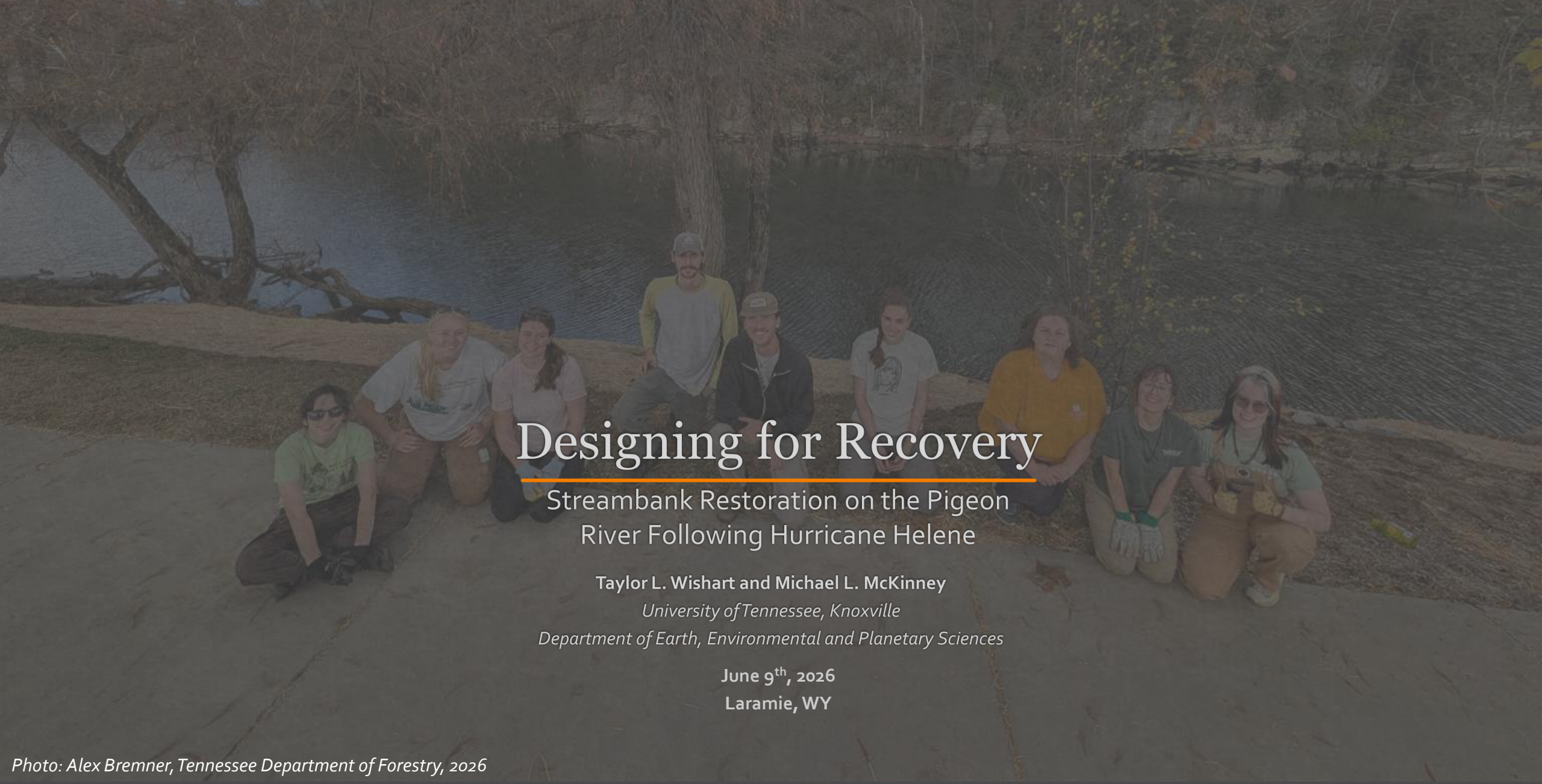


Designing for Recovery

Streambank Restoration on the Pigeon River Following Hurricane Helene

Taylor L. Wishart and Michael L. McKinney

University of Tennessee, Knoxville

