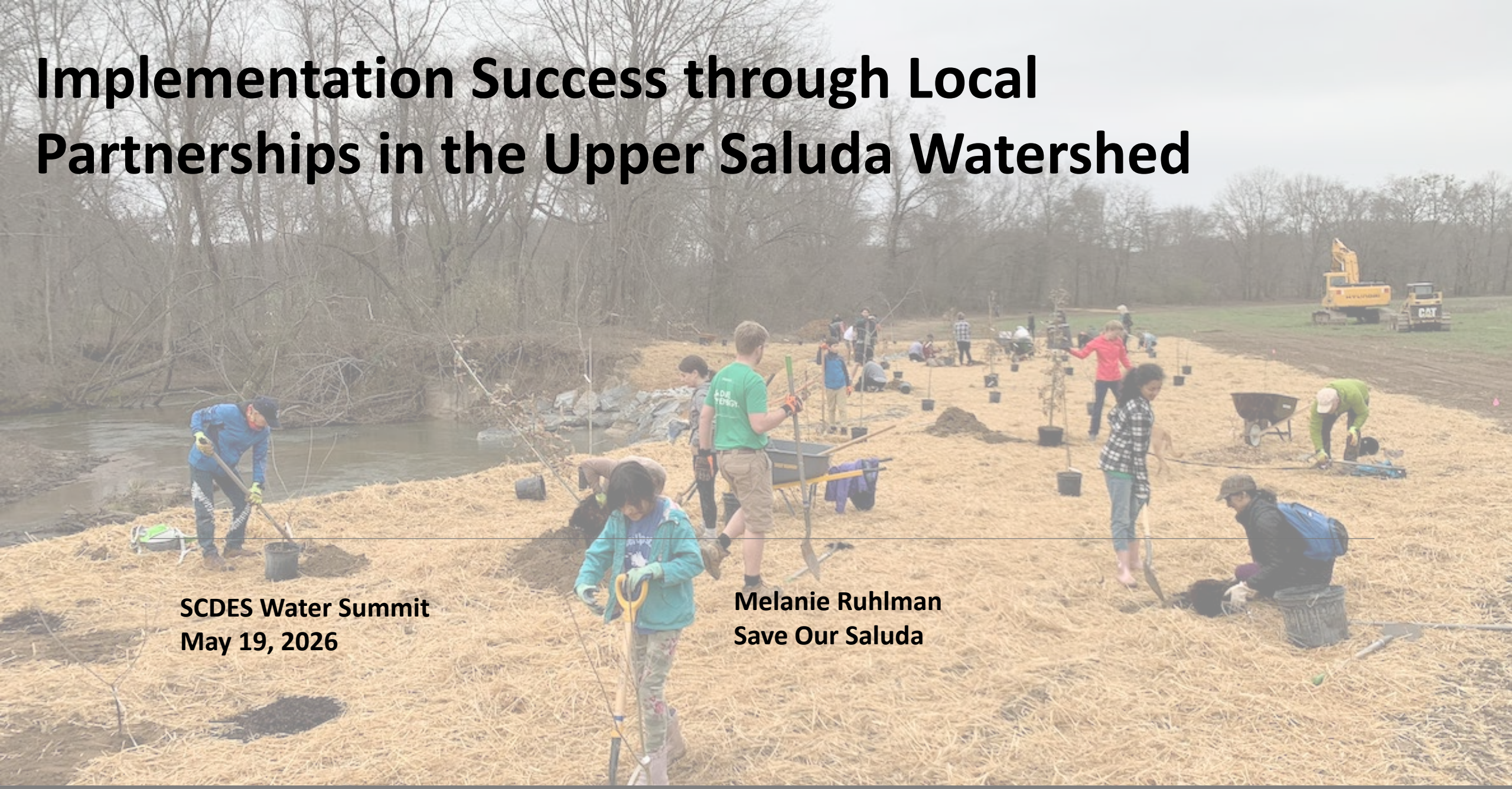
Implementation Success through Local Partnerships in the Upper Saluda Watershed



SCDES Water Summit
May 19, 2026

Melanie Ruhlman
Save Our Saluda

SAVE OUR SALUDA

Save Our Saluda

Save Our Saluda (SOS) is a nonprofit watershed organization dedicated to protecting and restoring the Upper Saluda Watershed in South Carolina.

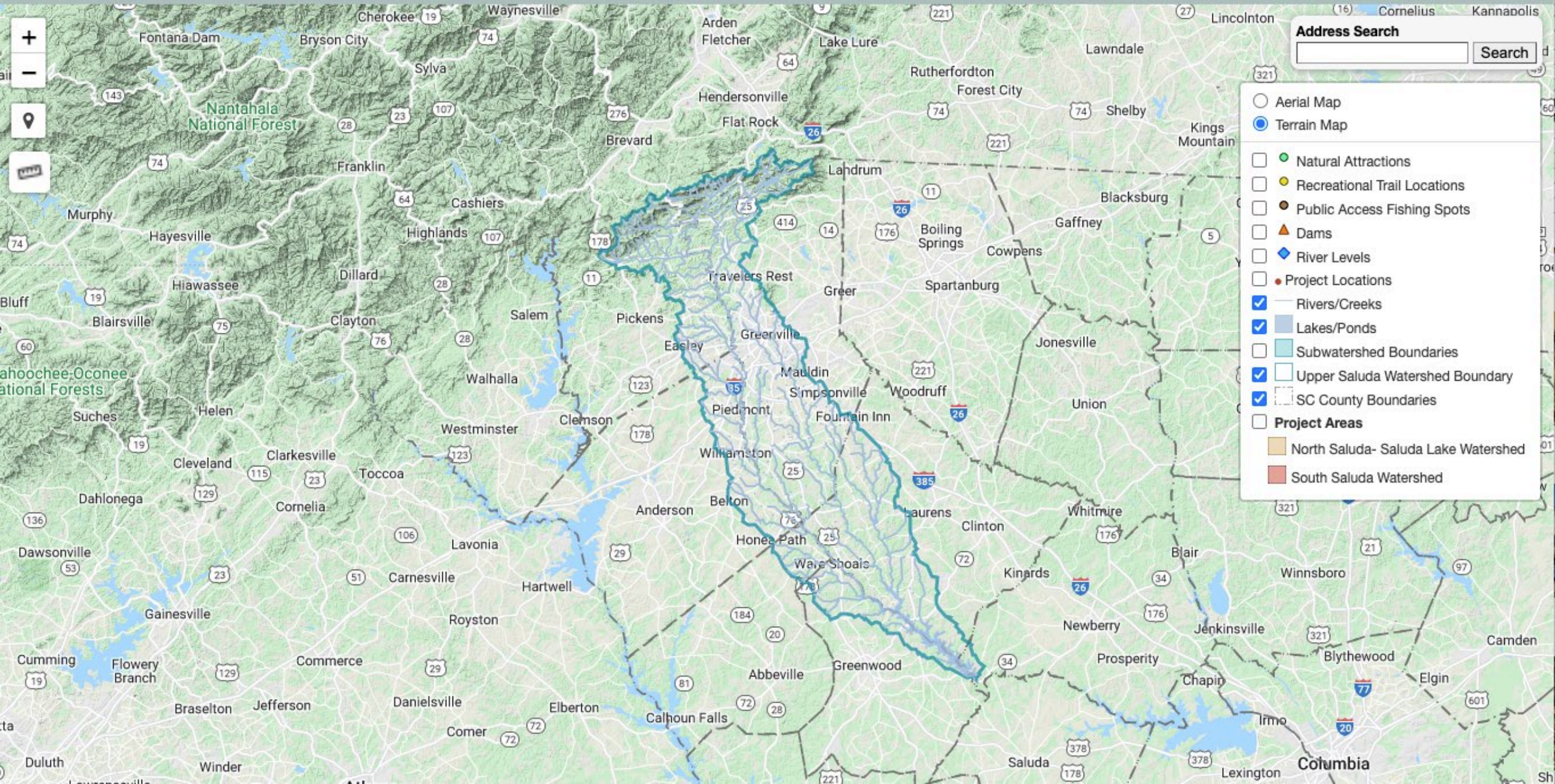
Save Our Saluda promotes clean and sustainable river flows, identifies threats facing the river and its tributaries, and seeks effective solutions in cooperation with partnering organizations and volunteers.

