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SC DEPARTMENT of ENVIRONMENTAL SERVICES

SOUTH CAROLINA DEPT. OF COMMERCE

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SOUTH CAROLINA OFFICE OF RESILIENCE

The Charge for WaterSC

Executive Order No. 2024-22

Stakeholder Engagement Plan
October 31, 2024

Report to Surface Water Study Committee
January 31, 2025

Advise on updated State Water Plan
December 31, 2025

Working Group Meetings

waterSC

Today's Focus: The State of Surface Water

Time	Agenda
1:00 pm	Welcome & Leading the Charge for WaterSC
1:10 pm	State of Surface Water in SC: Stakeholder Focus
1:40 pm	River Basin Councils' Recommendations and Themes
1:50 pm	SC Surface Water Law in Context
2:05 pm	Water SC State Agency Focus: DNR Drought Monitoring and Response in SC
2:20 pm	Break
2:30 pm	State of Surface Water in SC: Case Studies & Tabletop Discussions
3:50 pm	Accomplishments & Next Steps
4:00 pm	Adjourn & Networking

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Status of River Basin Councils' Recommendations and Themes

John Boyer, PE, BCEE, PMP
CDM Smith
December 12, 2024

Policy, Legislative, and Regulatory Recommendations

River Basin Councils have been developing recommendations that include:

- Modifications to existing state or local laws, regulations, or ordinances
- New state or local laws, regulations, or ordinances
- Ideas for recurring funding for water planning work
- Restructuring existing groups or agencies

Saluda RBC

Edisto RBC

Broad RBC

Status of Recommendations

Documented in Final Plan:
Edisto and Broad

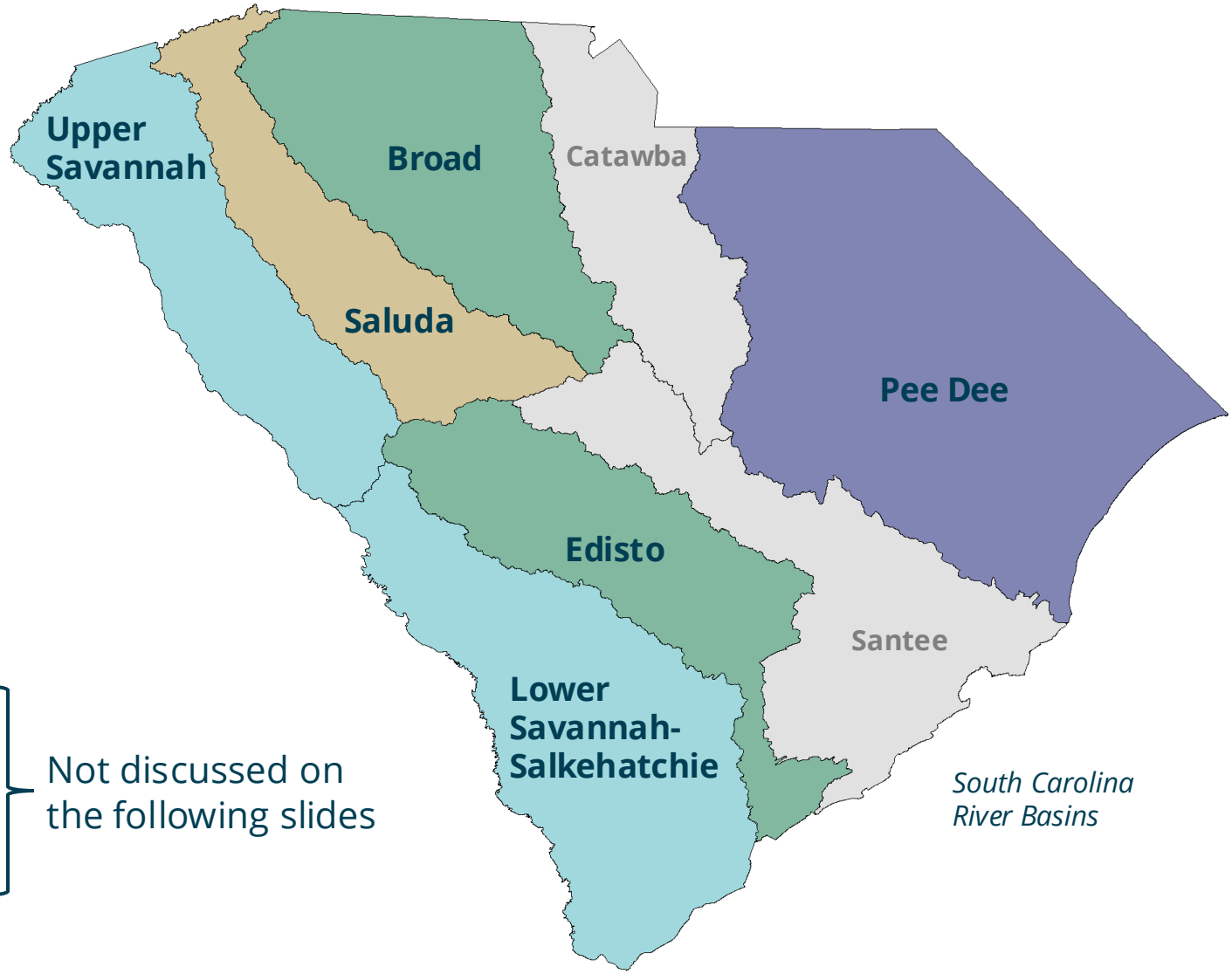
Documented in Draft Plan:
Pee Dee

Developed, but not yet documented in Draft Plan:
Upper Savannah and
Lower Savannah-Salkehatchie

Under Development: Saluda

Not Started: Santee and Catawba

Not discussed on the following slides



South Carolina River Basins

Common Topics Considered by the RBCs*

1. "Reasonable use" requirement for surface water
2. Improvements to allow for effective management of water resources
3. Planning, implementation, and funding
4. Permits / registrations
5. Permitting alignment with River Basin or State Water Plans

** Not all topics were considered by every RBC when developing recommendations.*

1. "Reasonable Use" Requirement for Surface Water

RBCs' Recommendation

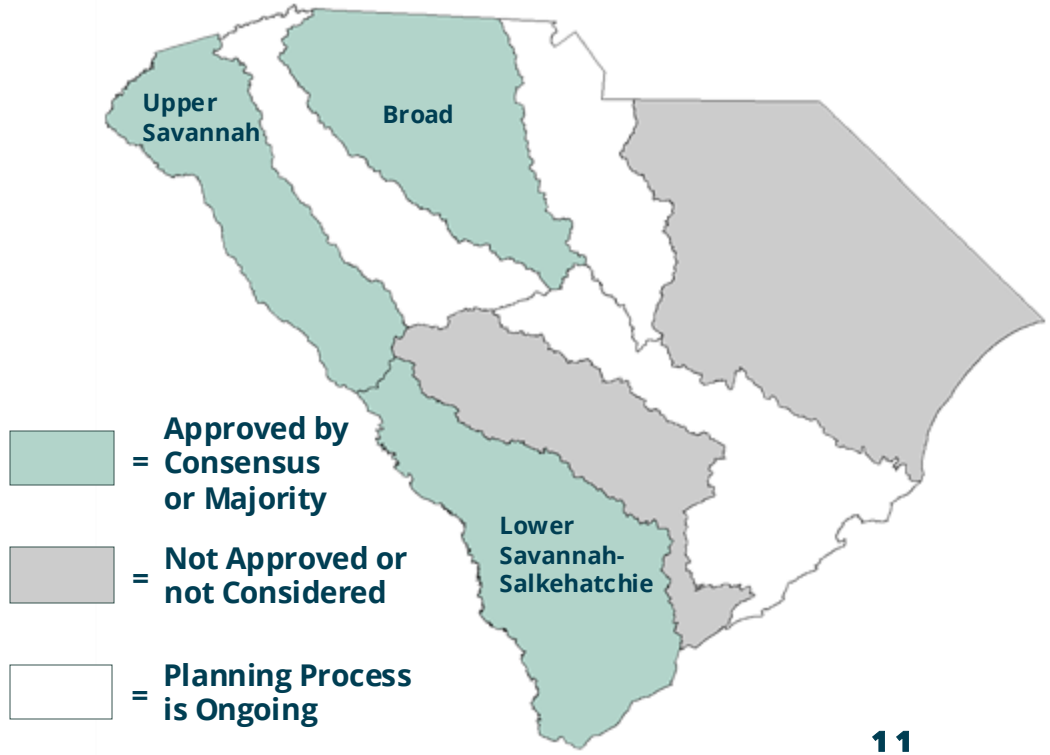
- The South Carolina Surface Water Withdrawal, Permitting, Use, and Reporting Act should allow for **reasonable use criteria** to be applied to all surface water withdrawals, like those that currently exist for groundwater withdrawals*.

** The Upper Savannah RBC's recommendation was revised to apply to all "new" surface water withdrawals*

2. Improvements to Allow for Effective Management of Water Resources

RBCs' Recommendation

- Improve the current laws that allow for regulation of water use so that they are **enforceable and effective**. The current water law, which **grandfathers** most water users, needs to be improved to support effective management of the state's water resources.*



** The Lower Savannah-Salkehatchie RBC's recommendation reads "…effective and enforceable…"*

Other Policy, Legislative, and Regulatory Topics Discussed by the RBCs

- Safe Yield and Minimum Instream Flows
- Improving local ordinances including riparian buffer ordinances
- Establishing and funding interstate water planning groups
- Supporting and funding statewide water education programs

Lower Savannah-Salkehatchie RBC

Pee Dee RBC

Upper Savannah and and Lower Savannah-Salkehatchie RBC

Common RBC Drought Response Recommendations

- Water utilities should review and update their drought management plan and response ordinance every 5 years, or more frequently if conditions change.
- Water utilities should coordinate with neighboring utilities to have consistent response actions and messaging.
- Water utilities should consider drought surcharges
- Fund and establish a mesoscale network of weather and climate monitoring stations

Buffalo Creek at Lake Thurmond during 2008 drought
Photo courtesy Harry Shelley

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Questions?

