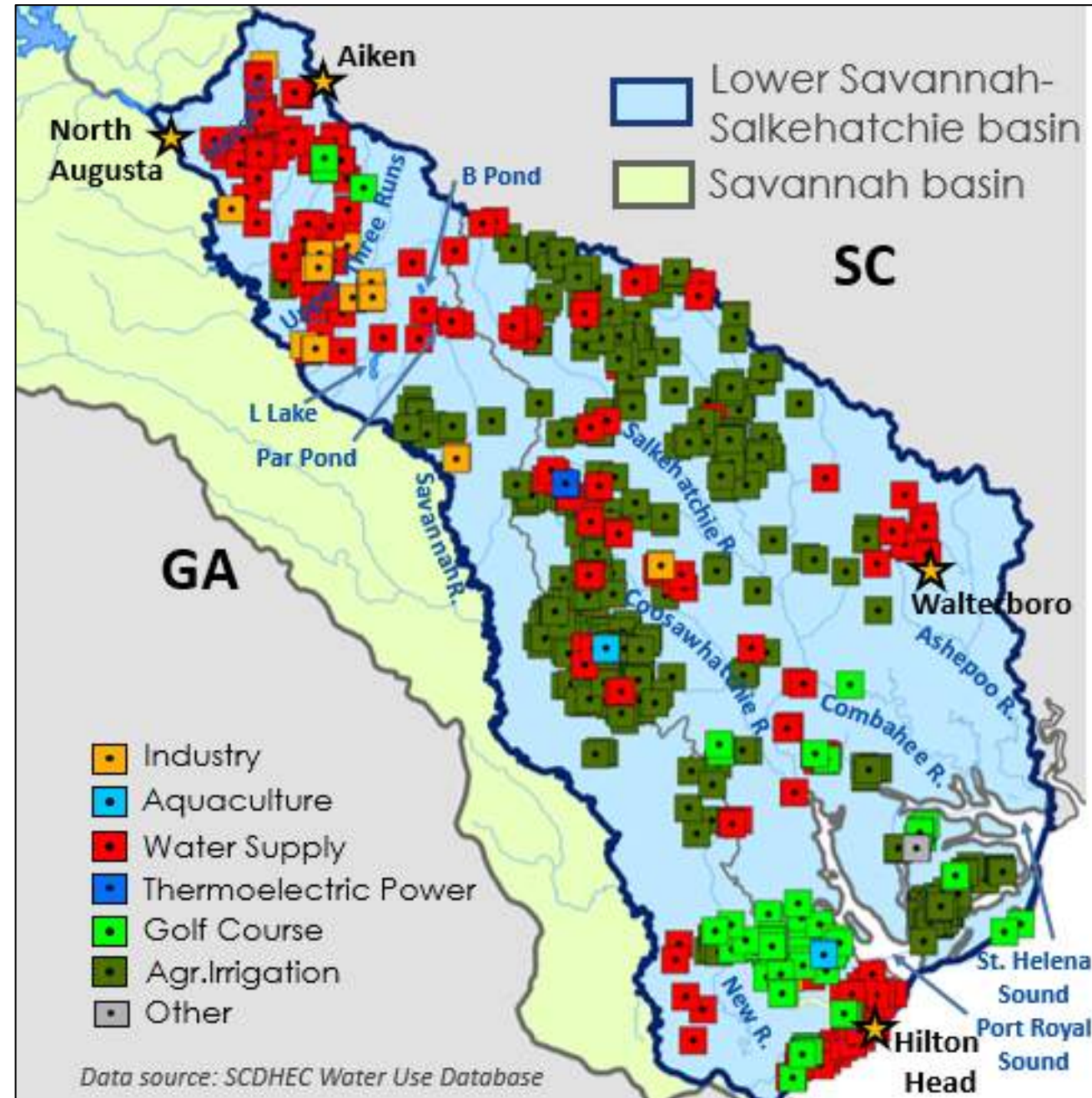
- Thermoelectric Power (58%)
- Water Supply (25%)
- Industry (14%)
- Agr. Irrigation (2%)
- Golf Course (1%)
- Aquaculture (1%)



# 2022 Reported Groundwater Withdrawals



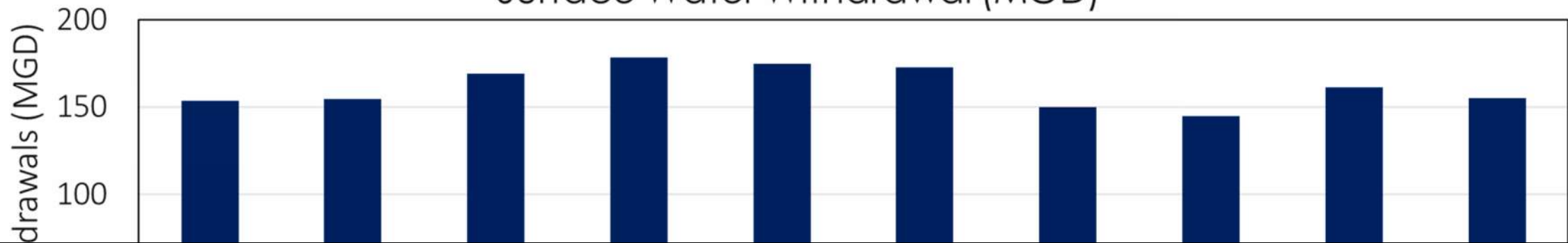
- Water Supply (45%)
- Agr. Irrigation (44%)
- Industry (5%)
- Golf Course (4%)
- Thermoelectric Power (1%)
- Aquaculture (<1%)
- Other (<1%)