SAVE OUR SALUDA

SAVE OUR SALUDA

Upper Saluda River Watershed Map

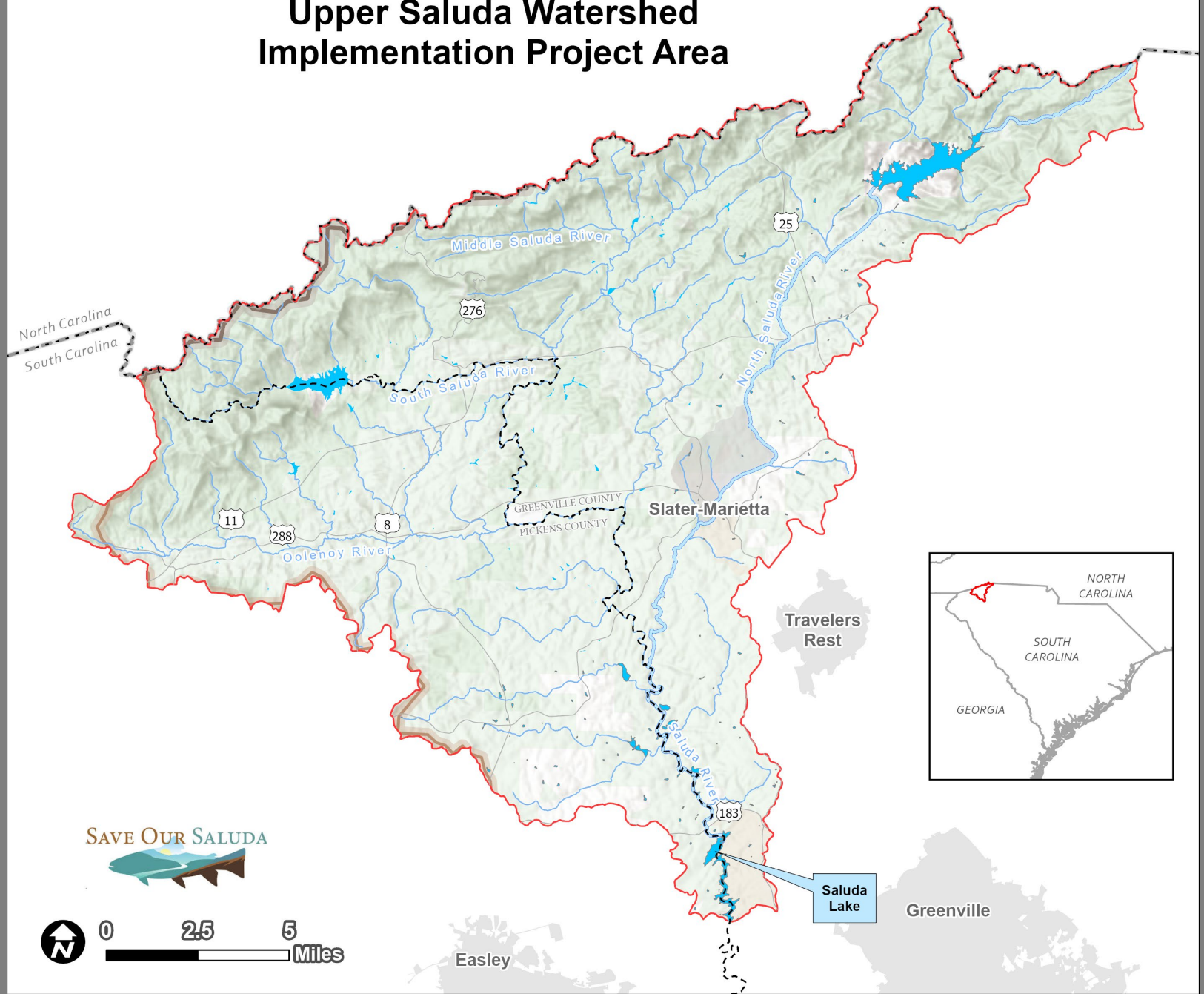
Sponsors | SC Watershed Atlas | Donate | Tutorial



Upper Saluda Watershed Program for Sediment

Technical Advisory Stakeholder Committee (TASC)