John Boyer, PE, BCEE, PMP
CDM Smith

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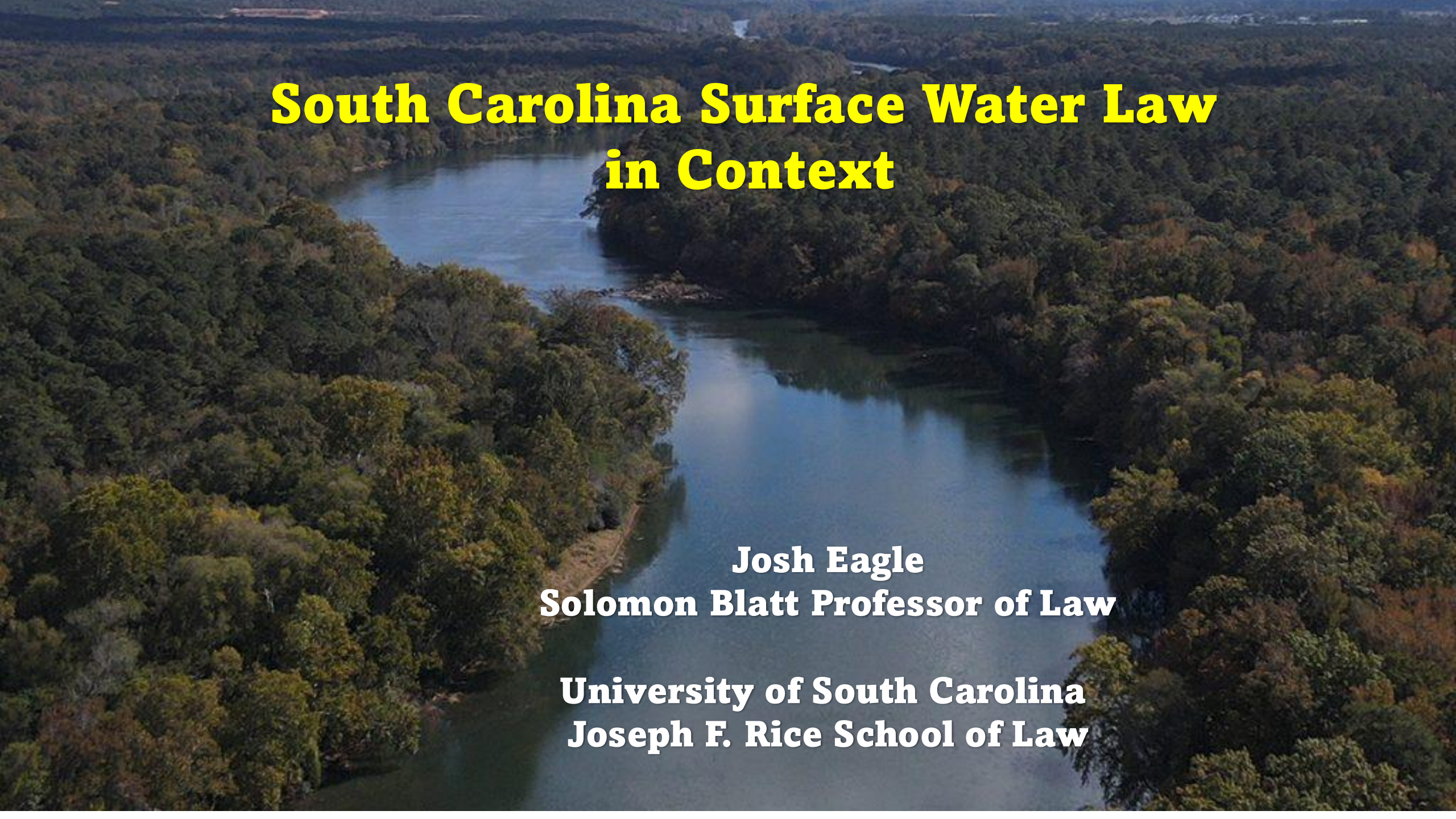
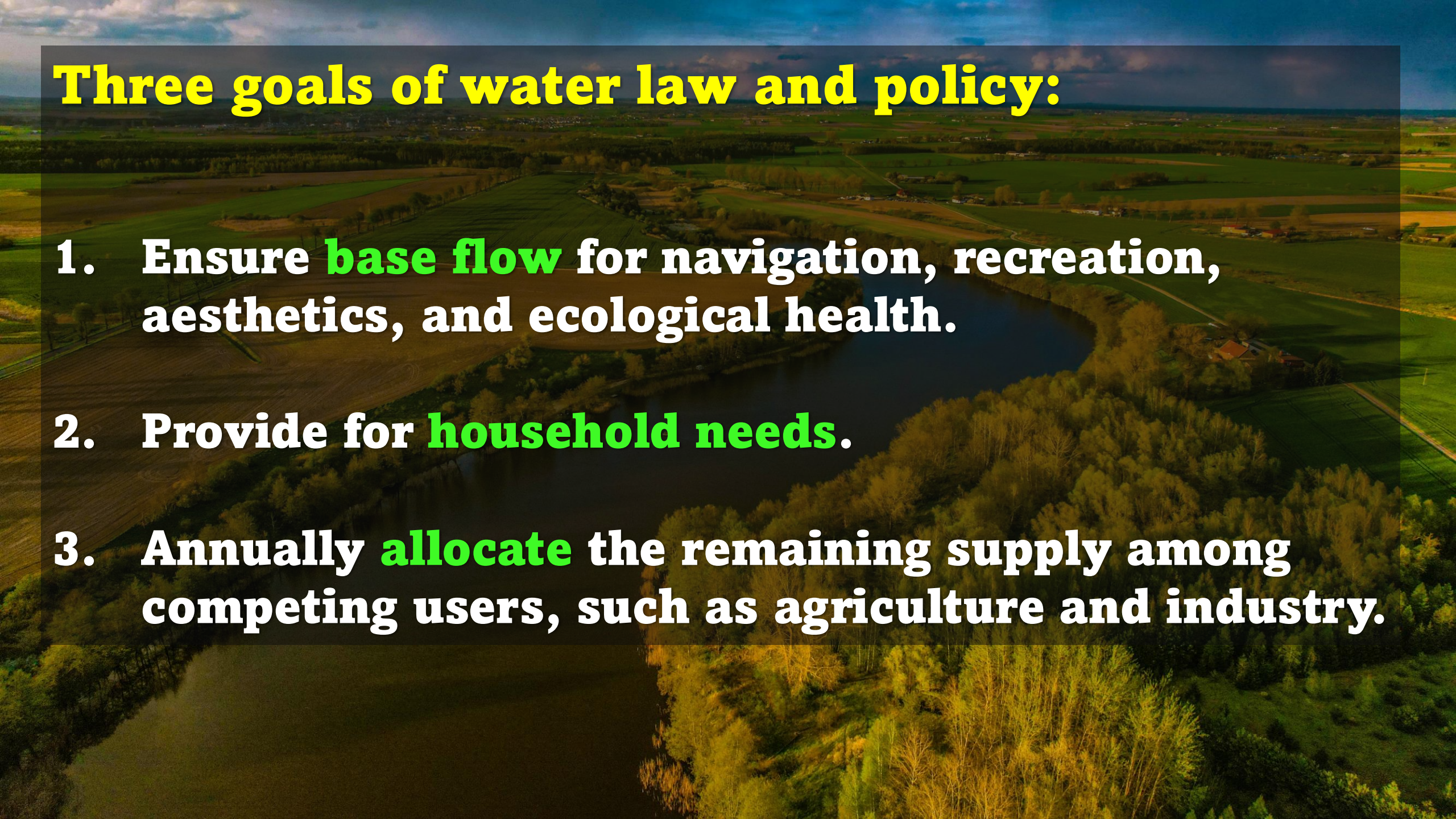


South Carolina Surface Water Law in Context

Josh Eagle
Solomon Blatt Professor of Law

University of South Carolina
Joseph F. Rice School of Law


A Brief Overview of Water Law and Policy



Three goals of water law and policy:

1. Ensure **base flow** for navigation, recreation, aesthetics, and ecological health.

2. Provide for **household needs**.

3. Annually **allocate** the remaining supply among competing users, such as agriculture and industry.

Lawmakers must account for uncertainty:

Supply:

- Precipitation levels
- Return flow
- Pollution levels
- Effectiveness of conservation measures
- Interstate deliveries

Demand:

- Population growth
- Instream needs
- Groundwater availability
- New and more valuable uses

Flexibility v. certainty

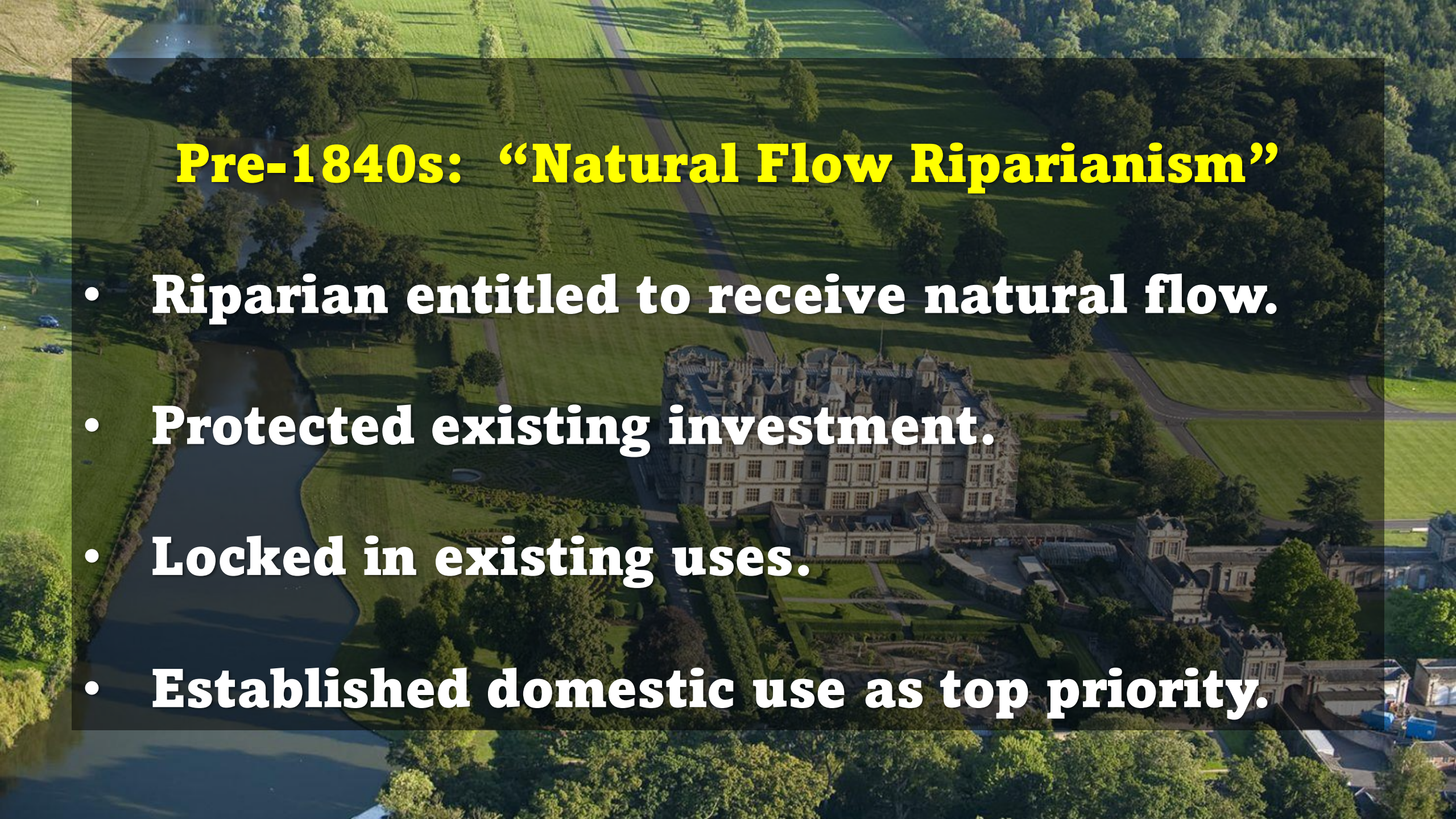
Adjustments to withdrawal amounts are necessary when supplies are low or when there are changes on the demand side.

