Chauga River Watershed Planning

Project intro, status, & timeline
+ public input opportunity

Chattooga Conservancy

March 2026

What is a Watershed Plan (WP)?

- Thorough assessment of a watershed looking at past, present, and future conditions.
- Created with input from community partners, stakeholders, and residents.
- Acts as a roadmap for communities to identify and address water quality problems and areas for protection within a watershed.
- Provides detailed recommendations to address known water quality impairments and proposes an implementation schedule with milestones, estimated costs, and potential funding sources.
- Completion of a WP opens the door for federal and state funding to implement measures outlined in the plan.

Community Partners on Chauga River Watershed Advisory Committee

- City of Westminster
- Oconee County
- Oconee County Parks and Recreation Department
- United States Forest Service (USFS)
- South Carolina Department of Natural Resources (SC DNR)
- Clemson University "Water Resources Team"
- Clemson Extension – Upstate Water Resources Agent
- Trout Unlimited – Chattooga River Chapter

EPA's Nine Required Elements

The EPA outlines **nine required elements** for a watershed plan to be eligible for Section 319 (grant) funding to address nonpoint source pollution:

1. Identify **causes of impairment** and **pollutant sources**
2. Estimate the **load reductions** expected from management measures
3. Describe **management measures** to be implemented
4. Estimate **technical and financial assistance** needed
5. Include **informational and educational** components
6. Create a **schedule for implementation** of management measures
7. Develop interim **measurable milestones**
8. Determine criteria to **measure success**
9. Create a **monitoring plan**

The Chauga River: **A valuable resource**

- **Drinking water**: The City of Westminster surface water intake is in Chau Ram County Park in the Lower Chauga watershed. This utility provides drinking water to approximately 7,500 residents.

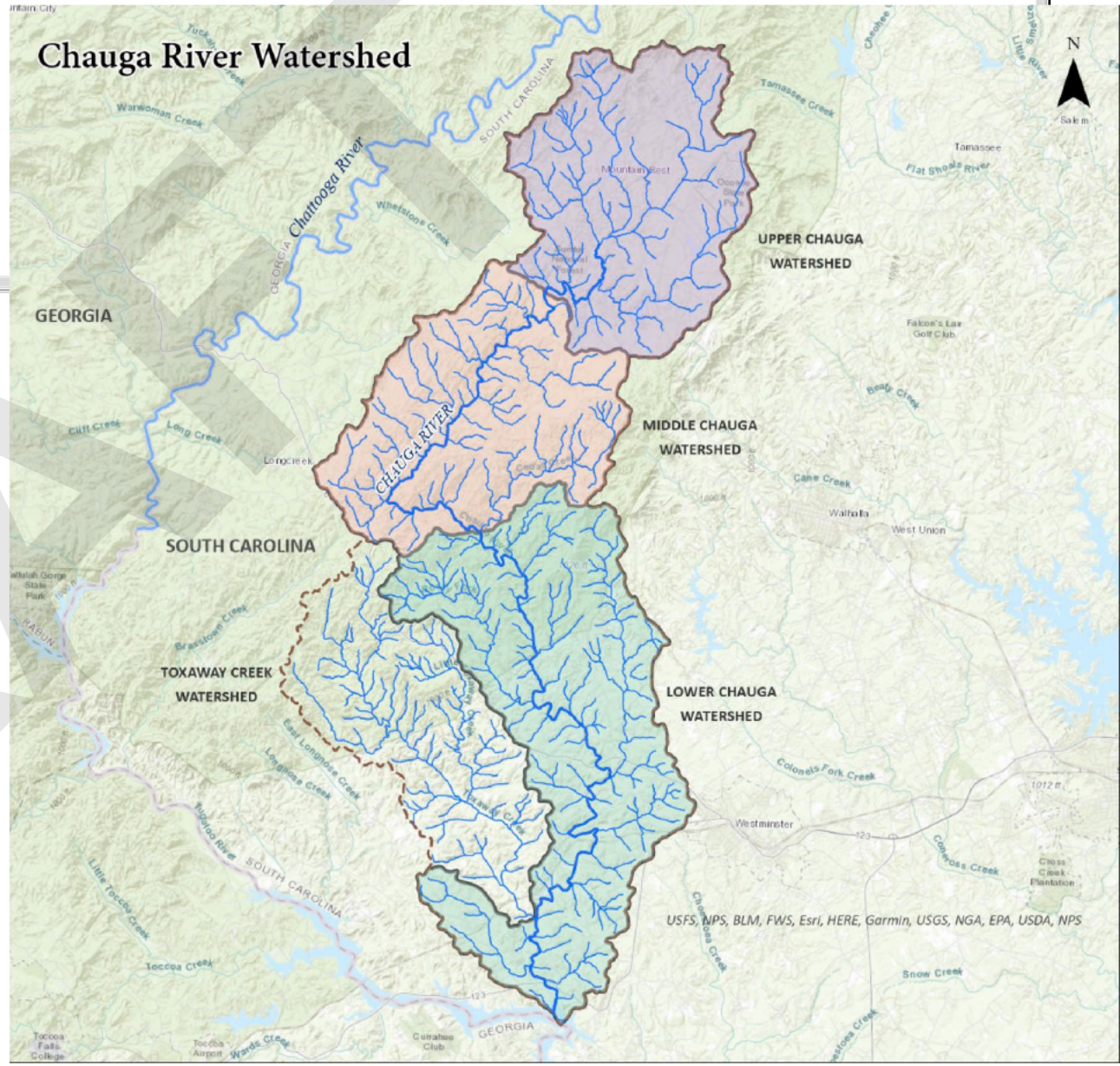
- **Recreation**: Much of the watershed (~43%) is public land in the Sumter National Forest. The river and its surrounding national forest are valued recreational resources for fishing, hiking, swimming, hunting, camping, etc. for residents and visitors alike.