Upper Saluda Watershed Implementation Project Area



Upper Saluda Watershed Program for Sediment

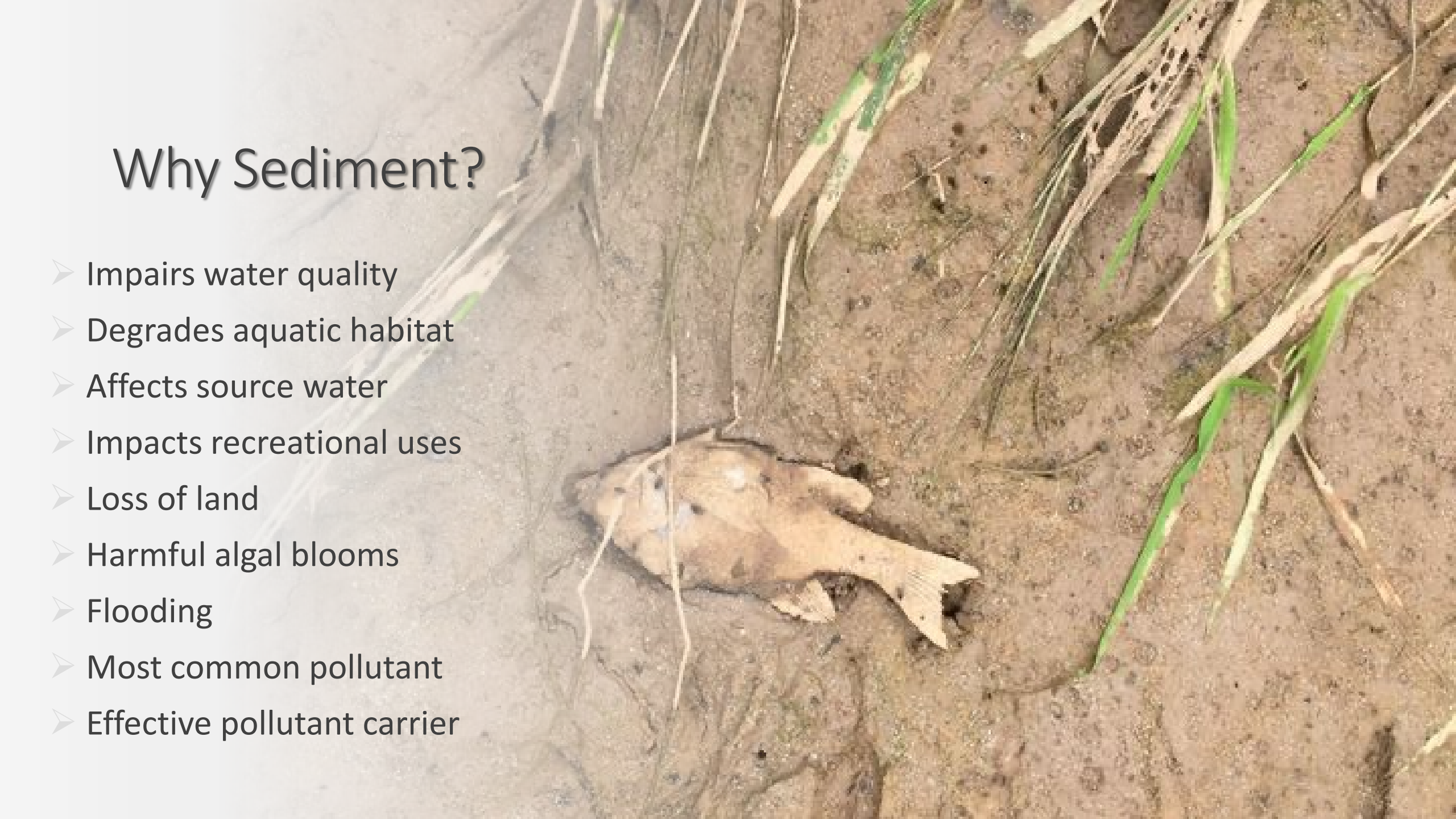
Program Goal

To reduce sediment loading to streams and rivers in the Upper Saluda River Watershed through implementation of agricultural and rural Best Management Practices (BMPs) for soil conservation and water quality.

SAVE OUR SALUDA

Why Sediment?

- Impairs water quality
- Degrades aquatic habitat
- Affects source water
- Impacts recreational uses
- Loss of land
- Harmful algal blooms
- Flooding
- Most common pollutant
- Effective pollutant carrier



Sediment is an effective pollutant carrier


Railroad Creek, tributary to North Saluda River

Oolenoy River, flows to the South Saluda River

SAVE OUR SALUDA

North Saluda River

Baseflow

Stormflow

THE PROBLEM

Saluda Lake

- Drinking water source for Easley area
- 100,000+ customers
- Multiple communities
- Dredging cost: ~$7,680,000
- 366,600 yd^3 sediment removed

2010: before dredging	2013: after dredging
	

EASLEY COMBINED UTILITIES
A Community Tradition

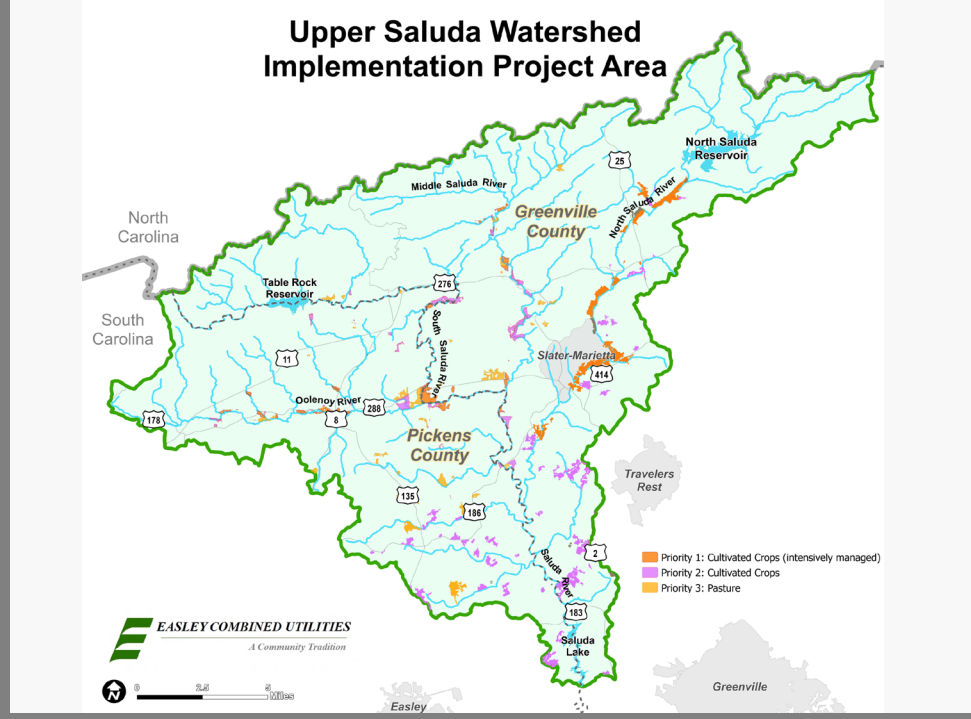
THE PROBLEM

Saluda Lake

- 2018 bathymetric survey: dredged area 67% filled in
- 2024 drone of dredged area: 100%+ filled in
- Cost to dredge again > $10M
- Disposal of dredged material significantly problematic
- Repeated dredging a poor investment for source water protection
- Watershed solutions needed for long-term water quality protection