- Who makes the decision to adjust?
- Should cuts be across-the-board or targeted?

The prospect of future adjustments makes **business planning more difficult.**

- Should we provide some certainty while retaining flexibility?


A Brief History of South Carolina Surface Water Law

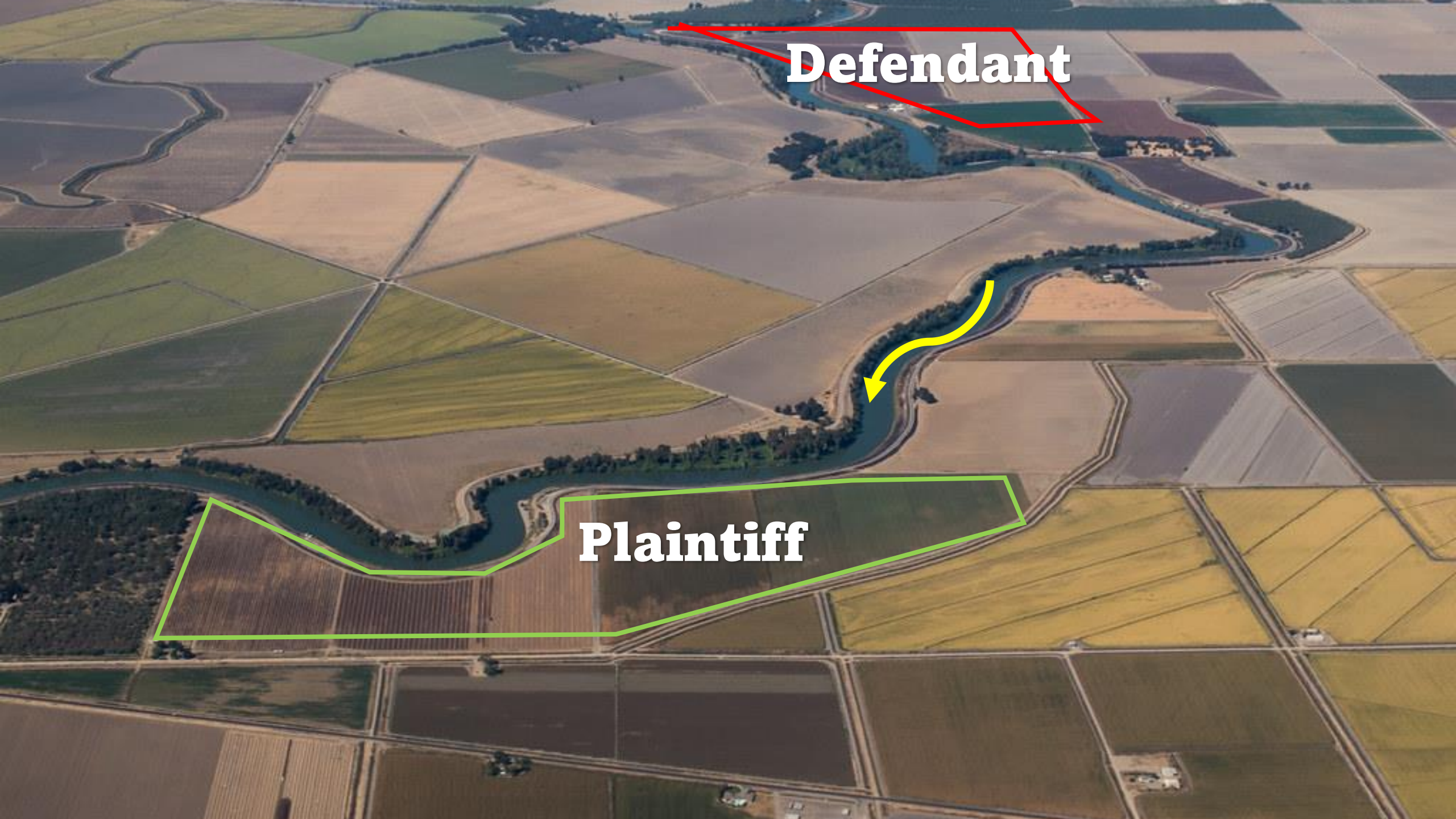


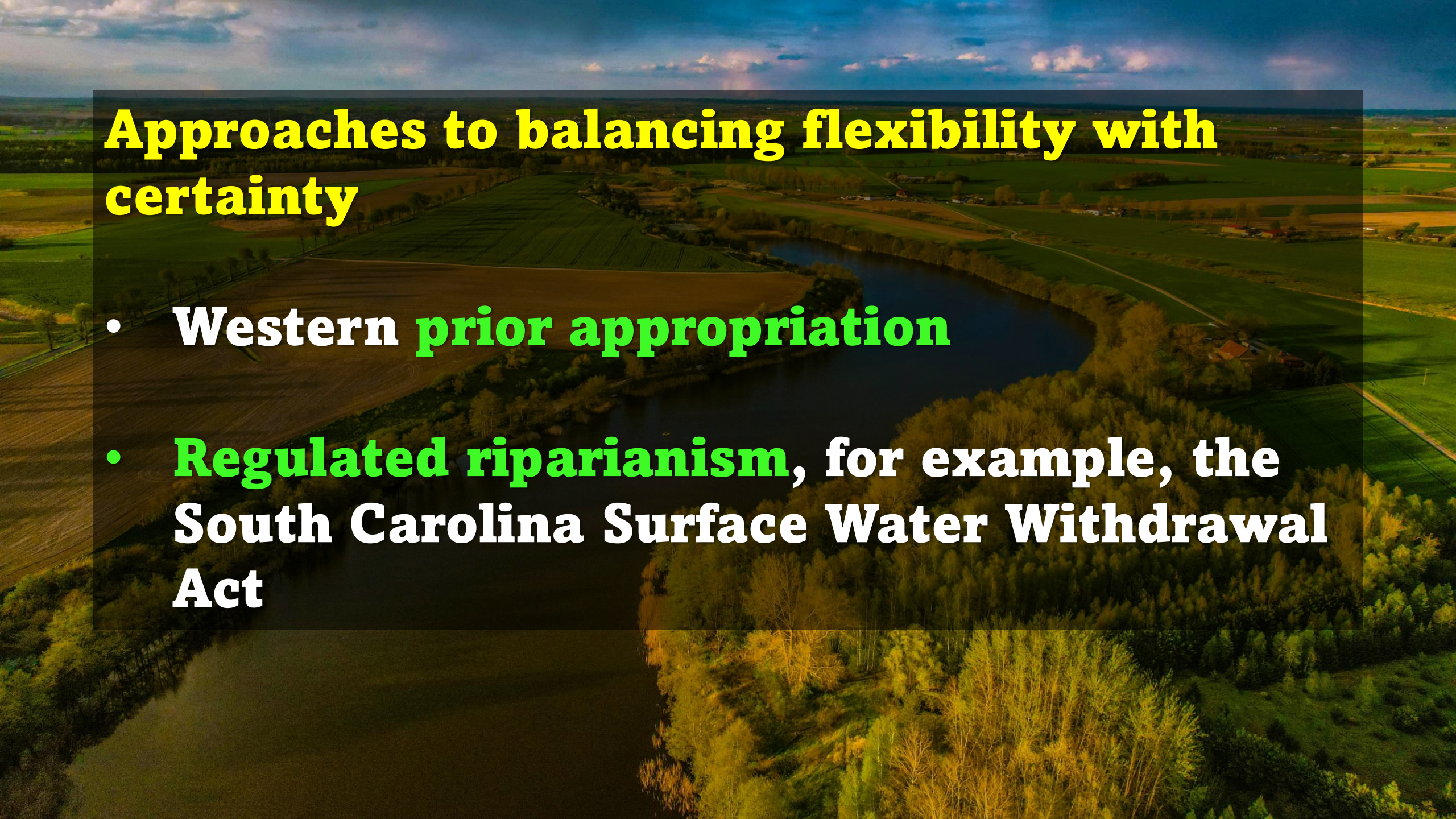
Pre-1840s: "Natural Flow Riparianism"

- Riparian entitled to receive natural flow.
- Protected existing investment.
- Locked in existing uses.
- Established domestic use as top priority.

Mid-1800s to the present: "Reasonable Use Riparianism"

- **Enhances efficiency** by allowing courts to reallocate water to new uses and to reduce waste.
- Less protection for **existing investment**.
- Creates some **uncertainty for users**.