- **Biology**: The Chauga is one of the state's few cold-water mountain rivers. It supports many unique biological communities, such as the Chauga Crayfish (listed as "imperiled" by SC DNR), Bartram's Bass, and trout species (both stocked and wild).

City of Westminster water intake, Chau Ram County Park. *Photo: Steven Pruitt*

The Watershed

- The Chauga River originates from headwaters near Mountain Rest, SC, and empties into the Tugaloo River branch of Lake Hartwell near Westminster, SC.
- Total length: approximately 31 miles
- Watershed is entirely within Oconee County
- Made up of four sub-watersheds, but this project scope does not include the Toxaway Creek sub-watershed
- Project area: ~56,804 acres



Project Area map. *Chattooga Conservancy, 2025*

The Watershed

The Chauga River downstream of Cobb Bridge *Photo: Emily Anderson*

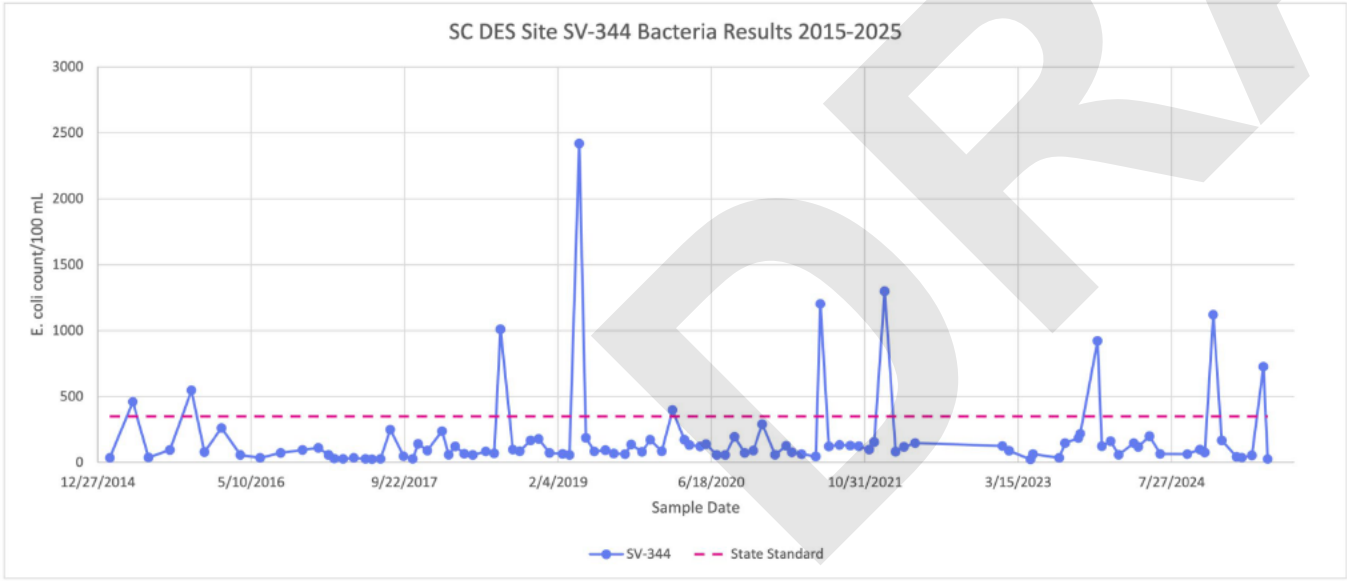
- Split between the **Blue Ridge** and **Piedmont** physiographic provinces.
- Underlain primarily by **igneous** and **metamorphic rocks** (gneiss, schist)
- Soils commonly **well-drained, moderately erodible sandy loams**
- **43% public** land, **57% private** land
- Dominant land uses (NLCD*, 2024):
  - **forest** (~83.7%)
  - **cropland/pasture** (~8.1%)
  - **low-intensity development** (~7.4%)