Upper Saluda Program Overview

- ✓ Watershed Planning
- ✓ Implementation Funding
- ✓ BMP Project Implementation
- ✓ Public Outreach and Education



SAVE OUR SALUDA

Upper Saluda Program Assistance for Soil Conservation Projects

- 60% Federal 319 Grant
- 30% Partner Match
- 10% Landowner/Operator

= up to 90% Cost Share

May combine 319 with USDA NRCS EQIP funding

Section 319 Grant Funding

Through seven+ years, Save Our Saluda has received over $1.2M in Federal 319 funding and $909k match to install:

- 7 Streambank stabilization projects
- Vegetated Riparian Buffers
- Farm access road stabilization
- Cover crops
- Sediment basins
- Conveyance swales
- Exclusion fencing
- Heavy use areas
- Stream crossings
- Livestock exclusion and alternative watering


Cover crops
Streambank stabilization
Tillage management
Culvert stabilization
Sediment basin
Heavy use area stabilization
Riparian buffer/Field border
Before
After
Farm road stabilization
Intercropping

Upper Saluda Watershed Projects

River Falls, Middle Saluda River

This site in Jones Gap State Park was once an eroding floodplain farmland that has since been carefully restored into a thriving natural habitat. In 2022, we planted a mix of 20 native grasses, wildflowers, and a temporary cover crop to stabilize the soil. We added over 200 native trees and shrubs and other native vegetation to form a protective buffer that helps prevent erosion, improve water quality, and safeguard the nearby oxbow wetland and the Middle Saluda River.

319 + partner funding

Middle Saluda River

In 2024, we stabilized ~350 feet of eroding streambank along the Middle Saluda using a combination of rock structures and native vegetation. Volunteers planted 470 trees and shrubs to establish a riparian buffer to protect both the restoration site and the river. We installed rock channels through an existing levee berm to allow stormflow to reach adjacent floodplain areas during flooding.

319 + partner + EQIP funding

Ag Demo Site, North Saluda River

In 2025, we stabilized ~1,500 feet of severely eroding riverbank and constructed a floodplain bench along the North Saluda River near Marietta. We restored the riparian area by planting native species, including 5,000 live stakes, 4,000 herbaceous plugs, ~550 trees and shrubs, and a native seed mix of grasses and forbs. We stabilized ~2,200 feet of farm access road and replaced a levee culvert with a rock-lined swale.

319 + partner + EQIP funding

Doddies Creek

In 2020 and 2021, we installed 41 acres of cover crops on farmland that drains to Doddies Creek, stabilized ~2,000 feet of farm access road, and installed culverts, rock check dams, two sediment basins to capture and filter sediment runoff draining from eroding croplands.

319 + partner funding

319 + partner + EQIP funding

Railroad Creek

In 2023, we installed a stabilized stream crossing for livestock and replaced and installed ~1,800 feet of exclusion fencing to prevent livestock access to Railroad Creek. We established an alternative watering source that included well rehabilitation, water lines, heavy use areas, and troughs. We stabilized eroded streambanks using structural and vegetative BMPs, stabilized an access road, and provided drainage stabilization.

Terry Creek

From 2021 to 2024, we installed three streambank stabilization projects at crop farms along Terry Creek, a total of 3,200 feet, each with different landowners coordinating efforts to protect and improve water quality. Projects included riparian buff restoration, access road and drainage stabilization, heavy use area stabilization, and cover crops.

319 + partner + EQIP funding

No-Till Drill and Roller Crimper

We purchased a 36" no-till drill and an 8-foot roller crimper with Section 319 grant funding. Both are available to local agricultural producers and can be leased through the Greenville County Soil and Water Conservation District. We have conducted several cover crop-no-till trials across multiple sites and hosted soil health workshops with partners at USDA NRCS and GCSWCD.

319 + partner funding

North Saluda River

From 2019 to 2021, we installed cover crops on ~150 acres, of intensively managed floodplain croplands. We also stabilized farm access roads and conducted a cover crop-no-till trial.

319 + partner funding

Upper Saluda Watershed Location

Upper Saluda Watershed Program for Sediment

The Upper Saluda Watershed encompasses approximately 190,000 acres in Greenville and Pickens Counties. Headwaters originate in the Blue Ridge Mountains and drain south to Saluda Lake. The North and South Saluda Rivers feed reservoirs which supply water to the greater Greenville area while Saluda Lake supplies drinking water to Easley and surrounding communities. Streams and rivers of the Upper Saluda Watershed support business and industry, provide recreational opportunities to thousands of Upstate residents and visitors, and generally support a rich diversity of aquatic life. Excess sedimentation is a significant problem in Saluda Lake and in upstream waterbodies. Sediment negatively impacts water quality, reduces the storage capacity of Saluda Lake, reduces flood resiliency, increases impacts from flooding, negatively impacts aquatic life, and diminishes recreational use. Save Our Saluda's Upper Saluda Watershed Program for Sediment aims to reduce sediment runoff through implementation of agricultural and rural Best Management Practices (BMPs) for soil conservation.

This project was funded in part by the United States Environmental Protection Agency and made possible by the South Carolina Department of Environmental Services.