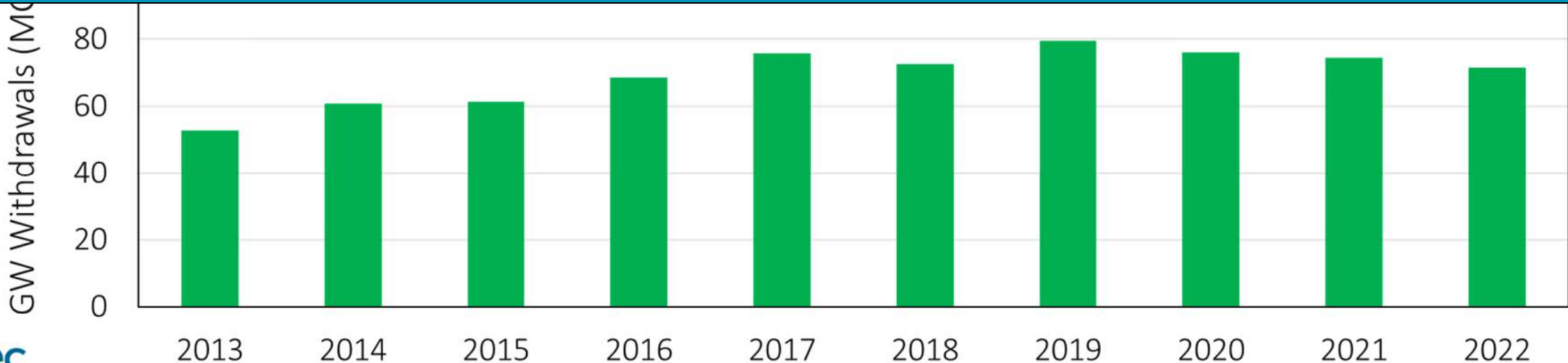
# Reported Water Withdrawals (2013 – 2022)



Surface Water Withdrawal (MGD)



- How will this demand change over the next 50-years?
- Will we have enough water to meet those demands?
- If not, how can we manage our water resources to meet future demand?



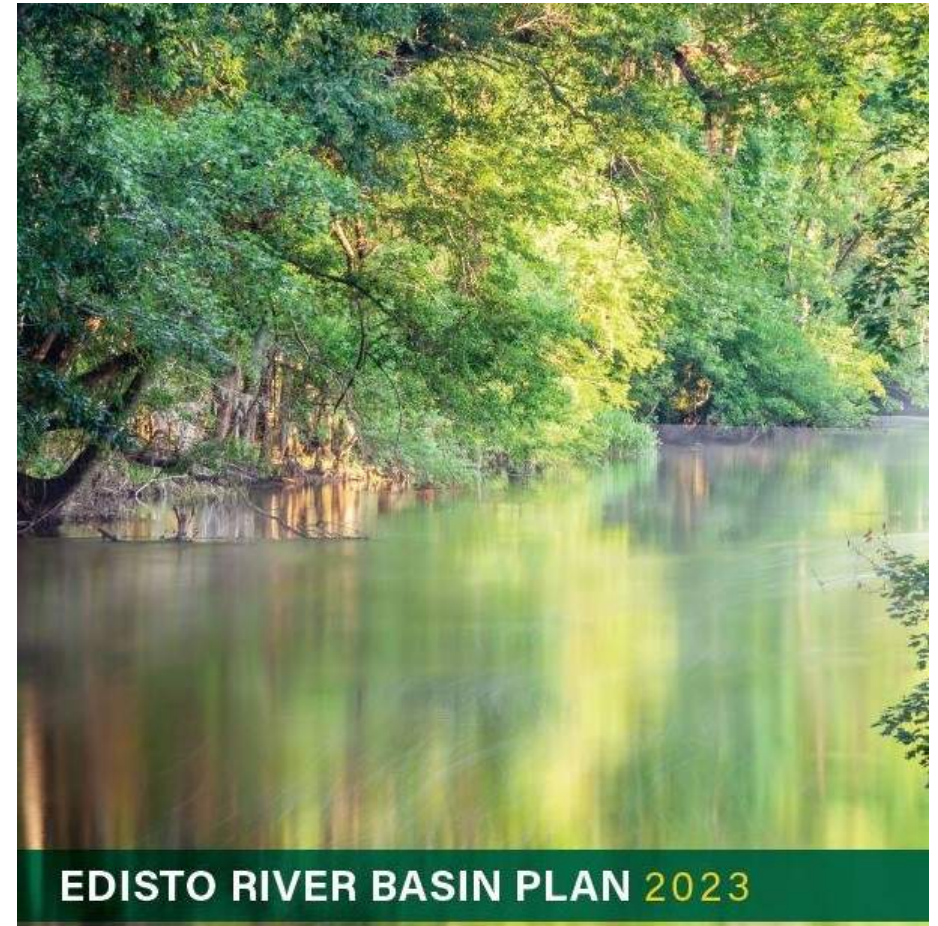


# Guiding Principles

- Water is a limited natural resource and is a major factor for economic development and environmental protection.
- River Basin Plans should strive for the equitable use of water resources with the goal of ensuring water is available for all uses, when and where needed, throughout the Planning Horizon and under drought conditions.
- River Basin Plans should protect the public's health and well-being and should balance social, economic, and environmental needs.

# Features of a River Basin Plan

- Stakeholder-developed.
- Covers a **50-year** Planning Horizon.
- Considers both **surface water** and **groundwater** resources.
- Current focus is on water **quantity** not water **quality** with emphasis on drought conditions.
- **Not a regulatory document** but may include recommendations regarding State water policy, law, and regulations.
- Updated every 5-years – **water planning will be an ongoing process.**
- Supported by hydrologic data, models, and water-demand projections.