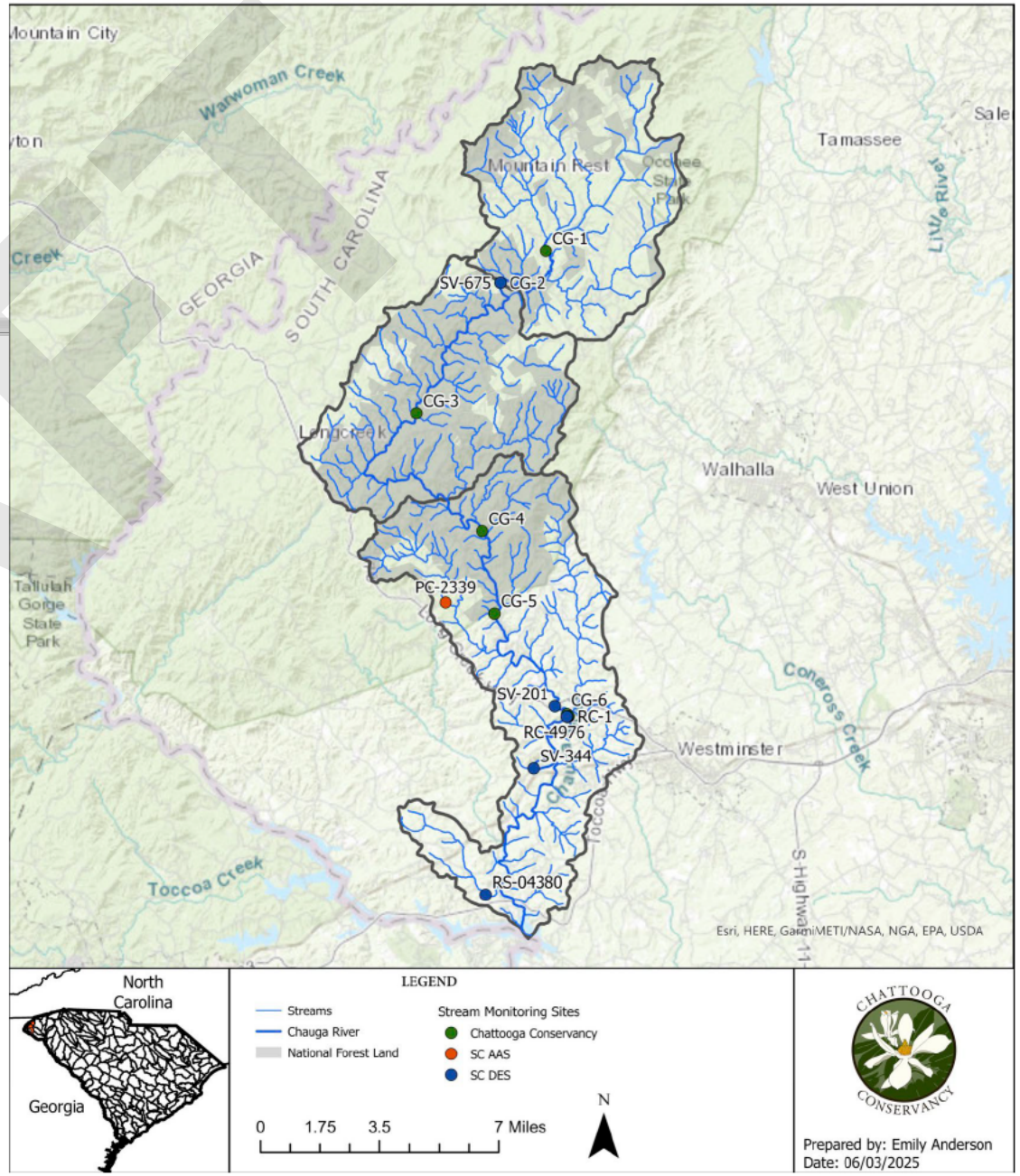
* NLCD = National Land Cover Dataset

Causes of impairment

SC 303(d) list of impaired waters (SC DES)

- SC DES site *SV-344* listed in 2016 for *E. coli* (bacteria) and in 2018 for *E. coli* and Cadmium
- SC DES site *RS-04380* listed since at least 2008 for bacteria