SAVE OUR SALUDA

EPA

SC DEPARTMENT of ENVIRONMENTAL SERVICES

EASLEY COMBINED UTILITIES
A Community Tradition

WSP

Implementation Projects

Terry Creek Streambank Stabilization and Riparian Restoration Project #1

- ✓ Stabilized over 1,000 feet of streambanks
- ✓ Established riparian buffer
- ✓ Relocated and stabilized farm road
- ✓ Built 2 heavy use areas
- ✓ Cover crops


After

North Saluda River Streambank Stabilization and Riparian Restoration

- ✓ Stabilized over 160 feet of streambanks
- ✓ Installed boulder toe rock and 3 boulder j-hooks
- ✓ Established riparian buffer
- ✓ Installed 2 rock-lined waterways
- ✓ Stabilized farm access roads (~2,300 feet)

Terry Creek Streambank Stabilization and Riparian Restoration Project #2

- ✓ Stabilized over ~1,200 feet of streambanks
- ✓ Boulder toe rock and 14 single-arm rock vanes
- ✓ Established riparian buffer
- ✓ 4 Rock lined waterways (1,680 ft^2)
- ✓ 1 heavy use area
- ✓ Stabilized farm access road (~1,300 feet)

Middle Saluda Stream Stabilization and Riparian Restoration

- ✓ Streambank stabilization (350 feet)
- ✓ Boulder toe rock and single-arm rock vanes
- ✓ Streambank seeding and coir matting
- ✓ Native live stakes and herbaceous plugs on streambank slopes
- ✓ Riparian buffer enhancement along ~1,800 feet of Middle Saluda
- ✓ Floodplain reconnection

Railroad Creek Livestock Project

- ✓ Rock armored low water stream crossing for cattle (1,080 ft^2)
- ✓ Streambank stabilization (160 feet grading, boulder toe, rock vane)
- ✓ Rock lined waterways (~2,900 ft^2)
- ✓ Exclusion fencing (1,795 feet)
- ✓ Native live stakes and plugs on streambank slopes

January 2024 Flood

The barrel fence at the stream crossing allows water and woody debris to pass as they float during storm events.

Railroad Creek
Livestock Project, continued

- ✓ Well rehabilitation
- ✓ Water lines (1,110 feet)
- ✓ Heavy use areas (1,250 ft2)
- ✓ Watering troughs (2)
- ✓ Stabilized farm access road (~ 835 ft)




Terry Creek Streambank Stabilization and Riparian Restoration Project #3

- ✓ Streambank stabilization on Terry Creek and Short Branch (900ft)
- ✓ Boulder toe rock and single-arm rock vanes
- ✓ Streambank seeding and coir matting
- ✓ Native live stakes and herbaceous plugs on streambank slopes
- ✓ Riparian buffer enhancement

SAVE OUR SALUDA

North Saluda (Ag Demo Site)

Streambank Stabilization and Riparian Restoration (Phase 1)

Naturaland TRUST

Ag Demo Site Phase 1 Streambank Stabilization and Riparian Restoration

- ✓ Streambank stabilization (1400 feet)
- ✓ Boulder toe rock and 5 single-arm rock vanes
- ✓ Streambank seeding and coir matting
- ✓ Native live stakes and herbaceous plugs on streambank slopes
- ✓ Riparian buffer enhancement (2 acres)
- ✓ Floodplain reconnection


Post-
construction

After

Agroecosystem Demonstration Site

Naturaland TRUST

Save Our Saluda

Goals:

- To reduce sediment runoff for water quality and source water protection of the North Saluda River and Saluda Lake
- To create a model farm to serve as demonstration of BMPs for sustainable regenerative farm management practices

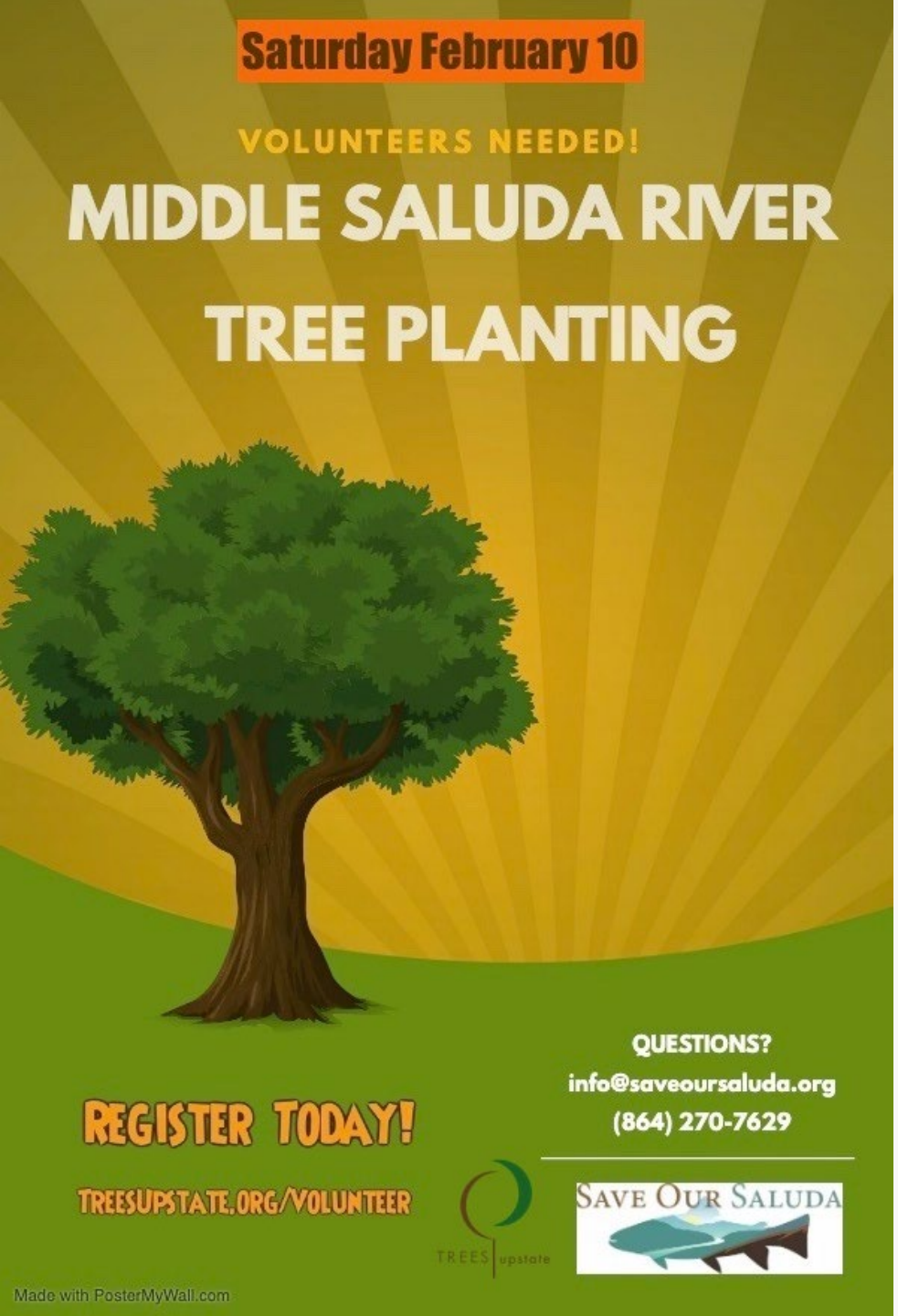
Equipment Purchase and Cover Crop No-till Transplanter Trials