Department of Earth, Environmental and Planetary Sciences

June 9th, 2026

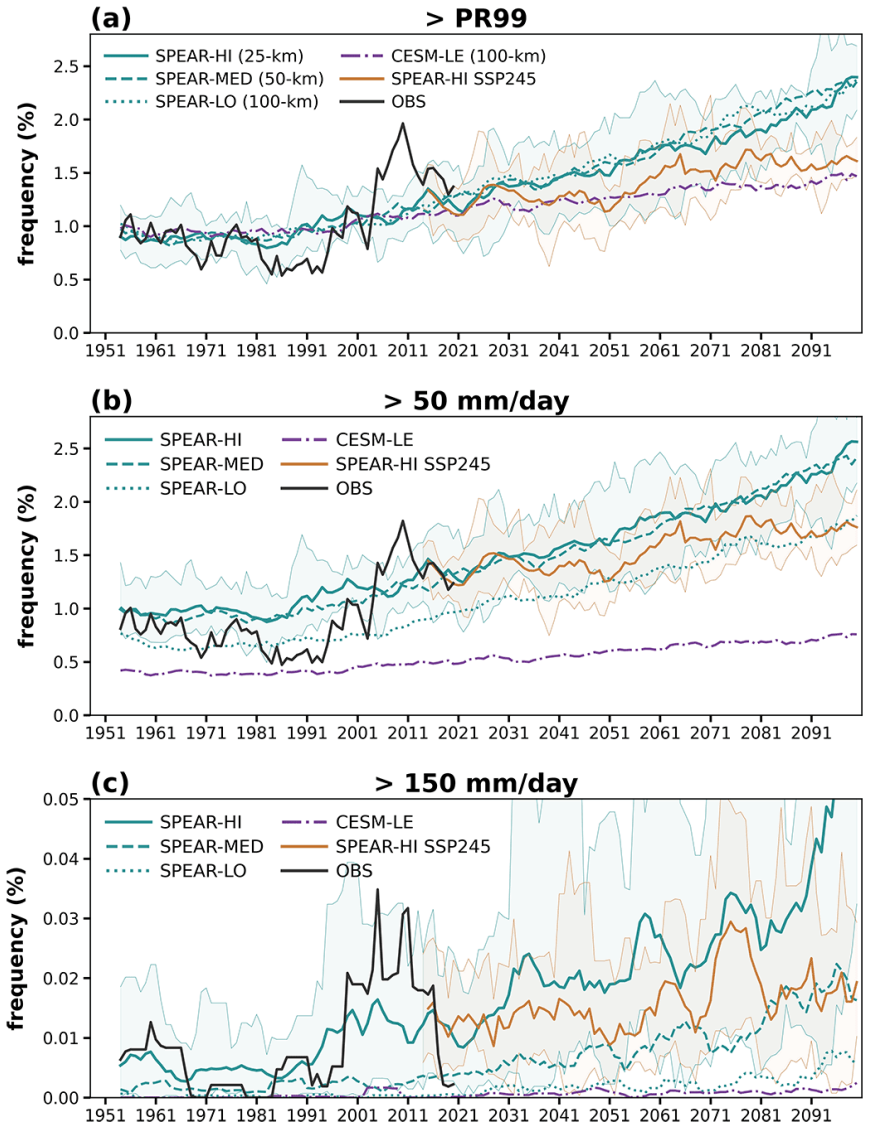
Laramie, WY

Photo: Alex Bremner, Tennessee Department of Forestry, 2026

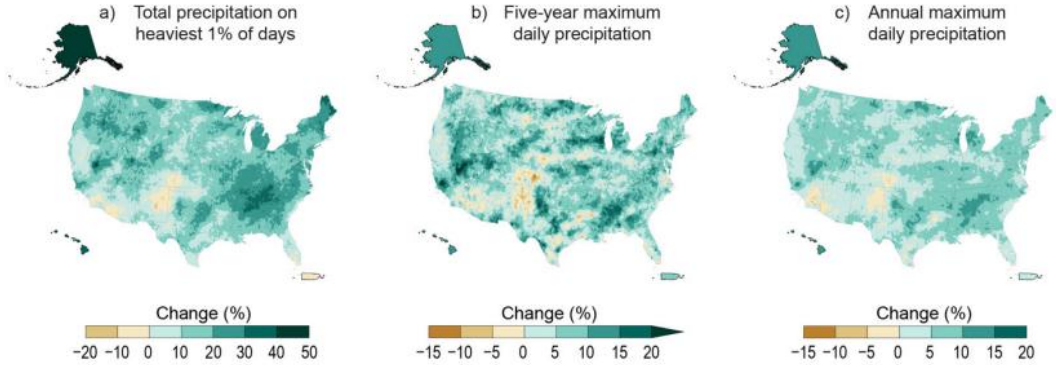