Causes of impairment

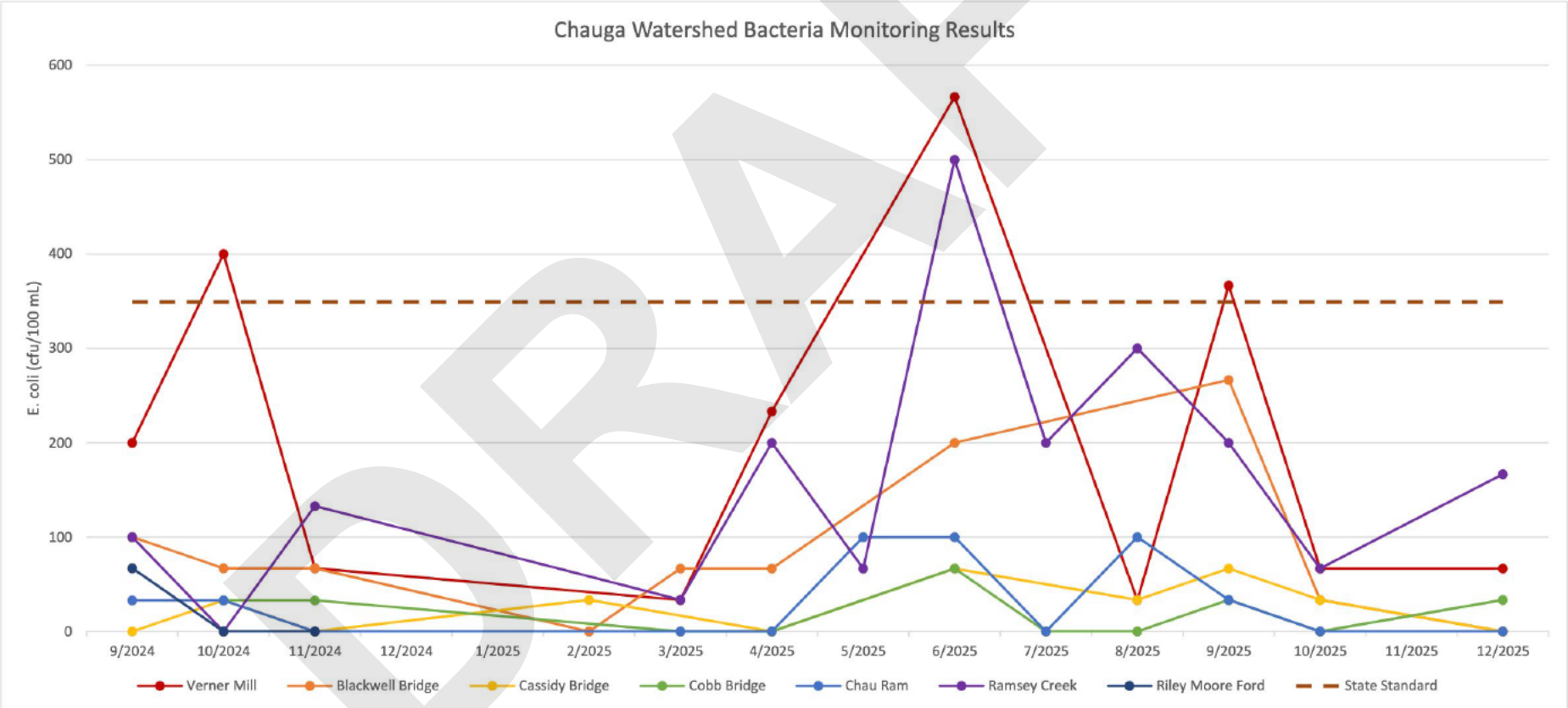
Collecting water samples on the Chauga River. *Photo: Emily Anderson*

Other water quality data sources:

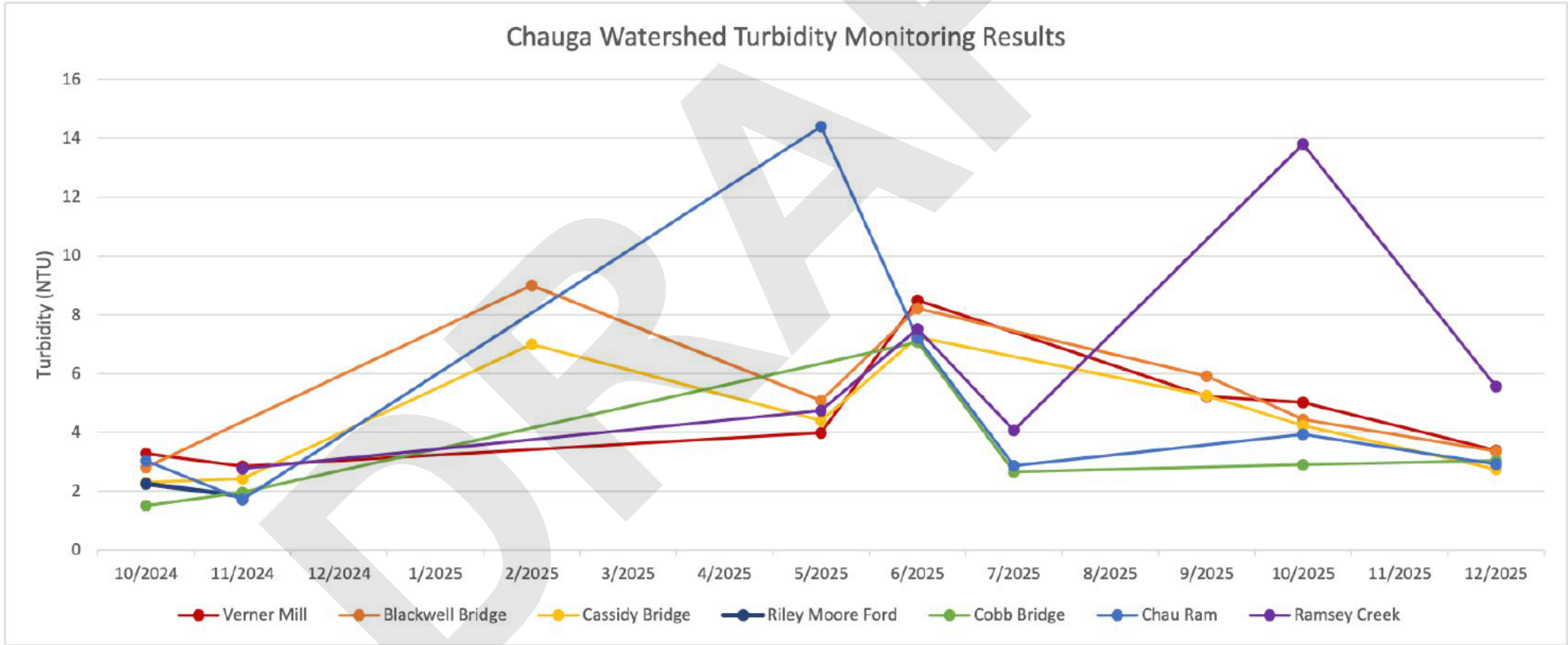
- Volunteer monitoring (SC Adopt-a-Stream, Chattooga Conservancy)
- Observations (in-person, drone, and virtual)
- Historical studies
- Recorded sediment overloads from Westminster water intake