Defendant
Plaintiff



Approaches to balancing flexibility with certainty

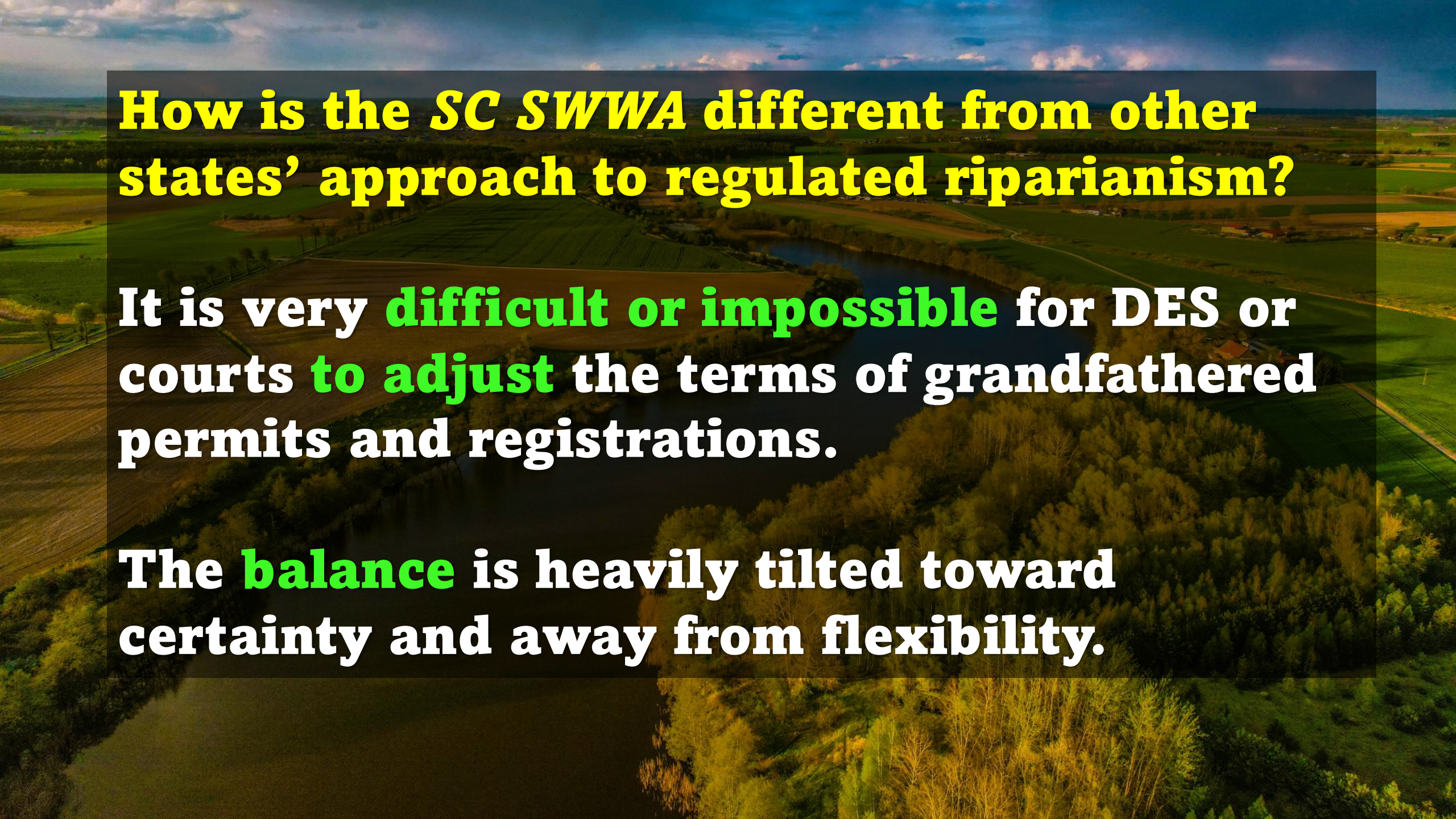
- Western prior appropriation
- Regulated riparianism, for example, the South Carolina Surface Water Withdrawal Act

How is *regulated riparianism* different?

State agency makes initial reasonableness determination. Common law actions are still possible.

Uses **permits** to set terms of use.

Permits give owner the "right" to take a certain **amount** for a certain **time period**.



How is the *SC SWWA* different from other states' approach to regulated riparianism?

It is very **difficult or impossible** for DES or courts **to adjust** the terms of grandfathered permits and registrations.

The **balance** is heavily tilted toward certainty and away from flexibility.

A lot of uncertainty:

Supply:

- Precipitation levels
- Return flow
- Pollution levels
- Effectiveness of conservation measures
- Interstate deliveries

Demand:

- Population growth
- Instream needs
- Groundwater availability
- New and more valuable uses

Upside of Flexibility in Water Law and Policy

- Can accommodate unexpected future changes in flows.
- Allows new water uses into the system; critical for economic development.
- Safeguards the public interest in drinking water and recreational uses.
- Allocate necessary cuts fairly and efficiently.

Drought Monitoring & Response in South Carolina

WaterSC to Meet Dec. 12, 2024

waterSC

Hope Mizzell , Ph.D.
South Carolina State Climatologist
Department of Natural Resources

SC State Climatology Office Team

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State Climatologist

Melissa Griffin
Assistant State
Climatologist

Vacant
Water Resource
Climatologist

Frank Strait
Severe Weather
Liaison

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Climate Office Responsibilities

1	**2**	3	4	5
Coordinate and collect weather observations for the purpose of climate monitoring	Summarize and disseminate weather and climate information	Perform climate and weather impact assessments	Demonstrate the value of climate information in the decision-making process	Conduct applied climate research

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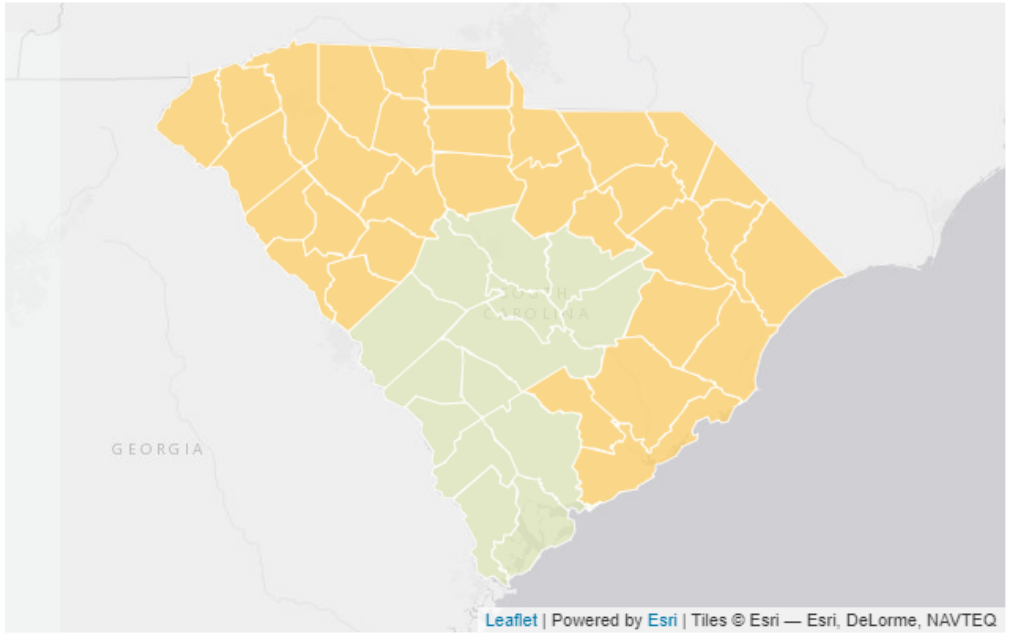
Drought Monitoring and Response

South Carolina Drought
SC State Climate Office

Conditions Resources Impacts Committee Planning FAQ's

Drought in South Carolina



Current Status

Normal	14
Incipient	32
Moderate	0
Severe	0
Extreme	0

Number of Counties in Each Category

Latest Drought Committee Meeting: 12-04-2024

Drought Conditions >>> Find out more about current drought conditions, how drought status is determined in South Carolina, and view archived drought condition reports.

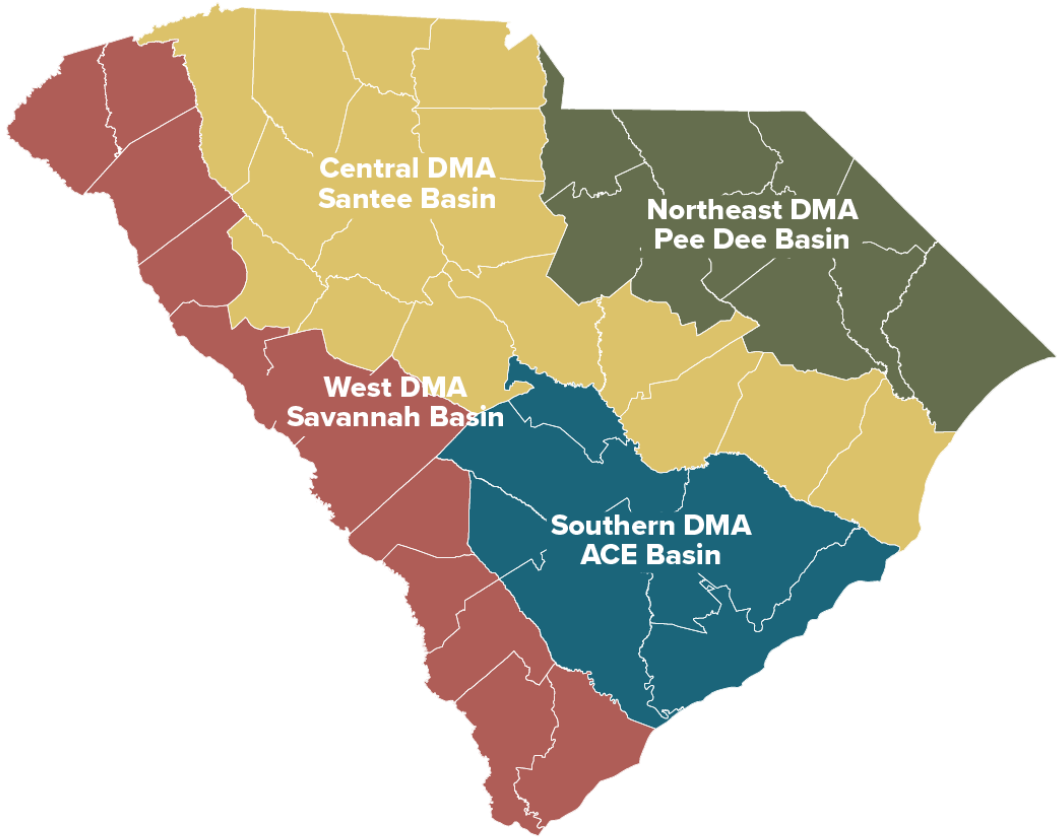
http://www.scdrought.com

SCDNR | State Climatology Office

Drought Monitoring and Response in SC

South Carolina Drought Response Program consists of legislation, regulations, and procedures that establish recommended and required response.