THE UNIVERSITY OF TENNESSEE KNOXVILLE

43rd Meeting of the American Society of Reclamation Sciences

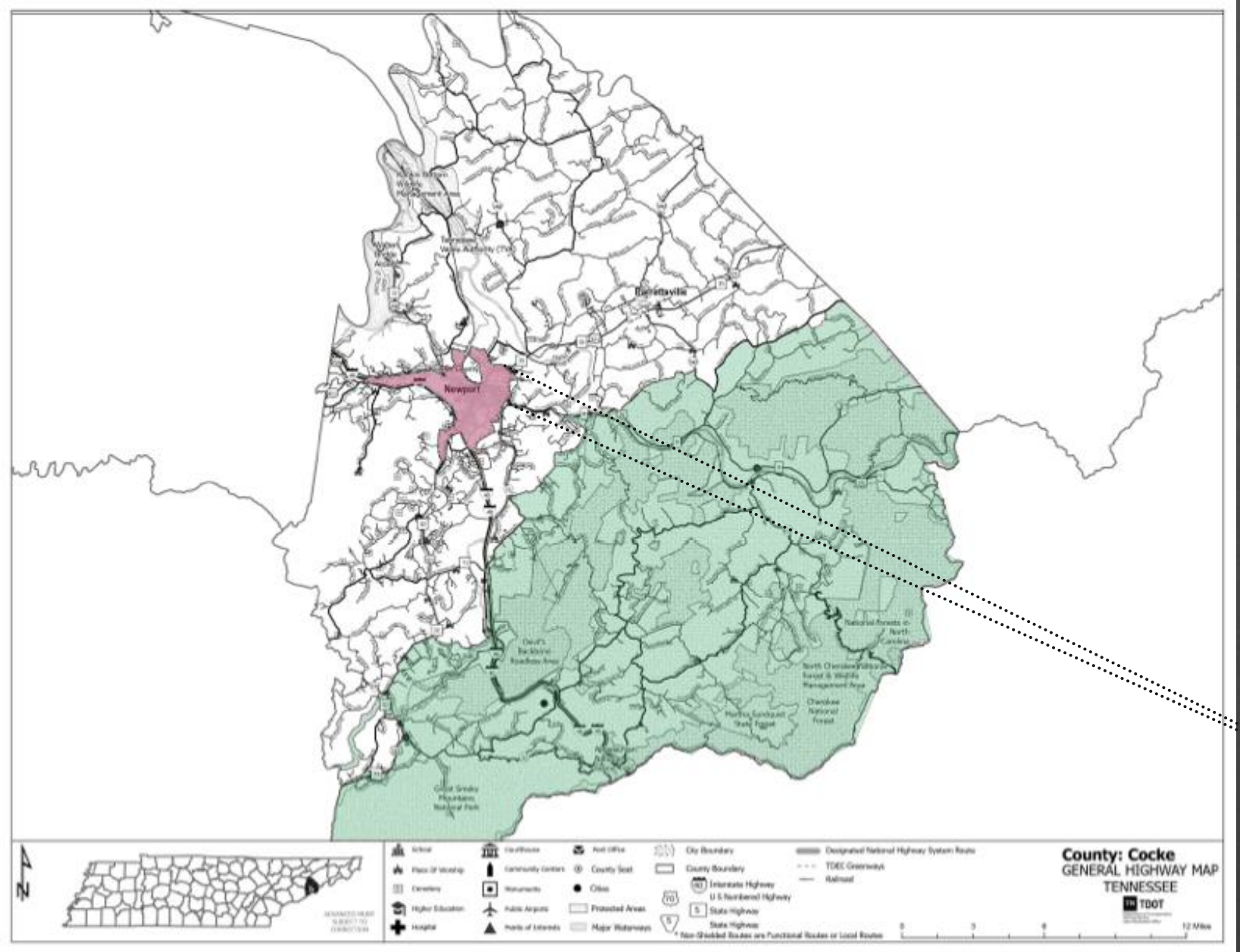
"After the Fall: Restoration After Natural Disasters"