# 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

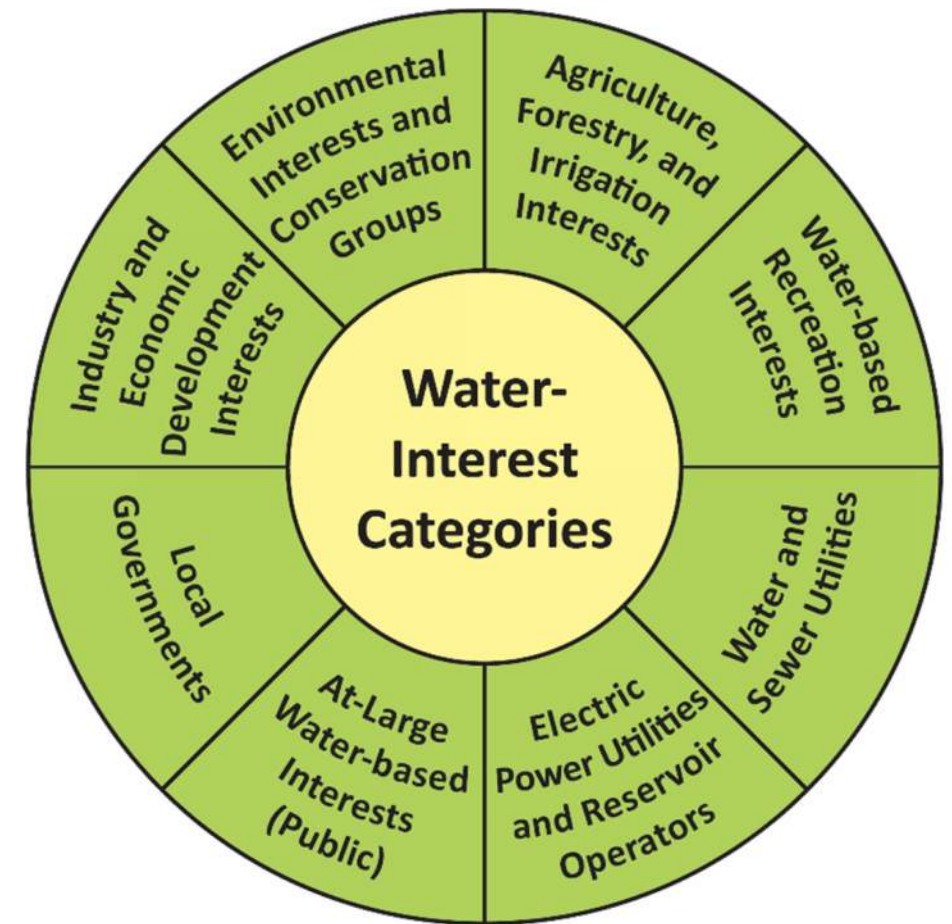


# How will the River Basin Plan be Developed?



# Planning Framework calls for the formation of a River Basin Council (RBC) in each planning basin

- **Stakeholder-led team** responsible for developing the River Basin Plan.
- **25-30** members representing **8 interest categories**.
- Governed by a set of Bylaws.
- **Consensus based** decision-making process.
- Chair and Vice-Chair elected by RBC.



***River Basin Plans will be developed over a 2-year period***



# Lower Savannah-Salkehatchie River Basin Council

## Planning Team

- Clemson
  - Coordination
  - Public Outreach
- CDM Smith
  - Facilitation
  - SW Tech Support
  - Report Writing
- USGS
  - GW Tech Support
- SCDNR
  - Oversight
  - Education
- SCDHEC
  - Education



Name	Organization	Interest Category
Austin Connelly	Farmers Grain & Supply Inc.	Agriculture, Forestry, and Irrigation
Samuel Grubbs	Samuel L Grubbs Farm LLC	
Brad O'Neal	Coosaw Farms	
Joseph Oswald III	JCO Farms & AIS LLC	
Brad Young	Hilton Head National Golf Club	
Kenneth Caldwell	Alliant Insurance Services/Tree Farmer	At-Large
Jeffrey Jones	Adjunct Professor	
Dean Moss	Retired	
Brandon Stutts	Dominion Energy	Electric-Power Utilities
Leslie Dickerson	Savannah Riverkeeper	Environmental
Lawrence Hayden	Self Employed - Previously USDA Forest Service	
Courtney Kimmel	Port Royal Sound Foundation	
Sara O'Connor	Coppage Law Firm/Seaside Sustainability	
Danny Black	Southern Carolina Regional Alliance	Industry and Economic Development
Heyward Horton	Colleton County Economic Alliance, Inc.	
Jeff Hynds	Department of Energy - Savannah River Field Office	
Will Williams	Western SC Economic Development Partnership	
John Carman	City of Aiken Energy and Environmental Committee	Local Governments
Tommy Paradise	City of North Augusta	
Brian Chemsak	Beaufort Jasper Water and Sewer Authority	Water and Sewer Utilities
Kari Foy	Lowcountry Regional Water System (LRWS)	
Lynn McEwen	City of Barnwell	
Pete Nardi	Hilton Head Public Service District (PSD)	
Reid Pollard	Retired	Water-based Recreational
Bill Wabbersen	Retired	



# RBC Roles and Responsibilities

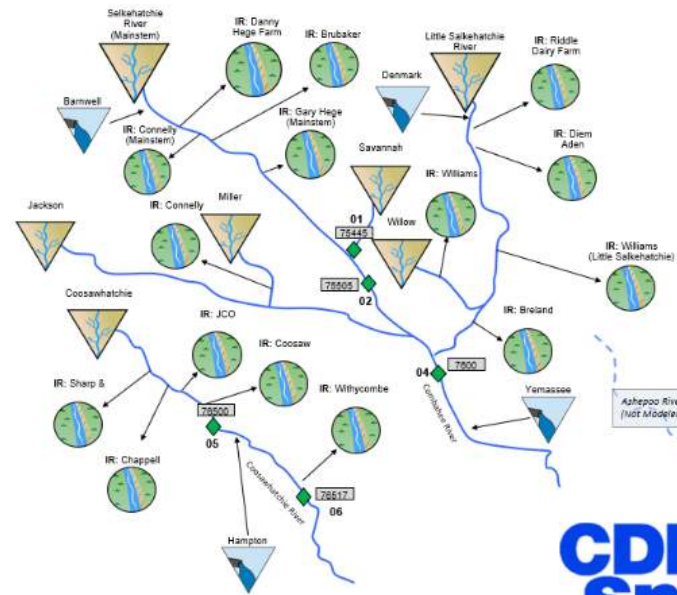
- Identify water shortages or conflicts using hydrologic models.
- Recommend strategies to mitigate or eliminate water use conflicts or water shortages.
- Help draft River Basin Plans.
- Communicate with stakeholders and the public on water planning activities.
- Recommend changes to water policy or legislation or to the water planning process.
- Update River Basin Plans every 5-years and amend the plans as needed.