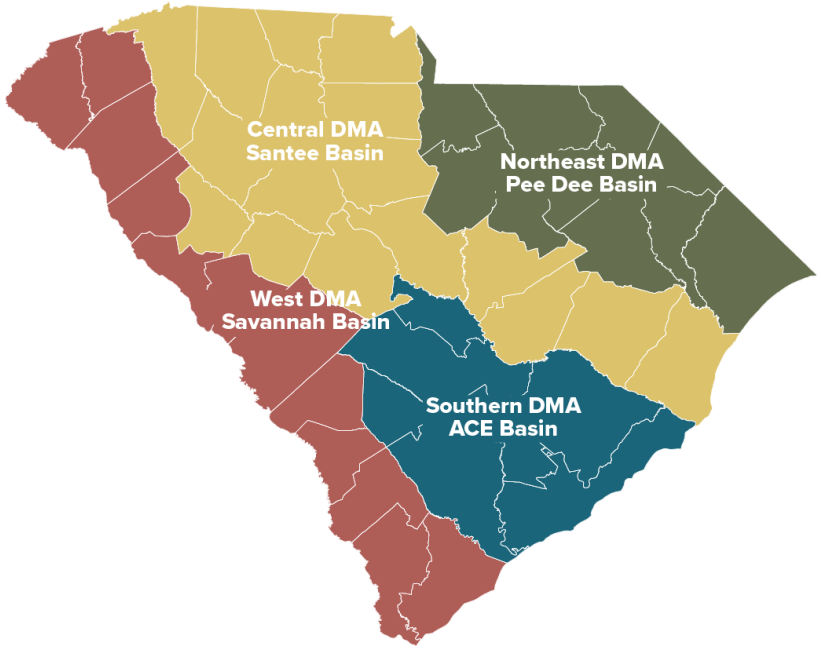
The **South Carolina Drought Response Act (2000)** and the **supporting regulations** formally establish and describe the responsibilities of the South Carolina State Climatology Office and the South Carolina Drought Response Committee, the major drought decision-making entities in the State.

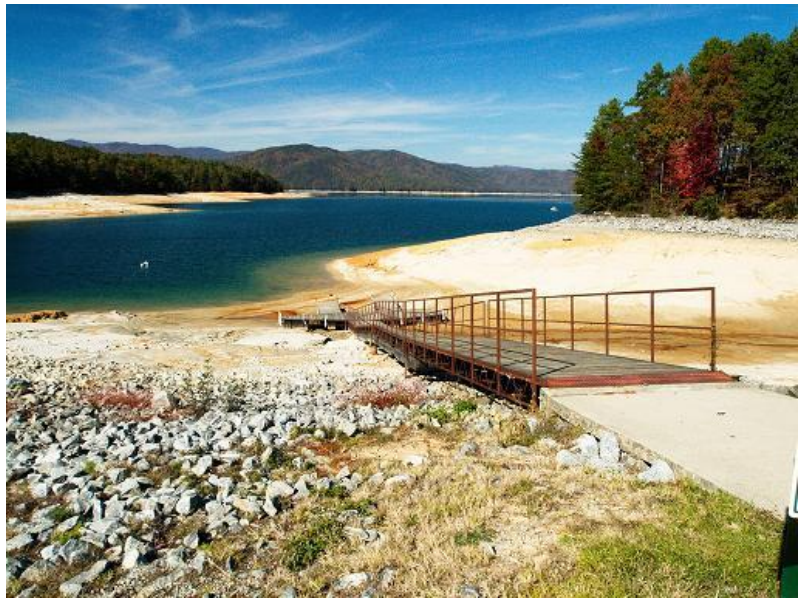


Drought Monitoring and Response in SC

Why: To carefully and closely monitor, conserve, and manage the State's water resources in the best interest of all South Carolinians.

Who: Drought Response Committee and Department of Natural Resources – State Climatology Office





Statewide members

- Forestry Commission
- Department of Agriculture
- Emergency Management Division
- Department of Environmental Services
- Department of Natural Resources

Local members (12 per DMA)

- Agricultural
- Industry
- Water Utilities
- Regional Council of Governments
- Power Generation Facilities
- Soil and Water Conservation Districts

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Local Drought Response Committee				
West Savannah		**Group**	**Central Santee**	
Reg Williams	Edgefield	**Agriculture**	John Irwin	Laurens
Cheryl Daniels	McCormick	**Comm of Public Works**	Ken Tuck	Spartanburg
Mark Warner	McCormick	**Counties**	Peggy Swearingen	Fairfield
Eric Carrier	Aiken	**Domestic User**	Christy Jones	Richland
David Evans	Pickens	**Industry**	Ed Holder	Greenville
Lynn McEwen	Barnwell	**Municipalities**	James Bagley	York
Preston Pierce	Oconee	**Power Generation**	Alan Stuart	York
Scott Willett	Anderson	**Private Water Supplier**	Brad Powers	Spartanburg
Chris Rasco	Anderson	**Public Service District**	Vacant	
Rick Green	Edgefield	**Reg. Council of Government**	Gregory Sprouse	Richland
Yvonne Kling	Aiken	**Soil and Water Conservation**	John Rivers	Sumter
Brian Chemsak	Beaufort	**Special Purpose District**	Fred Castles	Chester

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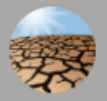
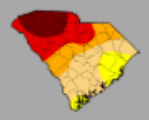
Local Drought Response Committee				
Southern ACE		**Group**	**Northeast Pee Dee**	
Landrum Weathers	Orangeburg	**Agriculture**	Caleb Miller	Dillon
Jason Thompson	Charleston	**Comm of Public Works**	Vacant	
Vacant		**Counties**	Alan Watkins	Lee
Chris Wallace	Bamberg	**Domestic User**	Karolan Ohanesian	Horry
Vacant		**Industry**	Athena Strickland	Marlboro
Eric Odom	Orangeburg	**Municipalities**	Clint Elliot	Horry
Matthew McCants	Berkeley	**Power Generation**	Vacant	
Vacant		**Private Water Supplier**	Vacant	
Russell Cornette	Berkely	**Public Service District**	Elbert Warren	Darlington
Ronald Mitchum	Charleston	**Reg. Council of Government**	Lindsay Privette	Florence
Marion Rizer	Colleton	**Soil and Water Conservation**	Joe Ghent	Lancaster
Vacant		**Special Purpose District**	Nathan Ward	Kershaw

SCDNR | State Climatology Office

Drought Monitoring and Response in SC

How: The State uses multiple indicators and indices to monitor drought and determine drought severity levels.

Percent of Normal Rainfall		• Cumulative dryness or wetness compared to long-term averages
Crop Moisture Index (CMI)		• Agricultural growing season short-term (up to 4 weeks) dryness or wetness
Palmer Drought Severity Index (PDSI)		• Prolonged (month, years) abnormally dry or wet conditions
Water Resources		• Streamflow levels • Lake levels • Groundwater levels
Keetch-Byram Drought Index (KBDI)		• Daily forest fire potential
U.S. Drought Monitor for South Carolina		• General areas of drought, labeled by intensity on a weekly basis

Conditions and Response

SC Drought Response Act and Regulations

Incipient	Moderate	Severe	Extreme
• Drier than normal • Soil moisture declines • Water demand increases	• Water levels decrease • Crops and plants wither • Irrigation increases	• Water levels continue to drop • Number of wildfires increases • Poor grazing and agricultural conditions	• Widespread impacts to agriculture, forestry, water utilities, and water-dependent businesses

- SCDNR, SCO and DRC monitor conditions, share information, and make recommendations to manage drought.
- State and federal agencies, water utilities, and reservoir managers monitor conditions.

Water utilities review drought plans and ordinances.

- Water utilities implement drought plans and ordinances.
- DRC may recommend voluntary or mandatory water conservation.

As drought conditions and impacts become more severe, response actions increase accordingly.

- State agencies increase monitoring and communications.
- Citizens may see local notices for burn bans, boat ramp closings, and water use restrictions.
- The Governor may:
  - request voluntary or mandatory water conservation.
  - assist with managing impacts, including requesting disaster declarations by the US Dept. of Agriculture and activating the National Guard to assist with wildfire suppression.

State Emergency Operations Plan

- Water systems and citizens are without, or losing access to water.
- Public safety, health, and welfare are threatened.
- The State Emergency Response Team (SERT) is activated to lead state-level response to the drought emergency.

APPENDIX 10

(SOUTH CAROLINA DROUGHT RESPONSE PLAN)

TO THE SOUTH CAROLINA EMERGENCY OPERATIONS PLAN

I. INTRODUCTION

A. A drought is a slowly developing disaster that may occur over several months or years. Impacts from drought may occur quickly for some sectors while for others it may take years to have an impact.

B. A drought event can have a major impact on the State economy, and will affect everything from agriculture to industry to individuals.

C. Droughts are naturally recurring events in South Carolina. The length and severity has varied greatly over the last 25 years. The worst recorded drought, from 1999 to 2002, was one of the longest and most severe in more than 100 years. The 2007-2008 drought was shorter in duration than the 1999-2002 drought, but it had a stronger intensity, especially for the Upstate region. Parts of the State experienced severe drought again in 2011-2012 and 2016-2017.

II. PURPOSE

A. Establishes policies and procedures for the State and Counties when responding to a drought situation.

B. Identifies follow-on State-level actions to assist with and provide relief from severe or extreme drought conditions that have reached a level of disaster beyond the scope of the South Carolina Drought Response Committee.