Greenville County Soil & Water Conservation District

NRCS Natural Resources Conservation Service South Carolina

Save Our Saluda


FEATHER CREEK
20 FARMSTEAD 18
Fresh • Local • Natural
Lets Grow Together



Public Involvement

- River cleanups
- Riparian plantings
- Workshops
- Partnerships

SAVE OUR SALUDA

Greenville County

COOPERATIVE EXTENSION
College of Agriculture, Forestry and Life Sciences

wsp

NRCS

UF | UPSTATE FOREVER

soil&water CONSERVATION DISTRICT PICKENS COUNTY

GREENVILLE COUNTY SOIL & WATER CONSERVATION DISTRICT

EASLEY COMBINED UTILITIES
A Community Tradition

TreesUpstate
plant • promote • protect

FOOTHILLS PADDLING CLUB

Friends of the Reedy River

SCNPS

SC DEPARTMENT of ENVIRONMENTAL SERVICES

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SAVE OUR SALUDA

To date…

- **460** volunteers have planted….
- **>3,500** trees and shrubs across……
- **8** acres of riparian/forested buffer

- And removed tons of trash from streams and rivers!

FOOTHILLS PADDLING CLUB

TreesUpstate
plant • promote • protect

TreesUpstate
plant • promote • protect

Volunteer Training

We love our volunteers!

FOOTHILLS PADDLING CLUB

River Clean-ups

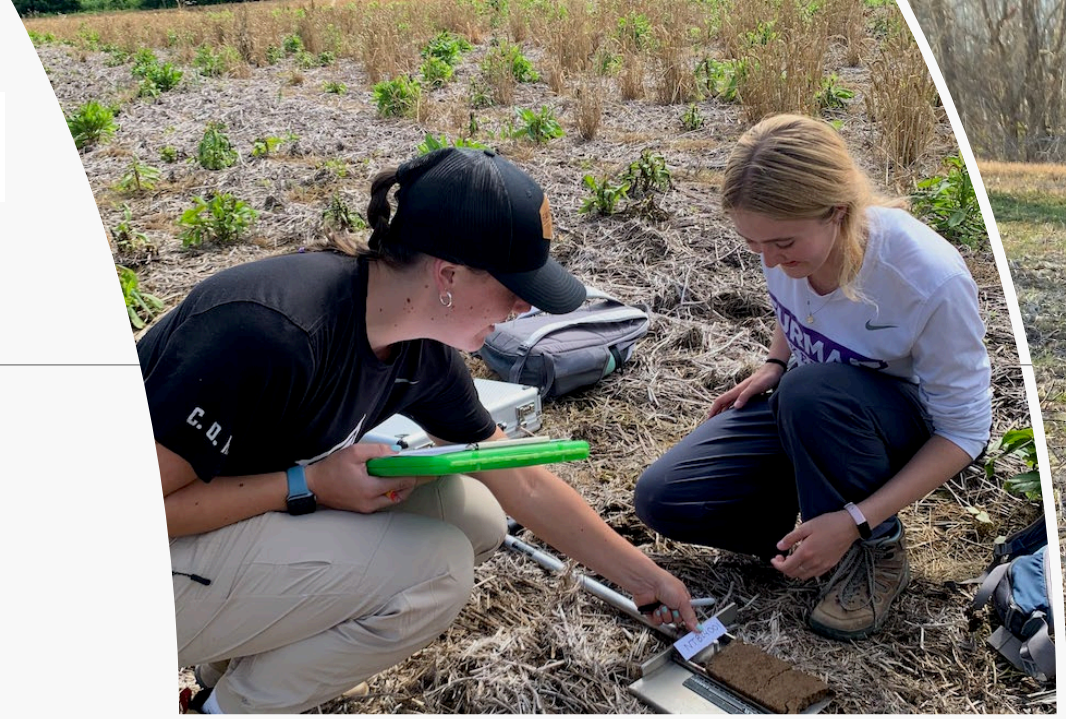


Post-Helene Trash and Debris

Furman University Partnership

Methods in Earth and Environmental Science Class Lab

Students collected soils data from the Ag Demo Site in February and June 2024



Education

FURMAN UNIVERSITY

GREENVILLE COUNTY SOIL & WATER CONSERVATION DISTRICT

NRCS Natural Resources Conservation Service South Carolina

Slake Test
South Saluda Cover Crop Workshop, 2019

Tuesday, April 28th
9:30 AM - 2:30 PM
Pleasant Ridge Retreat Center
4232 Hwy 11
Marietta, SC 29661

Upper Saluda Streambank Stabilization Workshop

SAVE OUR SALUDA

Greenville County

COOPERATIVE EXTENSION
College of Agriculture, Forestry and Life Sciences

Join us to learn about streambank stabilization techniques and the importance of riparian buffers to protect your property! The workshop will include indoor presentations in the morning, a lunch, and a field tour in the afternoon.

$20

Questions? Contact Karen Jackson at karen.e.jackson@wsp.com 803-740-1379

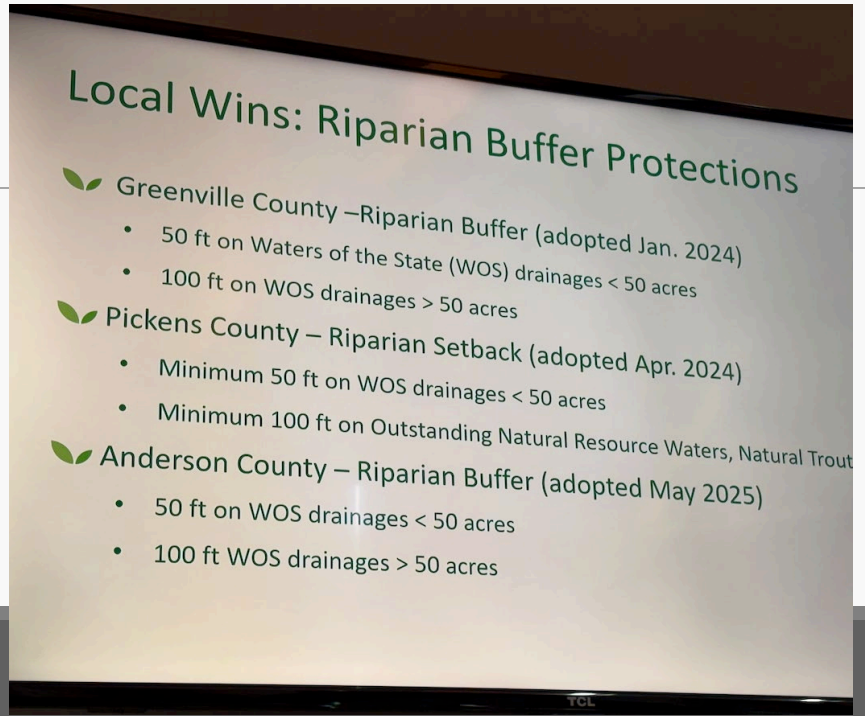
Space is limited! Please RSVP by April 13th!