# Lower Savannah and Salkehatchie Surface Water Models (SWAM)



*Models are decision-making tools used to assess water availability and management strategies, and will support the development of the River Basin Plan*



Salkehatchie SWAM Model

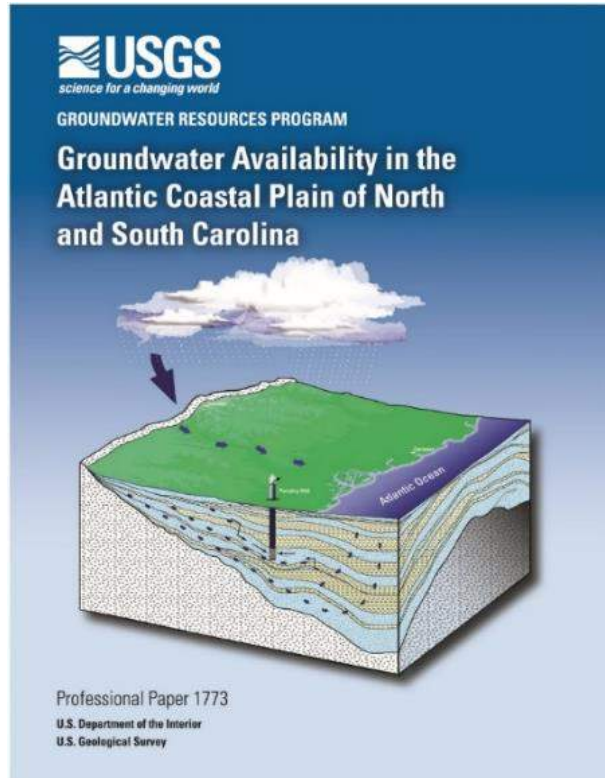


Lower Savannah SWAM Model

Updated models are available at:

<https://hydrology.dnr.sc.gov/surface-water-models.html>

# Lower Savannah-Salkehatchie Groundwater Model



- USGS Coastal Plain Groundwater model completed in 2021.
  - Regional model will be developed in coming year.
- ***Model is a decision-making tool used to assess groundwater availability and management strategies and will support the development of River Basin Plans.***
- More information can be found at <https://hydrology.dnr.sc.gov/groundwater-models.html>.



# Water Demand Projections



- Water-demand methodology report released in October 2019 and available at:
  - <https://hydrology.dnr.sc.gov/water-demand.html>.
- Projections will be used in surface water model to assess future water availability and will support the development of River Basin Plans.
- Water-demand projections for the Lower Savannah-Salkehatchie basin will be developed (Clemson/SCDNR).
- RBC will have opportunity to review and provide feedback on the Lower Savannah-Salkehatchie river basin's water-demand projections.



US Army Corps  
of Engineers



CLEMSON  
UNIVERSITY



# RBC Support

- **Contractors** (solicited and hired by SCDNR):
  - Meeting Facilitation, SW Technical Support, and River Basin Plan report writing – **CDM Smith, Inc.**
  - Meeting Coordination (administrative and logistical support) and Public Outreach – **Clemson University**
  - Groundwater Modeling Technical Support – **USGS**
- **Other State and Federal Agencies:**
  - RBCs can request agencies to serve as Advisors.
  - Participate in RBC meetings and subcommittee meetings as requested.
- **RBCs can request input from other outside Advisors.**

*PPAC, SCDNR, and SCDHEC will continue to provide oversight for the river basin planning process.*



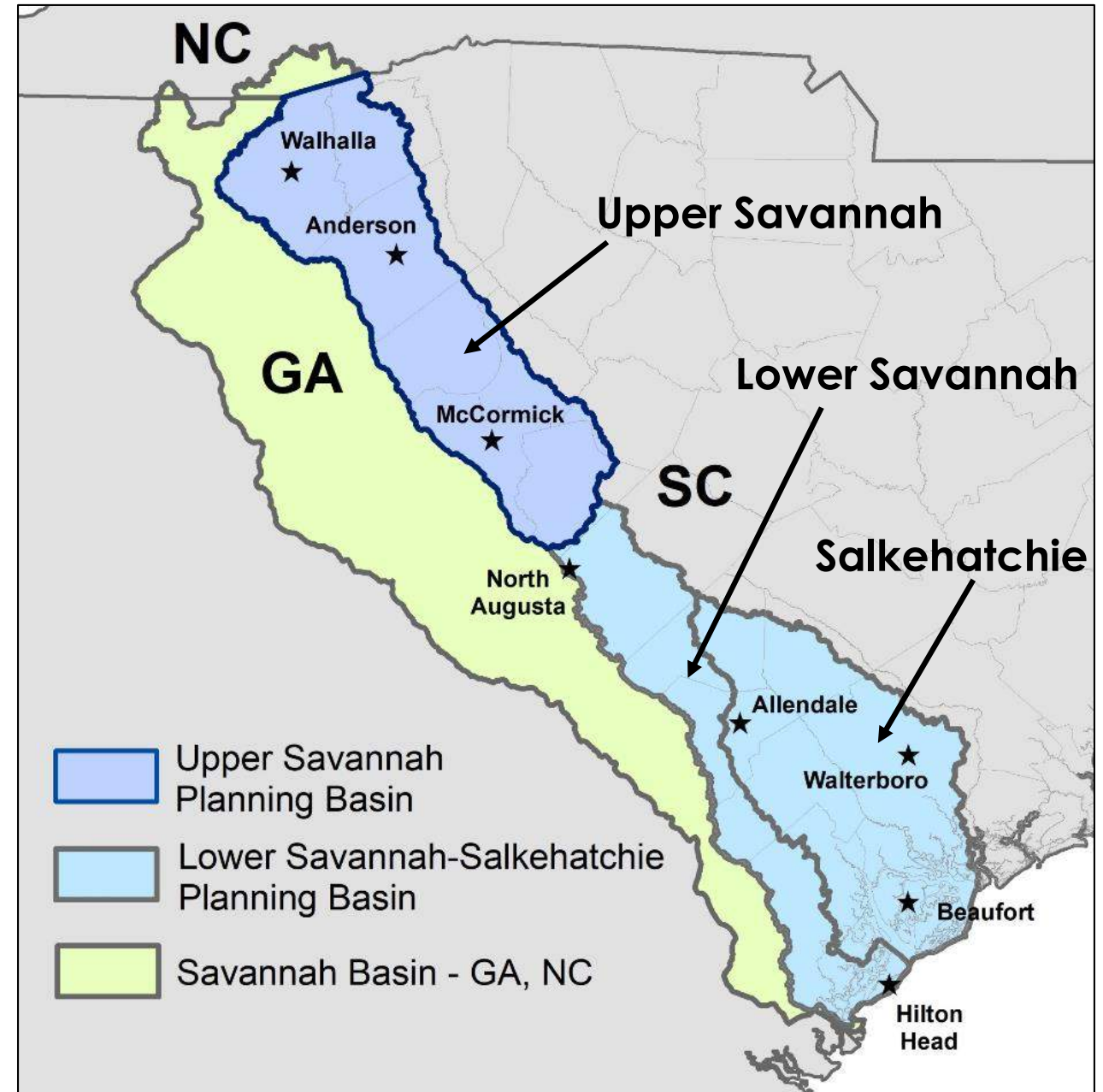
# Coordination with other Planning Bodies

- Planning Framework recognizes the existence of other formal water planning groups and drought management groups.
- Planning Framework emphasizes coordination with such groups and provides general guidelines.
- Inter-basin River Councils (IRCs):
  - Made up of RBC members from two or more basins.
  - A forum for adjoining basins to communicate and coordinate on mutual interests and to resolve conflicts.