C. Provides statewide planning and response strategies that allow State and County Emergency Management officials to effectively and efficiently plan and coordinate the application of local, State, and Federal resources in response to a severe or extreme drought event to prevent loss of life, minimize damage, lessen the economic impact, and protect the environment.

III. ASSUMPTIONS

A. Not all areas of the State will be affected the same way at the same time during a drought. Therefore, different types of drought response operations may be occurring simultaneously in the State.

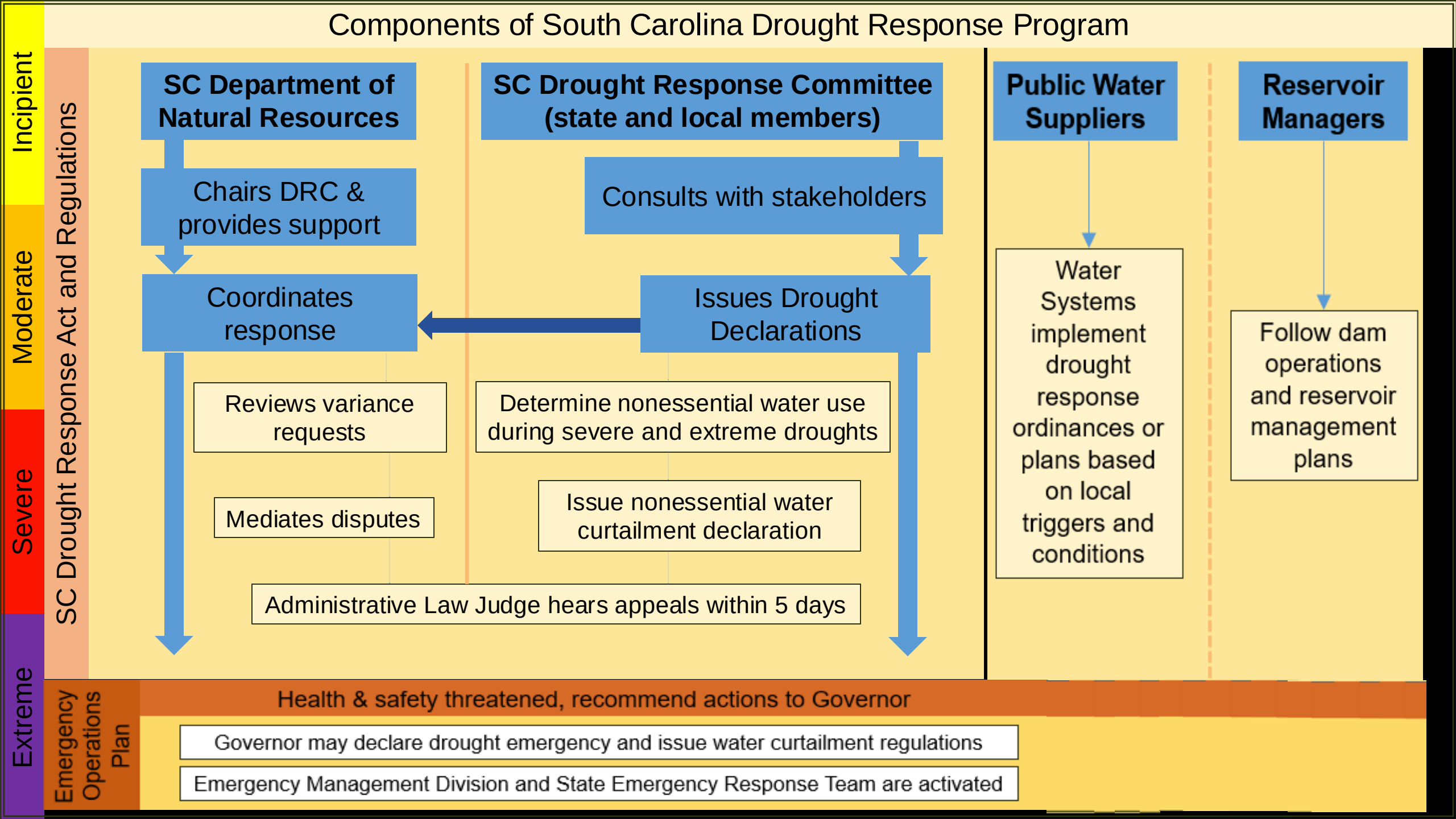
B. State actions in response to "Severe" or "Extreme" drought conditions may be identical as individual communities may be in both conditions in varying degrees.

C. The State Drought Response Plan may be in effect at the same time other measures are being implemented by the SC Drought Response Committee and local water systems.

Identifies follow-on State-level actions to assist with and provide relief from severe or extreme drought conditions that have reached a level of disaster beyond the scope of South Carolina Drought Response Committee.

https://www.scemd.org/media/1237/appendix-10-sc-drought-response-plan.pdf

Components of South Carolina Drought Response Program



Drought Planning Guide: A Resource for Water Suppliers in the Palmetto State

Dr. Elliot Wickham

SC State Climatology Office

SC Department of Natural Resources

SC Drought and Water Shortage Tabletop Exercise
September 2017 and 2019 – SC Emergency Operations Center

	2017	2019
Attendees	80	93
Organizations	40	48

Next Tabletop Exercise : March 5, 2025

SCEMD

Drought Monitoring and Response

Keystone Drought Events in South Carolina

Prepared by
South Carolina State Climatology Office
Land, Water, and Conservation Division
South Carolina Department of Natural Resources

DROUGHT OF 1925 – 1927

1925 was the most intense drought year on record (at the time) and is currently the fifth driest year on record, with a rainfall deficiency of 11.16 inches. The average annual rainfall for 1925 was 36.73 inches, 3.22 inches lower than the previous record from 1911. Every state sector was impacted — agriculture struggled, hydroelectric power was limited, and these limits affected the textile mills and other industries.

With over half of the state's workers in the agriculture sector, nearly 16 percent of farms in South Carolina were abandoned, and a quarter-million people left the state for better opportunities elsewhere. Rainfall remained below normal through 1927, although 1925 was the year of the most severe drought. SC Department of Agriculture called 1925 the most severe drought experienced in forty years. Rainfall across the region was below average for the next couple of years. The cotton crop failure hit South Carolina hard since over half of the state's workers worked in agriculture, and they almost exclusively worked in cotton. Streamflow values were reported to be at a record low, considerably reducing power generation and forcing slowdowns and mill closures.

Source: Lange, Dorothea, photographer. Oldest son of sharecropper family working in the cotton. Chesnee, South Carolina. Library of Congress, Prints & Photographs Division, FSA/OWI Collection, LC-DIG-fsa-8b32095.

Drought Causing Many Fish to Die

(Special to The Record)

SUMTER, S. C., Sept. 7.—Because of the low water in Black river swamp in Sumter county fish are dying by the thousands. The main stream in Black River swamp near the Plowden's mill road is still flowing, but all the rest of the streams that usually flow are dry.

Fires Still Rage in Sumter County

(Special to The Record)

SUMTER, S. C., Sept. 1.—Woods' fires are still reported as burning in the Black River section of the county. The fires have been raging for more than two weeks and many hundreds of acres of fine woodland have been destroyed. All the woods are parched and burn like tinder because of the long continued drought.

Source: Charleston News and Courier

Month of 1925	Statewide Rainfall	Departure from Normal	Monthly Ranking
January	8.39"	4.70"	Wettest
February	1.72"	-2.18"	17th Driest
March	1.55"	-2.61"	5th Driest
April	2.18"	-1.18"	32nd Driest
May	2.14"	-1.44"	20th Driest
June	3.46"	-1.24"	36th Driest
July	3.50"	-1.98"	13th Driest
August	1.57"	-3.68"	Driest
September	1.90"	-2.28"	16th Driest
October	2.70"	-0.38"	--
November	3.86"	1.15"	28th Wettest
December	3.76"	0.15"	--

https://www.dnr.sc.gov/climate/sco/Publications/SCKeystoneDroughtEvents.pdf

Contact Information

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Vacant , Water Resources Climatologist

Frank Strait, Severe Weather Liaison,
StraitF@dnr.sc.gov, 803-734-0339

dnr.sc.gov/sco

The WaterSC Working Group

- Have a statewide resource-focused approach
- Remain committed to the process
- Serve as a voice and connection for stakeholder sectors and categories
- Provide transparency
- Be collaborative and solution-focused

waterSC

SC DEPARTMENT *of*
ENVIRONMENTAL
SERVICES

Surface Water Policy Challenges: Case Studies

December 12, 2024

These three case studies are real examples that have been evaluated.

In each case, the issue was not a lack of physically available surface water.

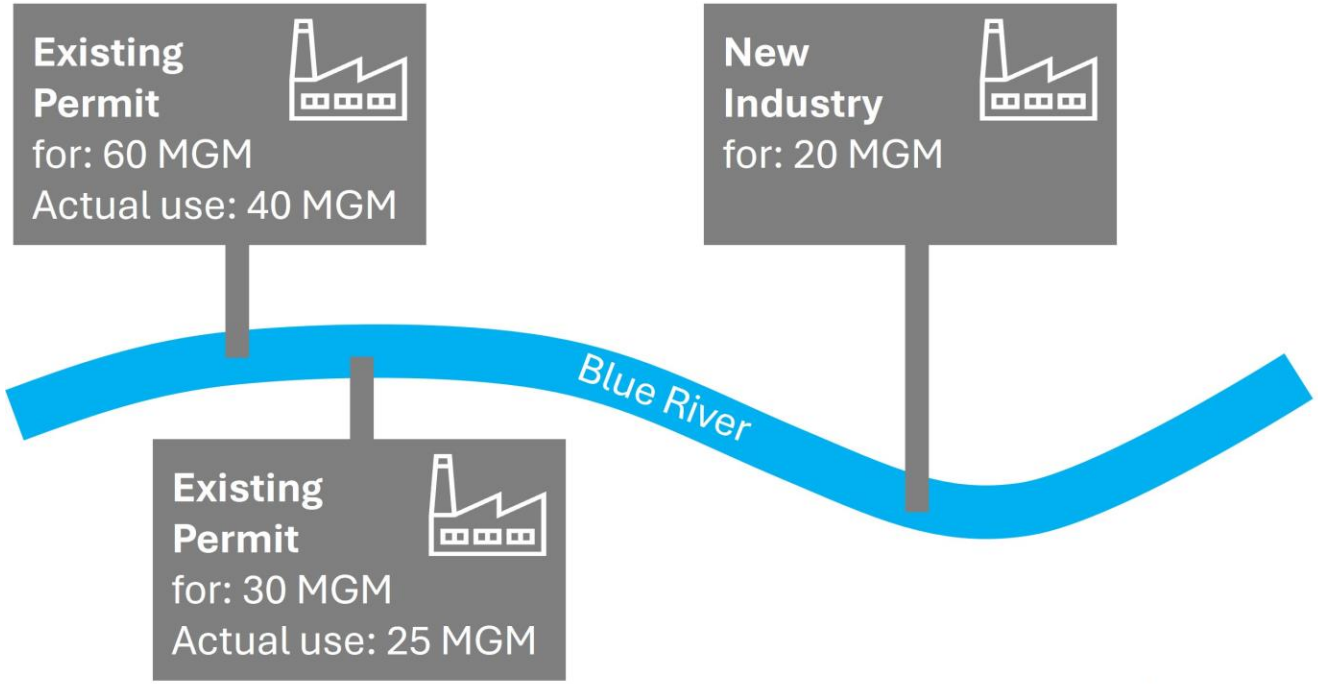
Current policies have prevented these potential users from accessing the surface water.