Primary pollutants of concern: bacteria & sediment

Water quality data: **bacteria**
Chattooga Conservancy, 2024-2025



Water quality data: **turbidity**
Chattooga Conservancy, 2024-2025



Possible pollution sources

- **Agricultural operations** (*bacteria, sediment, nutrients*)
  - Livestock access to streams
  - Eroding streambanks
  - Lack of riparian buffers to filter runoff
- **Septic systems** (*bacteria, nutrients*)
  - Leaking or damaged systems
  - Improperly sited or installed
  - Aging systems needing updates
- **Gravel roads** (*sediment*)
  - Lack of riparian buffers
  - Lack of effective water control features, allowing fine sediment to wash into streams via ditches/ruts
- **Construction projects** (*sediment*)
  - Unregulated land-disturbing activities
  - Faulty or absent stormwater controls
- **Headwaters lakes** *(bacteria, nutrients, temperature)*
  - Potential pollutants from residential development (septic systems, fertilizers, etc.)
  - Surface release (warmer water)

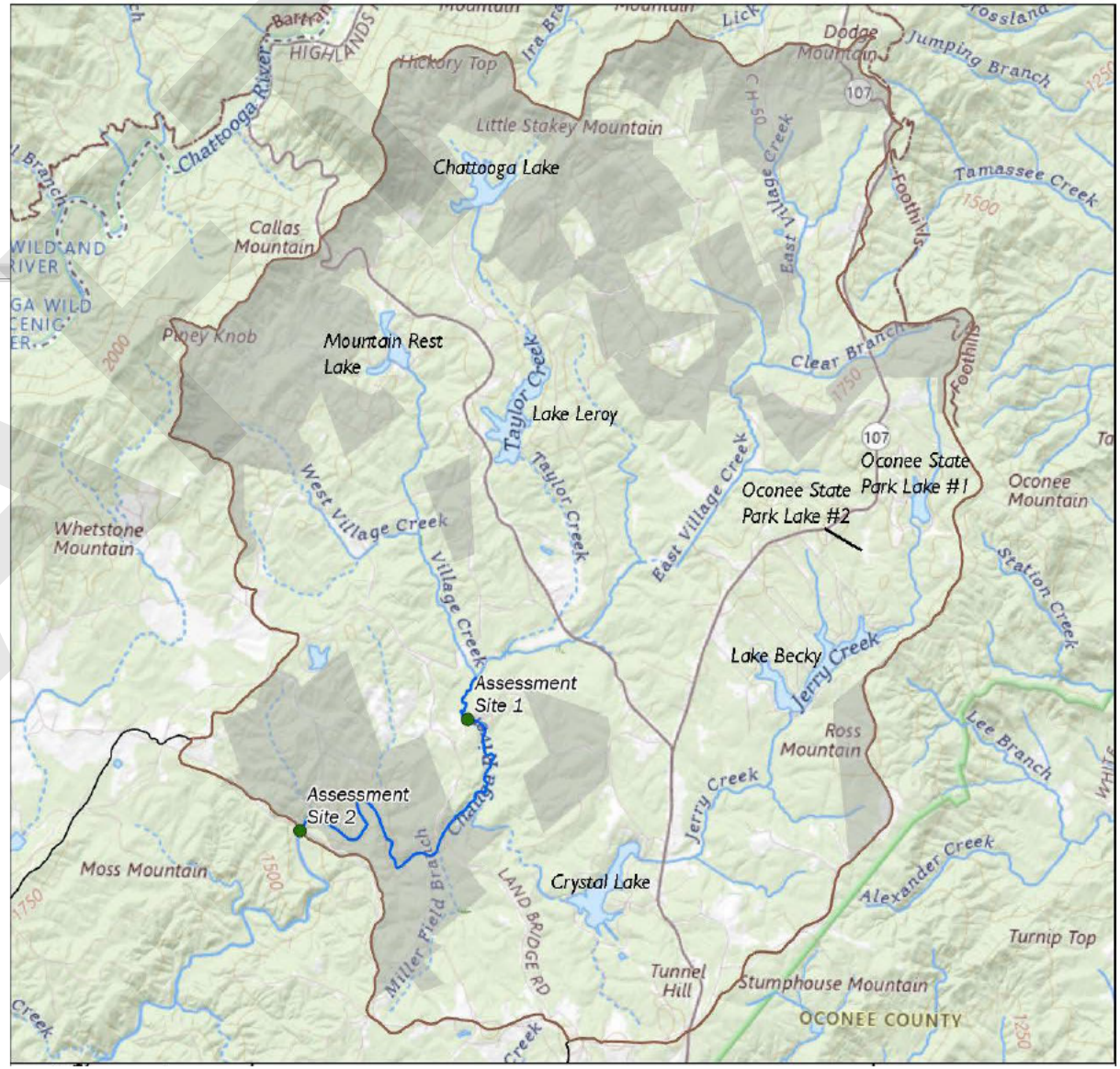
Upper Chauga

Overview:

- 16,512 acres
- Numerous man-made headwater lakes
- 69% private, 31% public land (gray)
- Approx. 83% forested, 9% developed, 6% pasture/crops/grassland

Primary impacts:

- Agriculture
- Lakes
- Roads
- Residential development



Upper Chauga
Observations & Notes

- Elevated bacteria levels at first Chauga River monitoring site
- Tributaries with historically documented high sediment concentrations include East Village, Village, Taylor, and Jerry Creeks (Brewer, 1998)
- Sedimentation in ditches along gravel roads adjacent to/draining to streams

The Upper Chauga is characterized by small, mostly residential lakes. *Photo: Steven Pruitt*

Streambank erosion on an Upper Chauga tributary. *Photo: Steven Pruitt*

Sediment infilling a roadside ditch in the Upper Chauga watershed.
Photo: Steven Pruitt

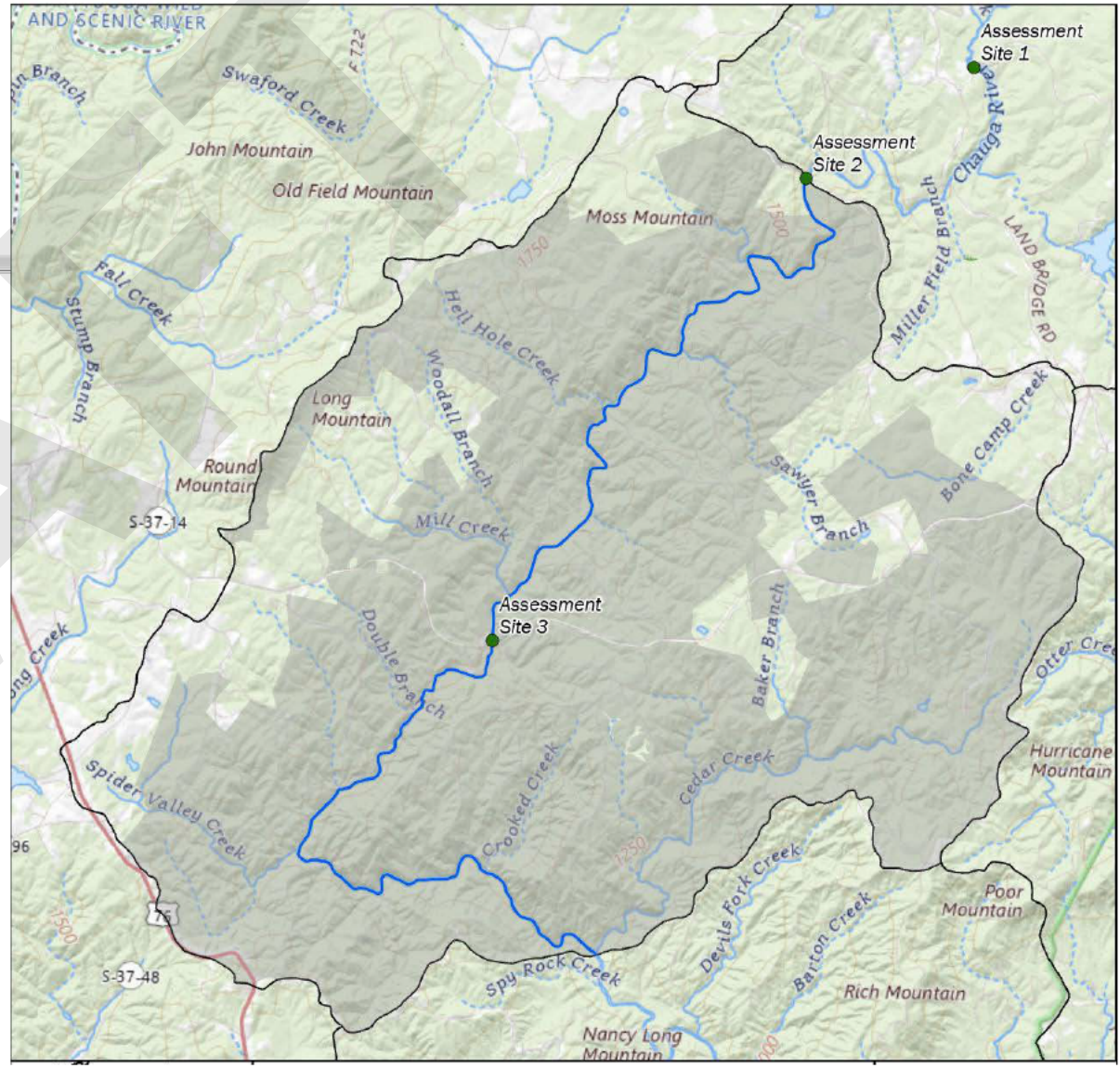
Middle Chauga

Overview:

- 16,106 acres
- 20% private land, 80% public land on the Sumter National Forest
- Approx. 88% forested, 5% developed, 5% pasture/grassland
- Popular for recreation: fishing, hiking, camping, hunting, swimming, etc.