# Coordination with Upper Savannah RBC



- Upper Savannah basin planning activities began in July 2023.
- An IRC will be formed between the Upper Savannah planning basin and the Lower Savannah-Salkehatchie planning basin.





# Limitations of the Lower Savannah-Salkehatchie River Basin Planning Process



- Process is **not** intended as a forum to evaluate and provide alternatives to:
  - the USACE's Drought Management Plan – any future studies regarding the Drought Management Plan will be led by the USACE in a separate process.
- For Lower Savannah, planning will focus on demand-side water management strategies and supply-side strategies on tributaries.



# Stakeholder/Public Participation Guidelines

- Guidelines for stakeholder and public participation described in Section 3.7 of Planning Framework.
- Public meetings (3 to 4 per basin):
  - Prior to first RBC meeting – “kickoff” meeting(s).
  - After *draft* River Basin Plan is released.
  - After *final* River Basin Plan is released.
- Draft River Basin Plan public review period (30 days).
- RBC meetings:
  - Open to the public.
  - Each meeting will include public comment period.

# SCDNR Hydrology Website

SCDNR Hydrology

About Us Water Planning Programs Data Publications Calendar

## Water Planning

The SCDNR Hydrology Section is responsible for formulating and establishing a comprehensive water resources policy for the State of South Carolina.

[Water Planning Overview](#)

[South Carolina State Water Planning Framework](#)

[River Basin Planning](#)

### Water Planning News

- [Next Pee Dee River Basin Council Meeting Scheduled for October 24<sup>th</sup>, 2023](#)
- [Next Broad River Basin Council Meeting Scheduled for October 19<sup>th</sup>, 2023](#)
- [Next Saluda River Basin Council Meeting Scheduled for October 18<sup>th</sup>, 2023](#)
- [SCDNR Appoints Lower Savannah-Salkehatchie River Basin Council](#)
- [Third Upper Savannah River Basin Council Meeting Scheduled for October 11<sup>th</sup>, 2023](#)
- [SCDNR Extends Deadline for Submitting Lower Savannah-Salkehatchie](#)

### Hydrology Calendar

Upcoming events

- [Pee Dee River Basin Council Meeting #17](#)  
Tuesday October 24, 2023 from 9:00AM - 1:00PM  
2200 Pocket Rd, Darlington, SC 29532, USA ([map](#))
- [Upper Savannah River Basin Council Meeting #4](#)  
Wednesday November 8, 2023 from 10:00AM - 2:00PM  
TBD ([map](#))
- [Saluda River Basin Council #9](#)

<https://hydrology.dnr.sc.gov/water-planning.html>

Site will host:

- Announcements/Calendar of Events
- Access to water planning documents – Planning Framework, technical reports
- RBC meeting materials – agendas, presentations, recordings

SCDNR Hydrology

About Us Water Planning Programs Data Publications Calendar

## Lower Savannah-Salkehatchie Basin Planning

Activities and reports on water planning in the Lower Savannah-Salkehatchie River basin.

### Overview

River basin planning activities in the Lower Savannah-Salkehatchie river basin have been initiated under the guidance of the [South Carolina State Water Planning Framework](#). Two public meetings were hosted by the SCDNR on August 24<sup>th</sup> at the Walterboro Wildlife Center in Walterboro, SC and on August 29<sup>th</sup> at the North Augusta Community Center in North Augusta, SC to kick-off planning activities (presentations given at each meeting can be accessed on the [meetings page](#)). An overview of the South Carolina State Water Planning Framework was provided to stakeholders in the basin, and applications to serve on the Lower Savannah-Salkehatchie River Basin Council were solicited. Formal Council meetings will begin in the Fall of 2023. Meeting agendas, presentations, recordings, and summaries can be accessed [here](#). Please visit this website for periodic updates and new information regarding Lower Savannah-Salkehatchie river basin planning activities.

*The first Lower Savannah-Salkehatchie River Basin Council meeting has been scheduled for November 2<sup>nd</sup>, from 10:00 AM to 2PM. Draft agenda available soon.*

The Council will meet in-person at the Clemson Edisto REC in Blackville, SC (64 Research Street, Blackville, SC 29817). The meeting may be attended virtually as well. Please see draft agenda for virtual meeting access information when available.

*SCDNR is currently accepting applications for the Local Governments and Water-based Recreation Interest Categories.*

Submission instructions are included in the application. To apply, please click below.

[Download Application](#)

[Lower Savannah-Salkehatchie Basin Planning Meetings](#)

[Lower Savannah-Salkehatchie River Basin Council](#)

[Savannah SWAM Model Access](#)

<https://hydrology.dnr.sc.gov/lowsav-basin-planning.html>

# Questions?

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# River Basin Planning Phases & Examples

John Boyer, CDM Smith

*Agenda Item 5 (continued)*

# The Four Phases of the Planning Process

## Phase 1

- Learn about the basin's water (and related) resources
- Become familiar with rules and laws governing water use
- Develop a vision statement and goals
- Review water demand projections
- Become familiar with the modeling tools

The focus of Phase 1 is on *learning*.

## What is expected of the RBC in Phase 1:

- Be inquisitive. Ask questions. Keep an open mind.
- Suggest and participate in field trips.
- Identify additional topics that the RBC should explore and learn.
- Select an alternate. Select a Chair & Vice Chair.

# Phase 1 Examples from other RBCs

## Information Topics Covered

- Summary of Current Water Use
- Population and Water Demand Projections
- Basin Climatology and SC Drought Response Act
- Surface Water Resources and Low Flow Characteristics
- Groundwater Resources
- Water Law
- Aquatic Resources and Flow-Ecological Health Relationships
- Overview of the Surface Water Models

## Field trips

- **Edisto:** Walthers Farm, Edisto River Canoeing, Charleston Water System Intake, Aiken State Park Groundwater Monitoring



- **Broad:** Columbia canal and WTP, diversion dam and fish passage, Fairfield Pumped Storage Facility, Parr Shoals Hydroelectric Facility, Lake Blalock Canoeing, Spartanburg Water System Advanced Oxidation System, Cooley Farms.