What recommended policy changes could allow reasonable access to the surface water?

SC DES

Case Study: Industry

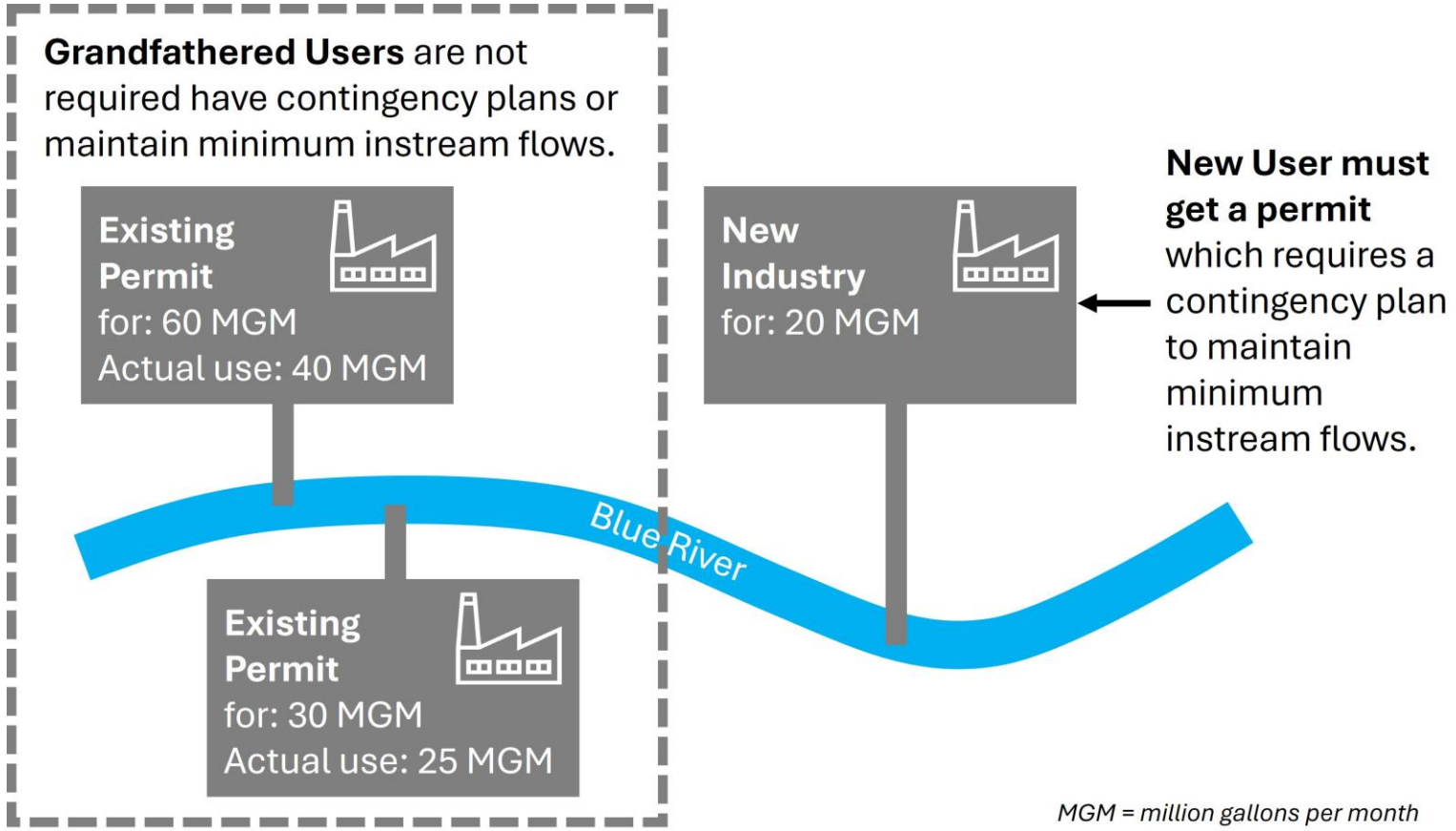
- A prospective new industry wants to locate in an area where **groundwater is unavailable** for the long term
- **Surface water is** in proximity and **readily available**



MGM = million gallons per month

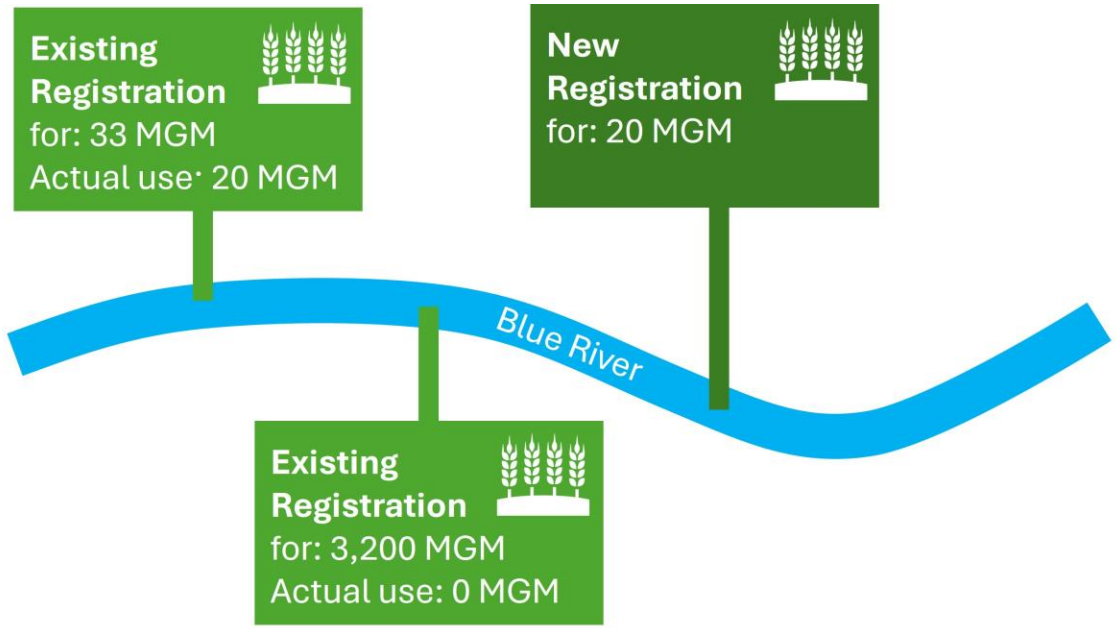
Case Study: Industry

- New user must get a new permit, which:
  - **Must abide by MIFs and cease withdrawals in low flows**
  - Must have a contingency plan
- **Grandfathered users** (pre-2011) are **not required to stop using in low flows**



Case Study: Agriculture

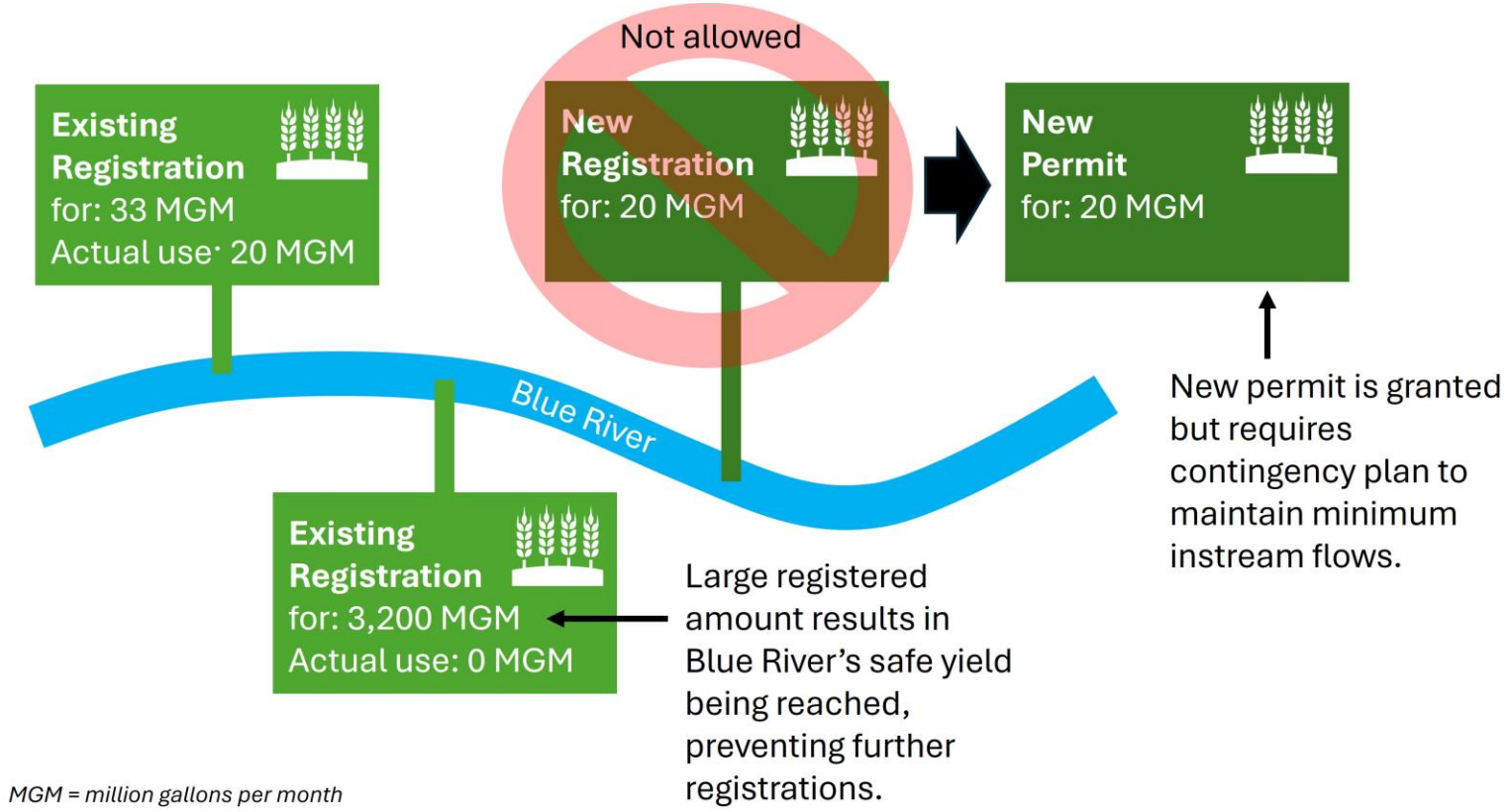
- Farmers **seeking new registrations** or increases in their registration limits **are unable** to do so in certain areas because all the safe yield has been registered