https://2026streambankworkshop.eventbrite.com

EPA

SC DEPARTMENT of ENVIRONMENTAL SERVICES


Natural Stream Processes
What all streams have in common
Carry water and sediment downhill
Influenced by watershed
Manage Energy (Water velocity)
Create habitat (aquatic and terrestrial)
Right and Left Banks (go with the flow!)


Local Wins: Riparian Buffer Protections
Greenville County –Riparian Buffer (adopted Jan. 2024)
50 ft on Waters of the State (WOS) drainages < 50 acres
100 ft on WOS drainages > 50 acres
Pickens County – Riparian Setback (adopted Apr. 2024)
Minimum 50 ft on WOS drainages < 50 acres
Minimum 100 ft on Outstanding Natural Resource Waters, Natural Trout
Anderson County – Riparian Buffer (adopted May 2025)
50 ft on WOS drainages < 50 acres
100 ft WOS drainages > 50 acres


soil&water
CONSERVATION DISTRICT
PICKENS COUNTY
Our Main Missions
soil&water
CONSERVATION DISTRICT
PICKENS COUNTY

SAVE OUR SALUDA

SOUTH CAROLINA ENVIRONMENTAL LAW PROJECT

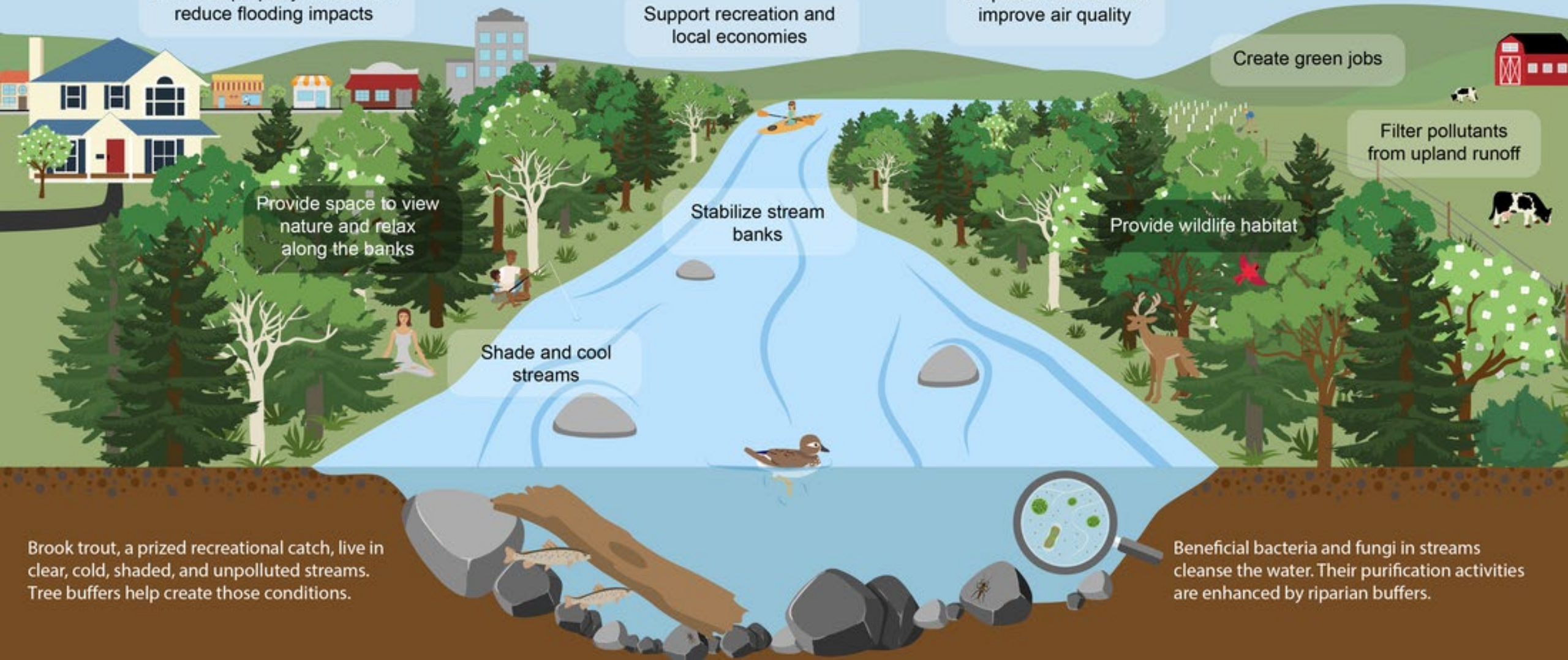
Riparian Consortium

SCNPS

Friends of the Reedy River

UPSTATE FOREVER

Riparian buffers, or corridors of vegetation along creeks and rivers, provide a variety of benefits to water quality and our communities.