# The Four Phases of the Planning Process

## Phase 2

- Evaluate current and future water availability issues
- Evaluate the safe yield of water supply reservoirs
- Consider and evaluate flow-ecology relationships

Phase 2 answers the question “***is there enough water to meet current and future needs?***”

### **What is expected of the RBC in Phase 2:**

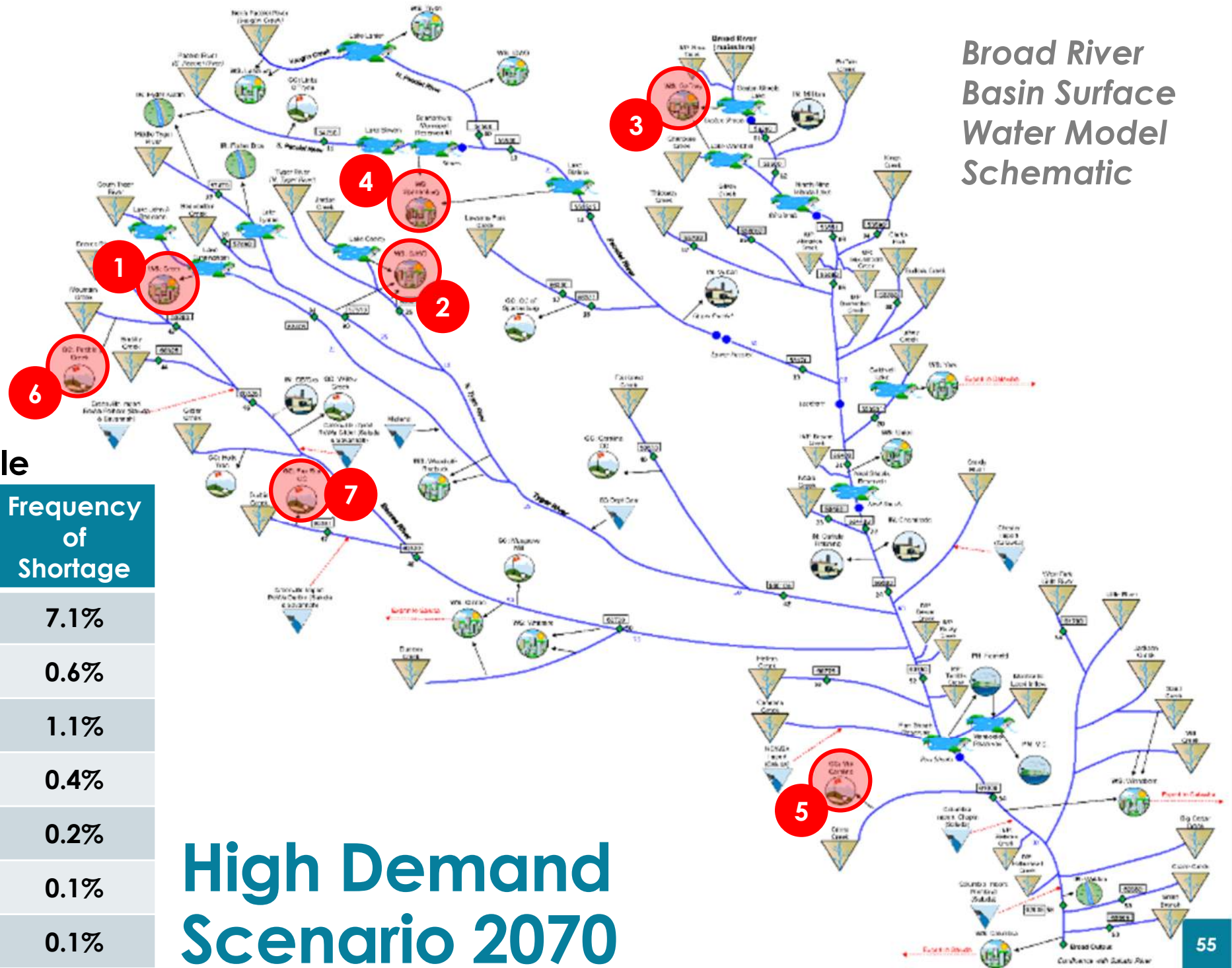
- Take a critical look at the surface water model inputs and outputs.
- Request additional analyses where warranted.



# Phase 2 Example from the Broad

Evaluating future  
water availability  
issues

Broad River  
Basin Surface  
Water Model  
Schematic



Surface Water Shortage Table

Map ID	Water User	Frequency of Shortage
1	WS: Greer	7.1%
2	WS: SJWD	0.6%
3	WS: Gaffney	1.1%
4	WS: Spartanburg	0.4%
5	GC: Mid Carolina	0.2%
6	GC: Pebble Creek	0.1%
7	GC: Fox Run	0.1%

High Demand  
Scenario 2070

# The Four Phases of the Planning Process

## Phase 3

- Develop and evaluate **water management strategies**
- Recommend and prioritize strategies

The focus of Phase 3 is on finding ***solutions***.

### What is expected of the RBC in Phase 3:

- Provide direction to the modeling team on water management strategies to evaluate.
- Identify strategies that support a water conservation and water efficiency ethic.
- Recognize and consider the potential for changing conditions and select strategies appropriately.
- Begin reviewing and commenting on draft chapters of the Plan.

# Phase 3 Example from the Broad

Evaluating water management strategies by modeling

## “What if” Simulations...

- Water Utilities Drought Management Plans were triggered, and targeted demand reductions were achieved?
- Reservoir releases were optimized based on the (higher) projected demands (withdrawals)?
- Long-term reductions in per capita water demand were achieved through a portfolio of water conservation, water loss control, and water efficiency strategies?