MGM = million gallons per month

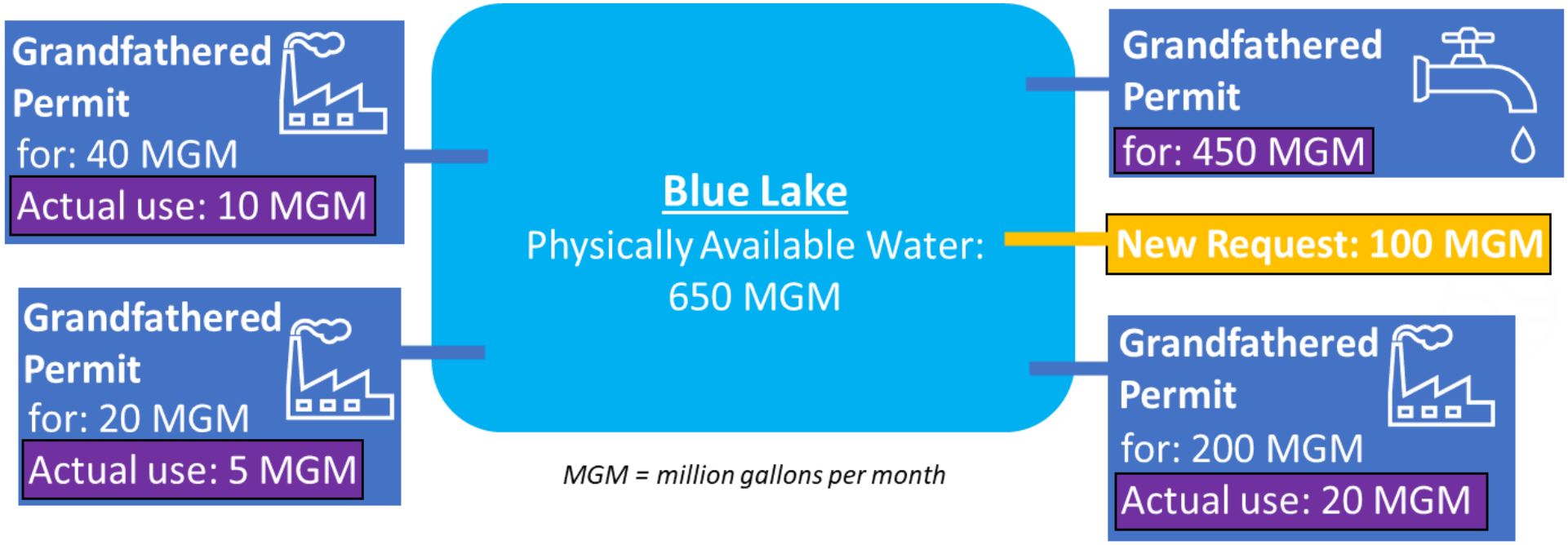
Case Study: Agriculture

- Agricultural registrations are ***not subject to reasonable use criteria***
- If the request is within the safe yield, it is deemed registered
- Several registrations have taken the entire safe yield of river stretches
- **Now, new farmers in those areas must get permits**



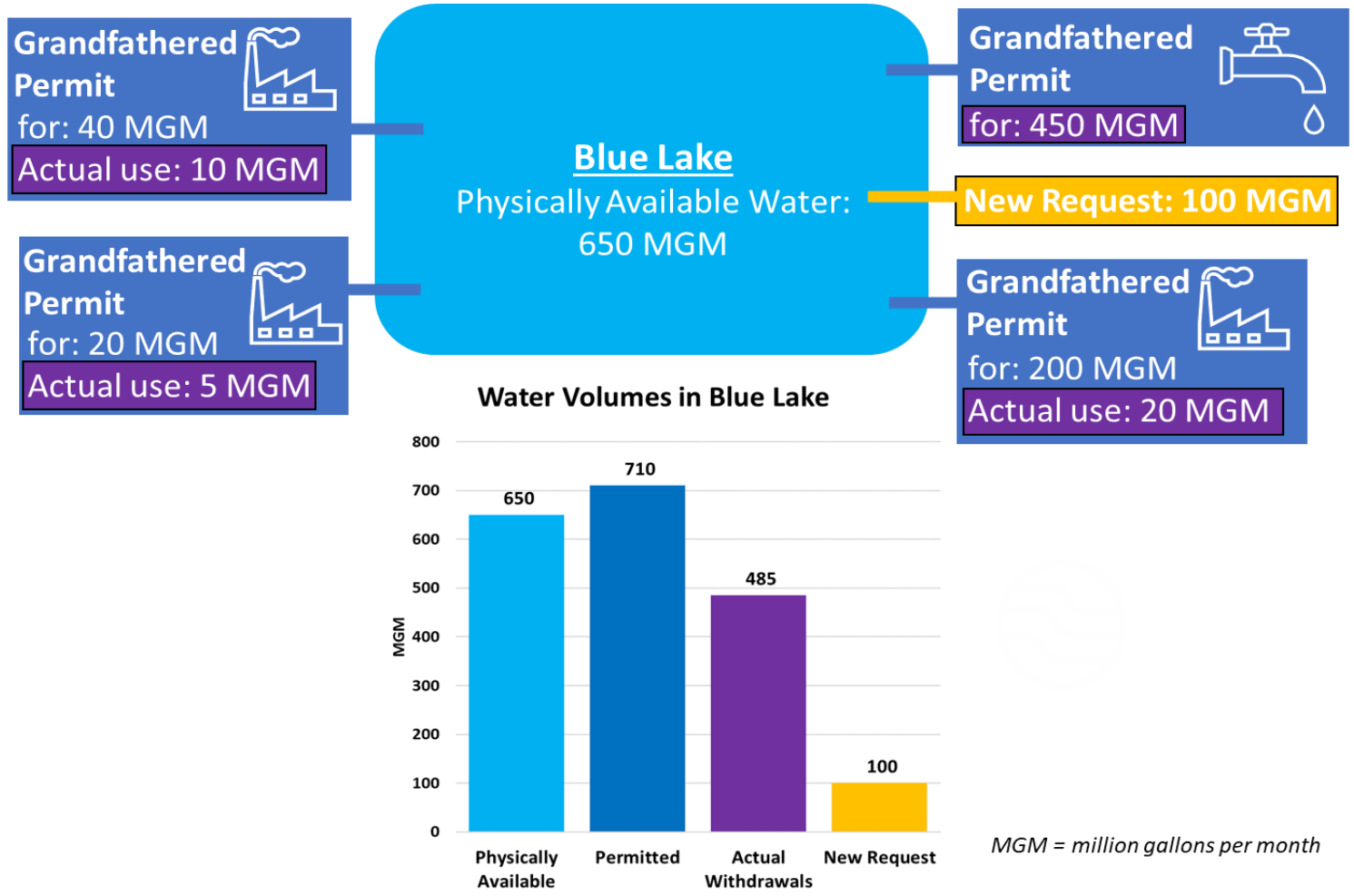
Case Study: Water Supply

- A municipal water supply system wants to increase their water supply on a water body where grandfathered permits exist by transferring an industrial intake



Case Study: Water Supply

- An “industrial” intake **cannot be transferred** to a “water supply” permit
- Pre-2011 permits were **grandfathered for their intake capacity, not their projected use**
- Permitted volumes exceed physically available water
- **New permit request cannot be granted, though water is available**



MGM = million gallons per month

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Questions?

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How to Be Engaged with WaterSC

- Stay informed via the webpage des.sc.gov/watersc
  - Provide online comments
  - Livestream and meeting resources
- Attend Open House & Listening Session on January 7, 2025 to provide verbal comments
- Connect with Stakeholder Forums hosted by WaterSC members and other related groups

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Working Group Meetings

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Listening Session & Open House

Phillips Market Center at the State Farmers Market

1. Surface Water in SC
2. How is surface water used in SC?
3. How is surface water managed in SC?
4. How is surface water conserved in SC?
5. What do we know about surface water?
6. What have we learned from River Basin Councils?
7. How do we plan for the future of surface water in SC?
8. Opportunities for formal comments (beginning at 6 pm)

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The Charge for WaterSC

Executive Order No. 2024-22

Stakeholder Engagement Plan
October 31, 2024

Report to Surface Water Study Committee
January 31, 2025

Advise on updated State Water Plan
December 31, 2025

Proposed Surface Water Report Outline

I. Overview and Executive Summary
II. State of Surface Water in SC
III. Stakeholder Engagement on Surface Water
IV. WaterSC Recommendations on Sustainable Surface Water Withdrawal Practices and Procedures
    I. Consensus-based recommendations
    II. Other areas of discussion
V. WaterSC Next Steps
VI. References

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SOUTH CAROLINA DEPT. OF COMMERCE

SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES

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