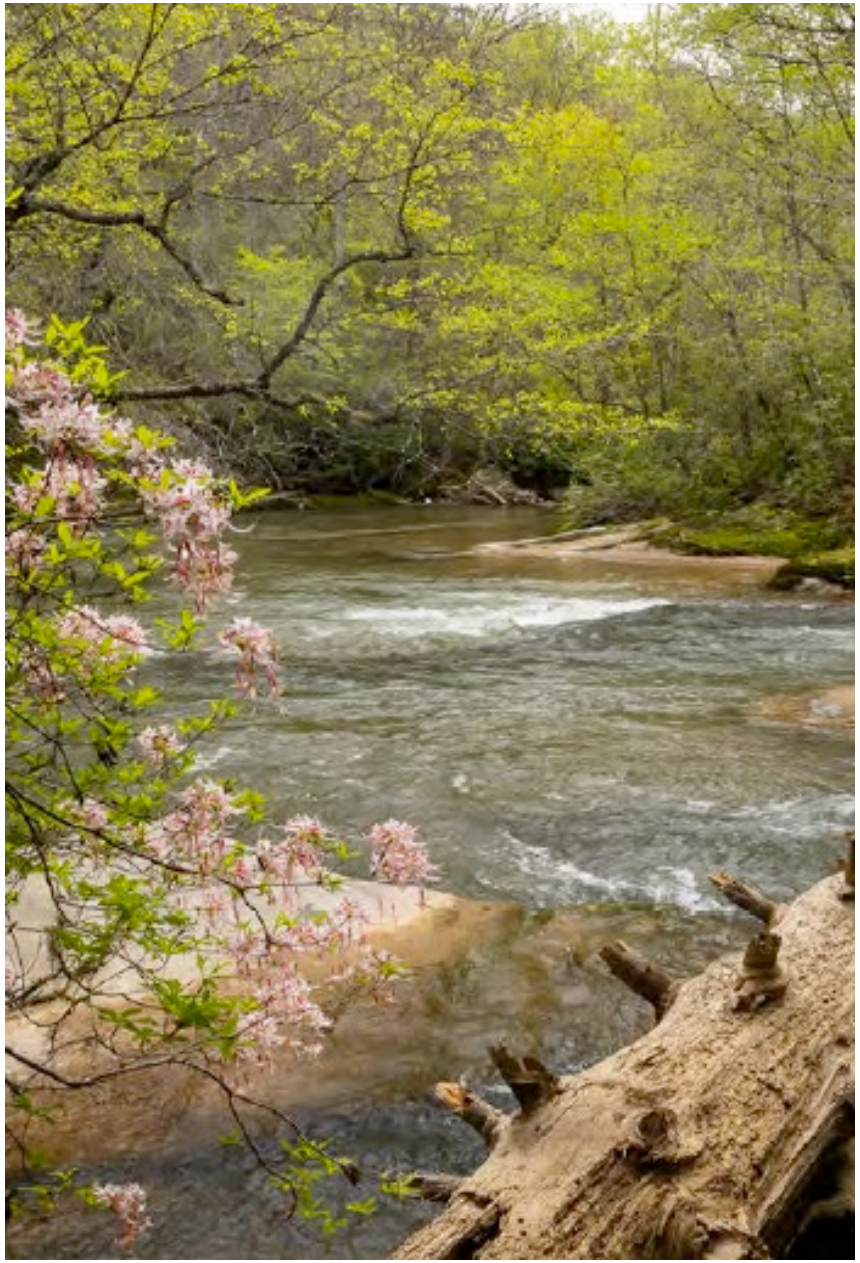


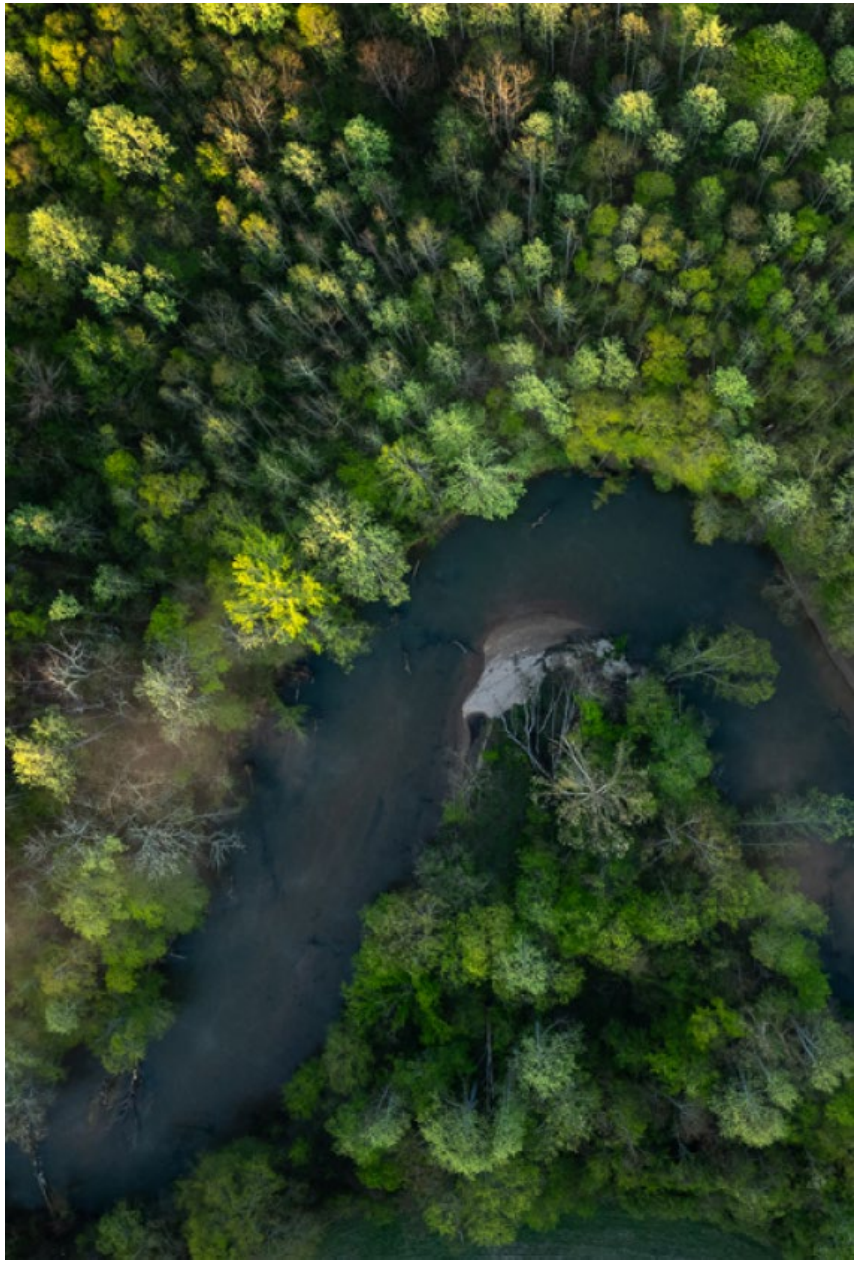
Brook trout, a prized recreational catch, live in clear, cold, shaded, and unpolluted streams. Tree buffers help create those conditions.

Beneficial bacteria and fungi in streams cleanse the water. Their purification activities are enhanced by riparian buffers.

Land Conservation for Source Water Protection

Photo courtesy of Mac Stone - Executive Director, Naturaland Trust





Questions?

Melanie Ruhlman
Save Our Saluda

saveoursaluda.org
info@saveoursaluda.org

River Falls Native Meadow Restoration Project