Source: NOAA, 2023



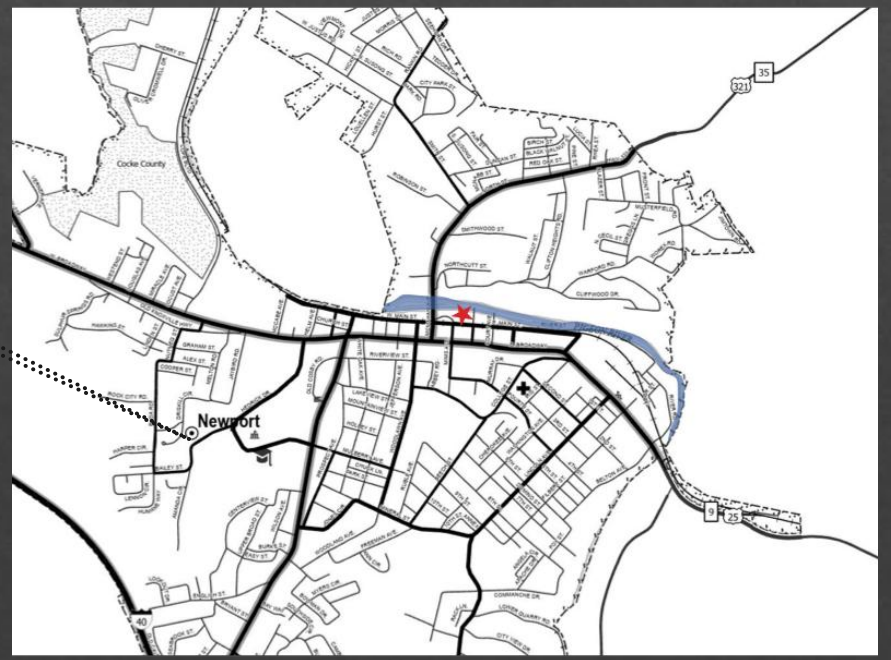
Source: Center for Climate and Energy Solutions, 2025