Primary impacts:

- Roads
- Heavy-use areas on national forest



Middle Chauga

Observations & Notes

Few observed potential pollution sources, except at road crossings and river access points, including: eroded streambanks, litter, vehicle tracks, etc.

The popular Riley Moore Falls on the Chauga River.
Photo: Emily Anderson

The Middle Chauga has numerous river access points.
Photo: Steven Pruitt

Erosion/rutting channels sediment into the Chauga River from gravel/dirt roads.
Photo: Steven Pruitt

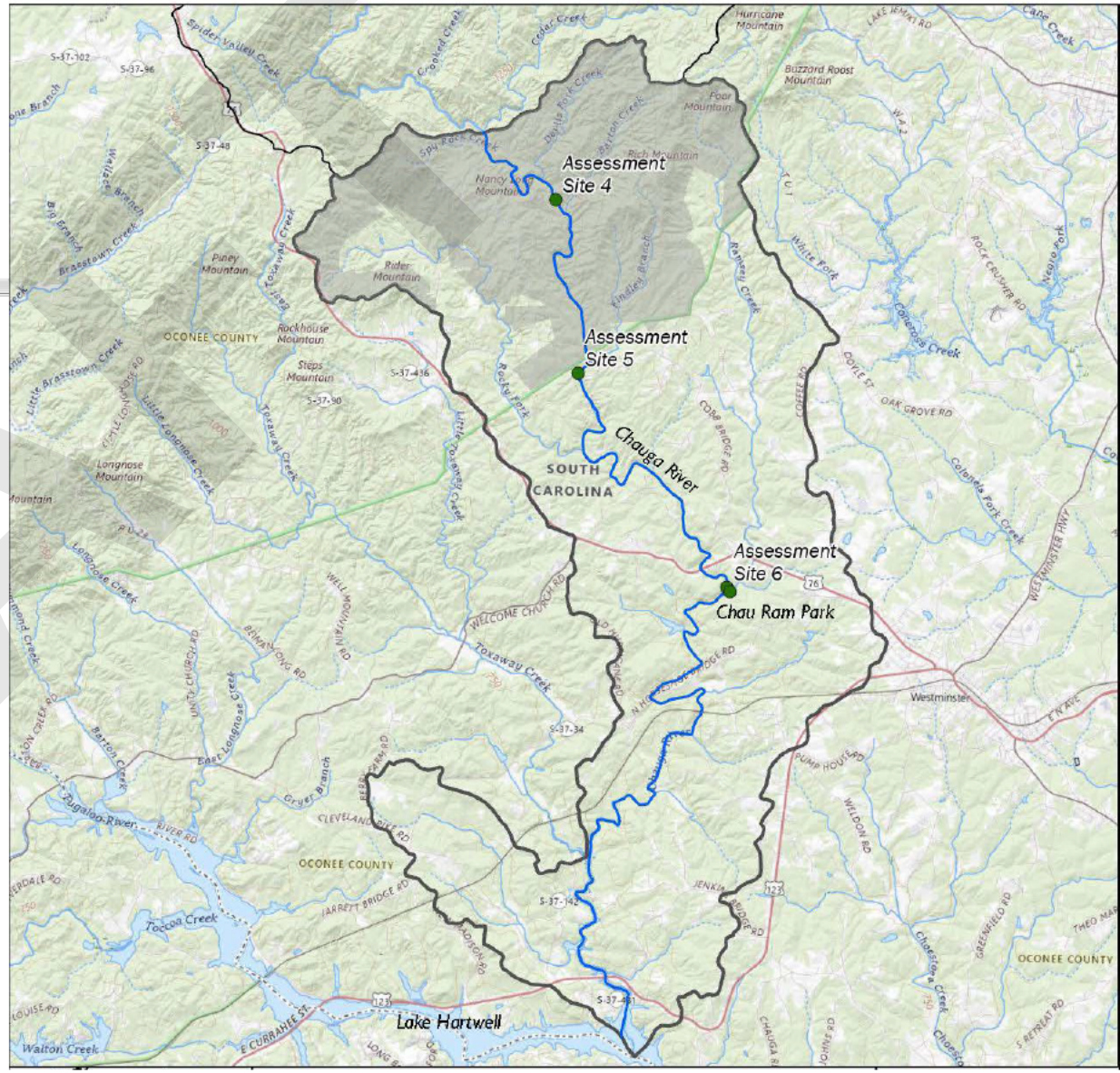
Lower Chauga

Overview:

- 24,186 acres
- 73% private land, 27% public
- Approx. 81% forested, 8% developed, 10% pasture/grassland
- Includes Westminster water intake & Chau Ram Park
- Terminates in Lake Hartwell

Primary impacts:

- Roads
- Residential development
- Agriculture



Lower Chauga
Observations & Notes

- Historical sediment concerns in Rocky Fork and Ramsey Creek (Brewer, 1998)
- Elevated bacteria levels measured in Ramsey Creek in recent monitoring
- Non-native invasive species on streambanks
- Recent Hwy 76 bridge repair and removal of historic bridge