## Supply-Side Strategies Being Evaluated:

- Increasing dam height to increase reservoir storage
- Adding an off-line quarry for additional storage
- Adding a second intake and renegotiating average annual withdrawals allowed by FERC
- A new regional water supply reservoir



# The Four Phases of the Planning Process

## Phase 4

- Develop legislative, policy, technical and planning process recommendations
- Prepare the River Basin Plan that:
  - Includes an *implementation plan*
  - Identifies *drought response initiatives*
  - Considers *public input*

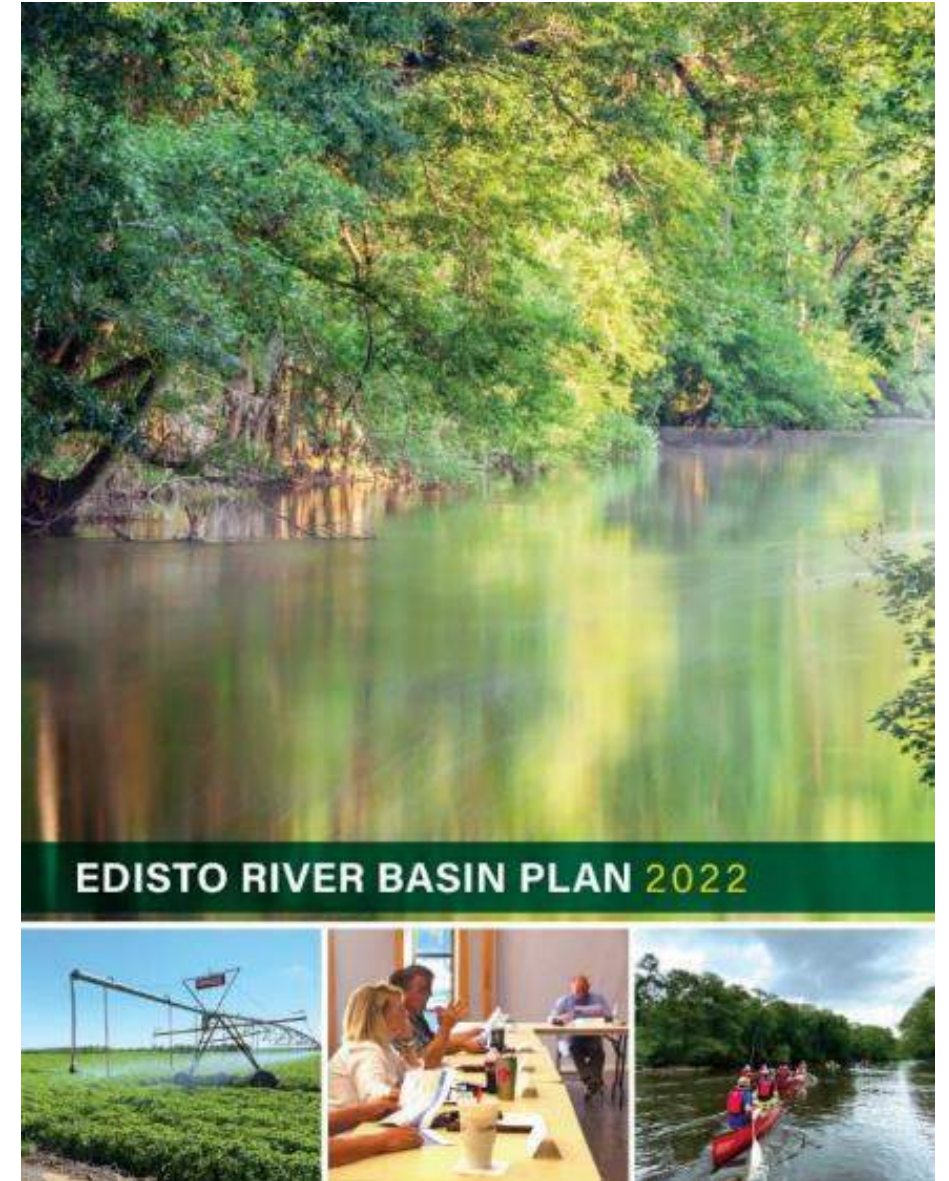
Phase 4 focuses on *achieving consensus and writing the Plan.*

## What is expected of the RBC in Phase 4:

- Make timely decisions and recommendations
- Review and comment on draft chapters of the Plan. Make sure the Draft Plan accurately represents your sector's water-related interests.
- Participate in public outreach

# Phase 4 Example from the Edisto

- The Edisto RBC prepared a River Basin Plan that:
  - Recommends **management strategies** to eliminate projected surface water shortages.
  - Recommends **monitoring and additional groundwater modeling** in identified Groundwater Areas of Concern.
  - Includes a **Low Flow Strategy** that aims to maintain a minimum amount of flow in the Edisto River during drought.
  - Includes a detailed **Implementation Plan** with specific short-term (5-year) and long-term strategies and actions to address six major objectives .
  - Includes **technical, policy, legislative, regulatory, and planning process recommendations.**



# Important Things to Remember

- **River basin planning is an ongoing process.**
  - Not all stakeholder needs and desires can be addressed during the first phase of planning.
- **The process is not intended to resolve issues associated with South Carolina water laws and regulations.**
  - But, through discussion, RBC recommendations on policies and regulations can be documented and summarized for agency and legislature consideration.
- The process is intended to be **stakeholder-driven** and leverage the knowledge of those that use, recreate, and seek to protect the water resources of the basins.
- The process provides **transparency** and uses the best-available science and tools to assess water availability and identify strategies to meet water demands 50 years into the future.