Newport, Tennessee

- Population: ~6,900
- 60 miles NW of Asheville
- On the Pigeon River

Basemap source: Tennessee Department of Transportation



Hurricane Helene & Newport

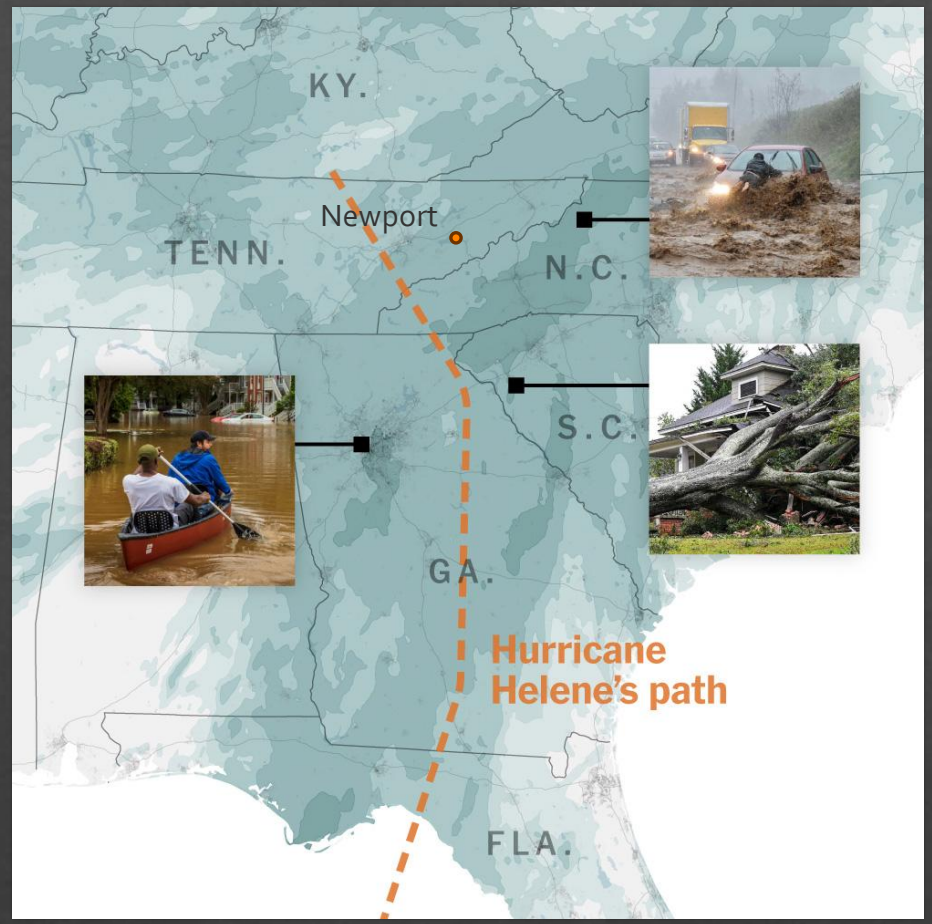
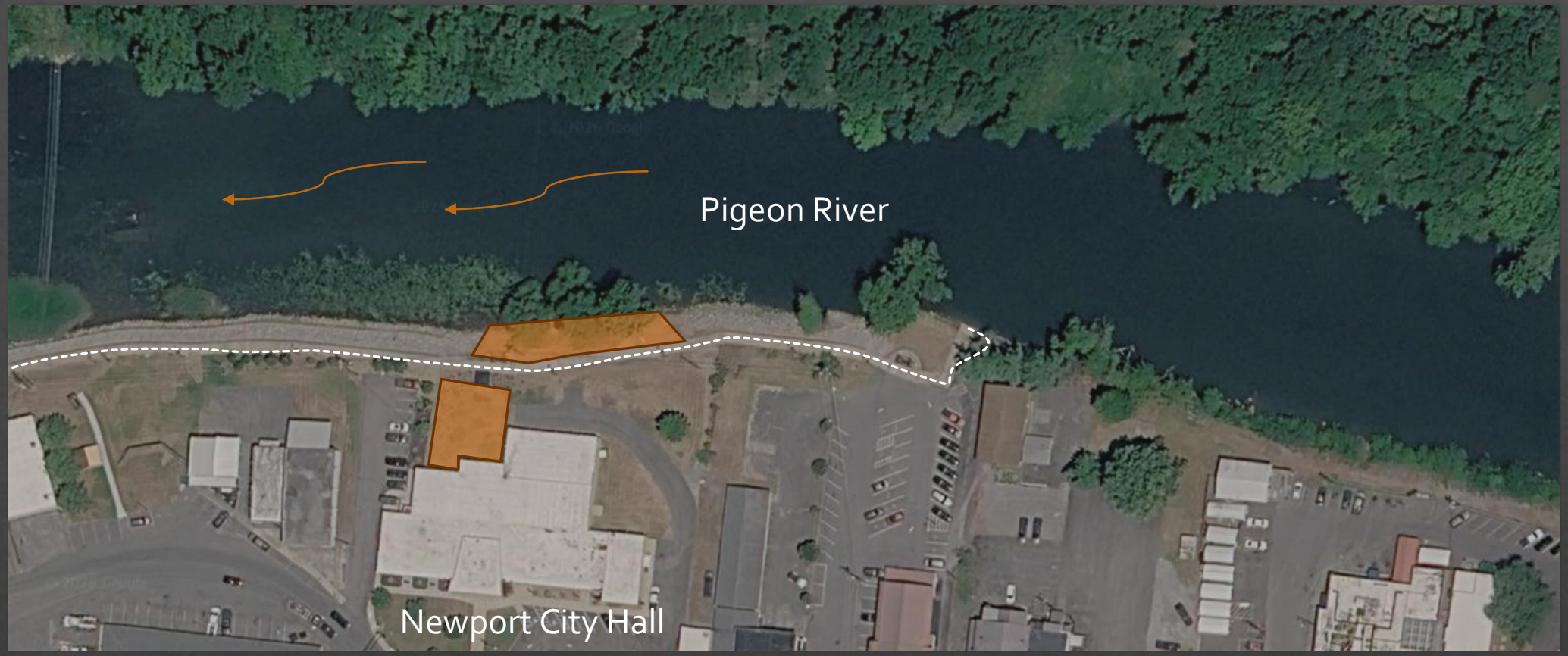