Post-removal of the historic bridge at Hwy 76.
Photo: Stu May

Sediment in Ramsey Creek at the Chauga confluence.
Photo: Steven Pruitt

Kuzdu on the banks of the Chauga.
Photo: Emily Anderson

Recommended **management measures**

- Plans must determine and describe **recommended management measures** to achieve pollutant load reduction goals
- Measures include **Best Management Practices (BMPs)** focused on:
  - Reducing the availability of pollutants (e.g. fixing a failing septic system)
  - Slowing the transport of the pollutant to the waterbody (e.g. retention pond)
  - Treating/filtering the pollutant before it reaches the waterbody (e.g. riparian buffer)

Potential watershed restoration strategies

Overview

- Agricultural BMPs
- Septic system repair & replace cost-share program
- Gravel road stormwater management
- Land protection
- Litter prevention & Leave No Trace initiatives
- Streambank restoration
- Non-native invasive species management
- Feral hog management
- Constructed wetlands
- Cold-water dam release

Restoration strategies

Agricultural BMPs

Implementing agricultural BMPs can reduce sediment, bacteria, and other pollutants entering streams from farms, as well as protect livestock that may be at risk of illness from drinking polluted water.

Strategy details:

- Optional cost-share program that would be offered to interested landowners
- Focused mainly in the Upper and Lower Chauga watersheds
- Properties adjoining the Chauga or a tributary would be prioritized

Cattle exclusion fencing in the Saluda River watershed.
Photo c/o Save Our Saluda

Restoration strategies

Agricultural BMPs

Implementing agricultural BMPs can reduce sediment, bacteria, and other pollutants entering streams from farms, as well as protect livestock that may be at risk of illness from drinking polluted water.

Riparian buffer restoration on agricultural land.
Photo c/o Save Our Saluda

BMP Examples:

- Cattle exclusion fencing
- Installation of secondary water source
- Streambank restoration
- Riparian buffer planting
- Hardened surface installation

Restoration strategies

Septic systems

Aging, damaged, or improperly installed/sited septic systems and drain fields can result in harmful bacteria and nutrients making their way into nearby waterways. Regular maintenance, repairs, or system replacement can mitigate these issues.

Strategy details:

- Cost-share program that would be offered to willing homeowners/business owners
- Focused mostly in the Upper and Lower Chauga watersheds (more residential area)
- Priority focus on parcels directly next to the Chauga or a tributary, those with known issues, and older septic systems

Restoration strategies

Gravel road stormwater maintenance

Stormwater runoff from roads, particularly gravel and dirt roads, has the potential to deposit significant volumes of sediment and other pollutants into streams. Strategic road design and regular maintenance can measurably reduce these inputs.

Strategy details:

- Recommendations would cover any gravel roads -- county, USFS, and private
- Focused across whole watershed
- Priority for roads running alongside or crossing the Chauga and/or tributaries

Roadside swale revegetation with rock check dams for sediment and erosion control.
Photo c/o Acton Wakefield Watersheds Alliance

Restoration strategies

Land protection

Protection of undeveloped and/or agricultural land via conservation easement would preserve existing ecological values and reduce the potential for future development or land disturbance to create new sources of pollution from that property.

- Priority based on numerous factors including:
  - Proximity to the Chauga and/or a tributary
  - Presence of sensitive species
  - Presence of wetlands
  - Total land area to be protected

Restoration strategies

Public & private land initiatives

Additional restoration measures on both private and public lands could reduce stream pollution, improve habitats, and enhance recreational experiences for residents and visitors well into the future.

Strategies for public and private land:

- Leave No Trace/ litter prevention outreach, programming, signage
- Streambank restoration
- Non-native invasive species management
- Feral hog management
- Constructed wetlands

Litter left behind at a campsite adjacent to the Chauga.
Photo: Steven Pruitt

Informational and educational components

The key to successful watershed protection is public support and participation.

Volunteers learn to monitor water quality at a SC AAS workshop hosted by Chattooga Conservancy staff.

Educational initiatives:

- Septic system outreach
- Educational signage campaigns on public land
- Community science monitoring with SC Adopt-a-Stream
- Homeowner and stakeholder outreach
- Media outreach (webpage, social media, public bulletin boards)

Potential funding sources for restoration

- EPA Section 319(h) Grant Program
- USDA Natural Resources Conservation Service (NRCS) Programs:
  - Environmental Quality Incentive Program (EQIP)
  - Agricultural Conservation Easement Program (ACEP)
  - Conservation Stewardship Program (CSP)
  - Watershed Protection and Flood Prevention Operations (WFPO) Program
- USDA Rural Development Office
- USFWS Partners for Fish and Wildlife Program
- SC Clean Water Revolving Fund
- SC State Revolving Fund
- South Carolina Conservation Bank
- PalmettoPride
- National Fish and Wildlife Foundation (NFWF)
- South Carolina Native Plant Society

Future work of the Chauga River WP

- Develop long-term monitoring and assessment protocols
- Use findings and community input to develop a draft WP
  - Relevant **feedback** must be received by the Chattooga Conservancy **by June 2026** for consideration in the draft WP document.
- Present final draft to SC DES for approval in **July 2026**
- Use approved WP to apply for funding to assist with watershed restoration projects outlined in the plan

Comments & Questions

Questions about the plan so far?

Personal observations or concerns in the watershed?

Suggestions for the planning process?