# Georgia Water Planning – Over Two Decades of Planning

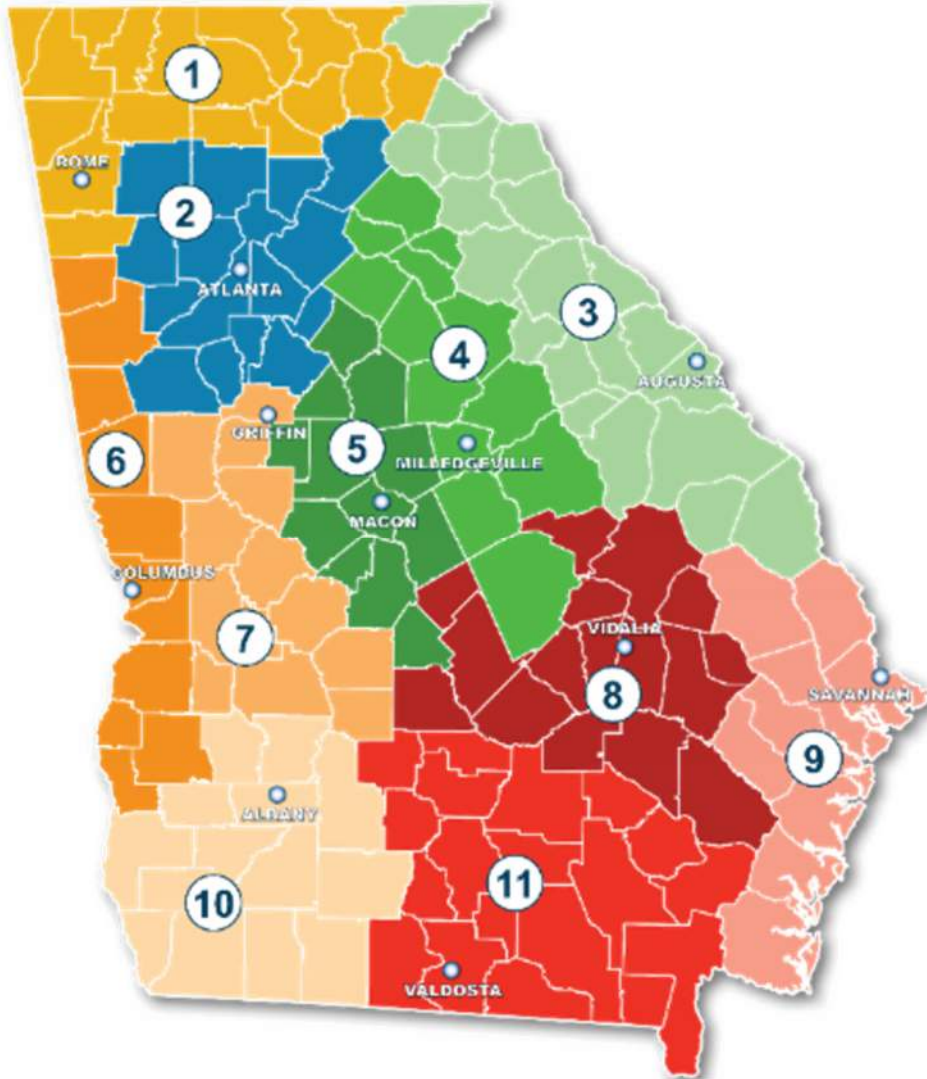
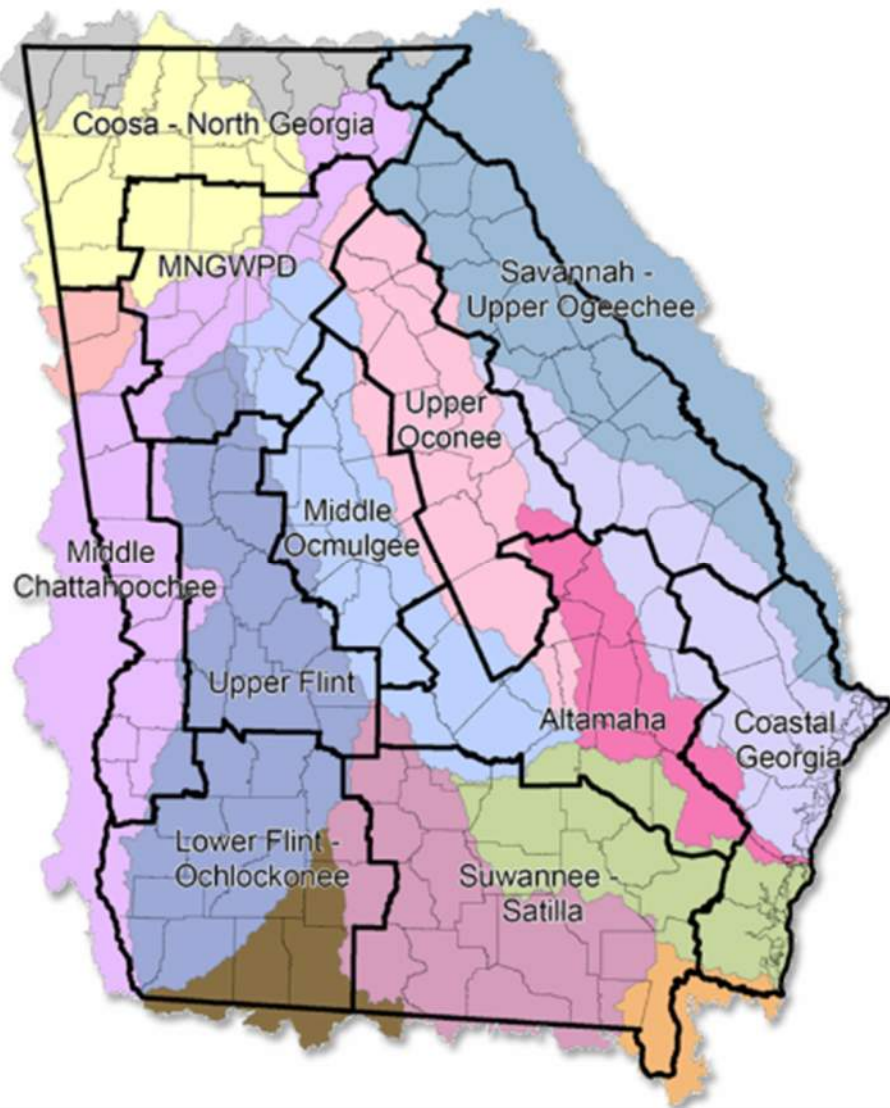


*The 2023 Regional Water Plans were adopted by Georgia EPD's Director on June 29, 2023. The plan outlines near-term and long-term strategies to meet water needs through 2060*

## The 5-Year Review Cycles Focus on:

- Updated water demand and wastewater forecasts
- Update Surface Water and Ground Water Availability Resource Assessments (Quantity)
- Updated Surface Water Quality Availability Resource Assessment
- Refine Management Practices, if needed, to address water resource

# Georgia Regional Water Councils



- ① COOSA-NORTH GEORGIA
- ② METRO WATER DISTRICT
- ③ SAVANNAH-UPPER OGEECHEE
- ④ UPPER OCONEE
- ⑤ MIDDLE OCMULGEE
- ⑥ MIDDLE CHATTAHOOCHEE
- ⑦ UPPER FLINT
- ⑧ ALTAMAHA
- ⑨ COASTAL
- ⑩ LOWER FLINT-OCLOCKONEE
- ⑪ SUWANNEE-SATILLA