Photo: The New York Times, 2024

Photos 1-3: The Knox News Sentinel, 2024

Photo 4: WBIR, 2024

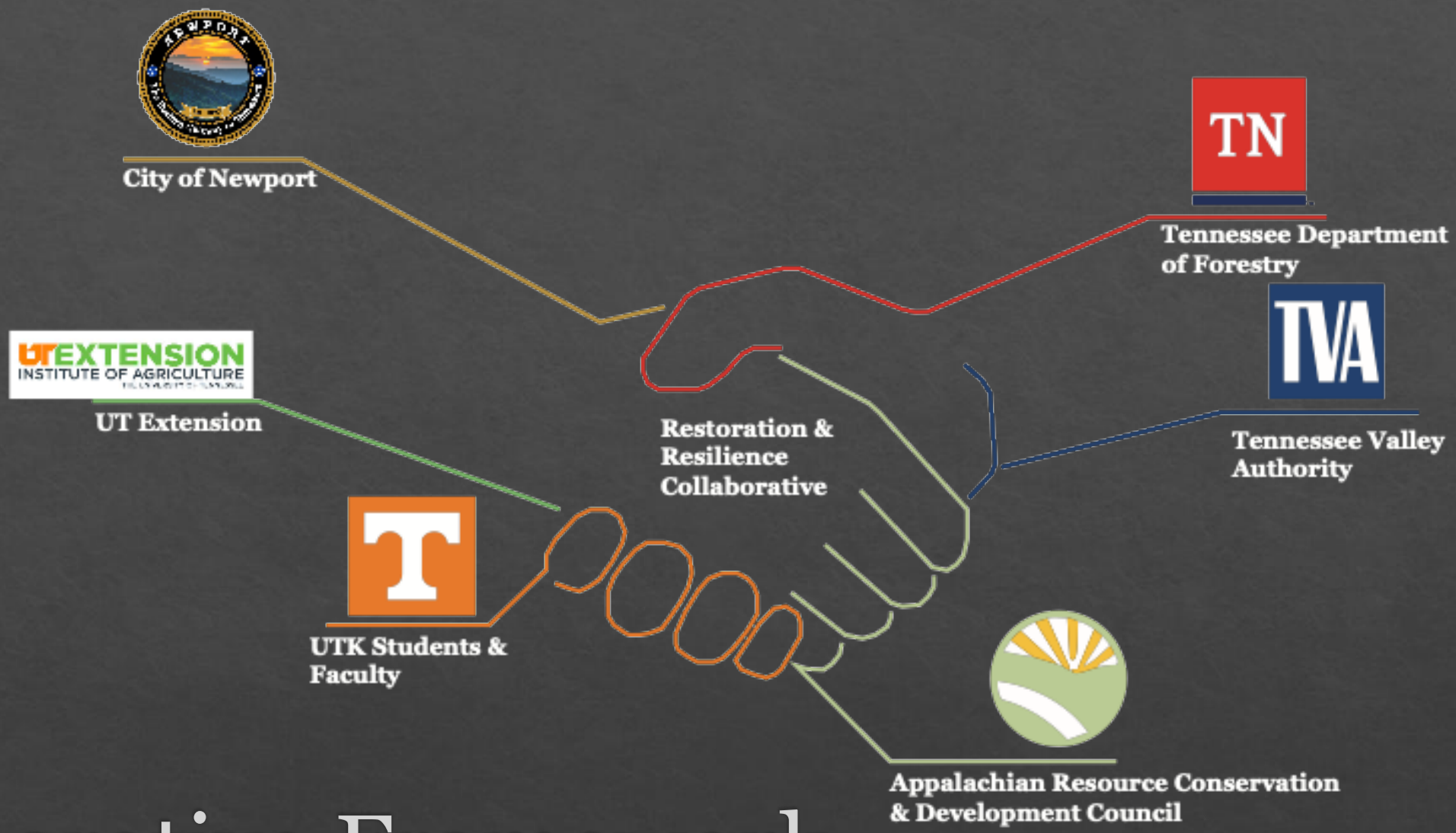


Google Earth, 2024

Site Assessment

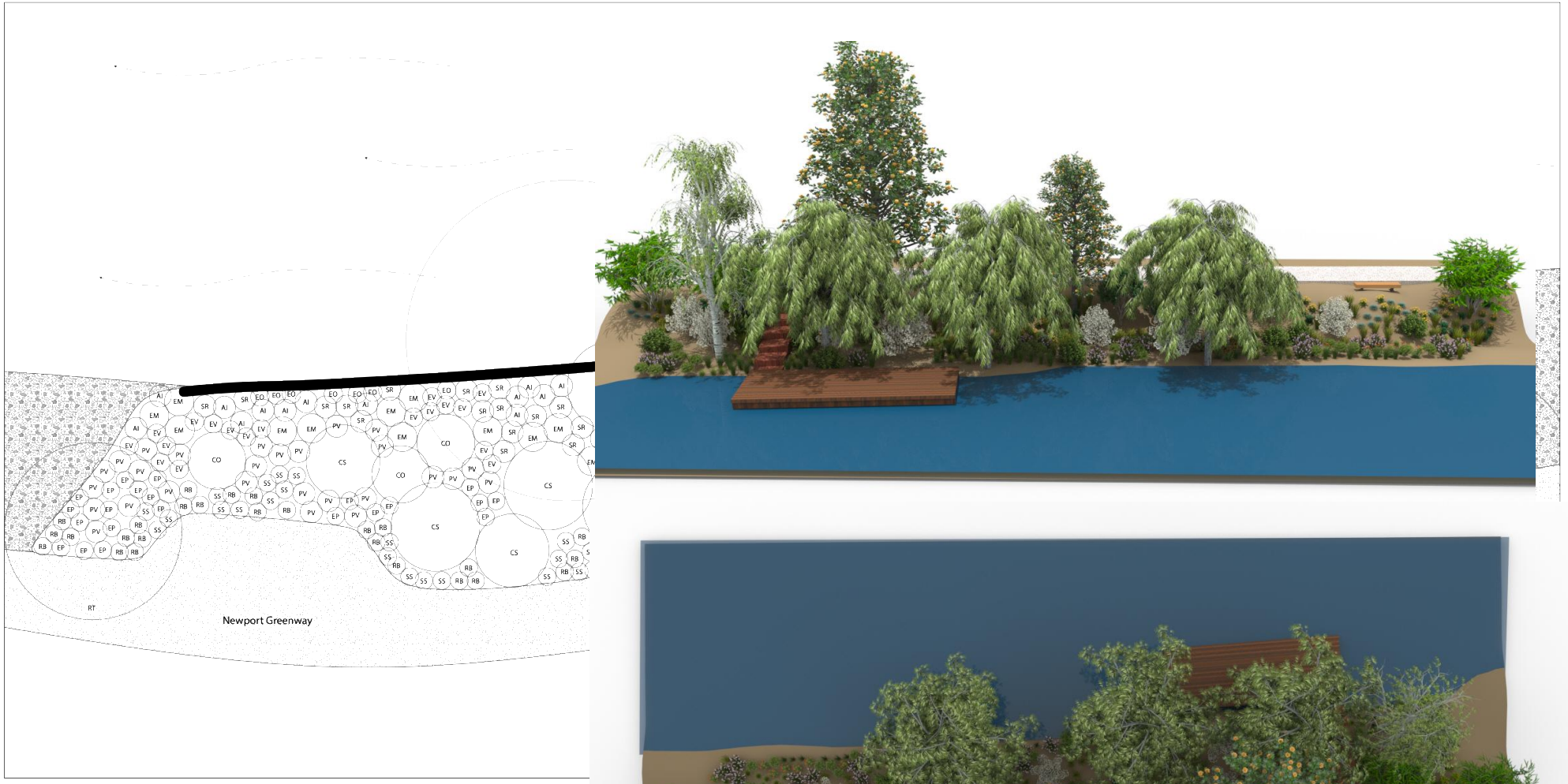
- Length: 200 ft/~61 m
- Soil texture: sandy
- pH: varies, typically 7.4-8.0
- Slope: Actively eroding, 50% grade at its worst
- Trees: Limited, mostly older


Project Objectives
1
Stabilize the streambank
2
Restore ecological function
3
Maintain public access
4
Support future recreation
5
Create educational opportunities



Collaborative Framework

1. Toe stabilization



Sambucus racemosa (SR)-54
Panicum virgatum (PV)-97
Lindera benzoin (LB)-2
Schizachyrium scoparium (SS)-36
Echinacea purpurea (EP)-93
Rudbeckia fulgida (RB)-90
Cornus sericea (CS)-11
Cephalanthus occidentalis (CO)-8
Eleocharis obtusa (EO)-37
Asclepias incarnata (AI)-16
Elymus virginicus (EV)-46
Rhus typhina (RT)-3
Liriodendron tulipifera (LT)-2
Salix nigra (SN)-1
Eutrochium maculatuma (EM)-25
Coir log row

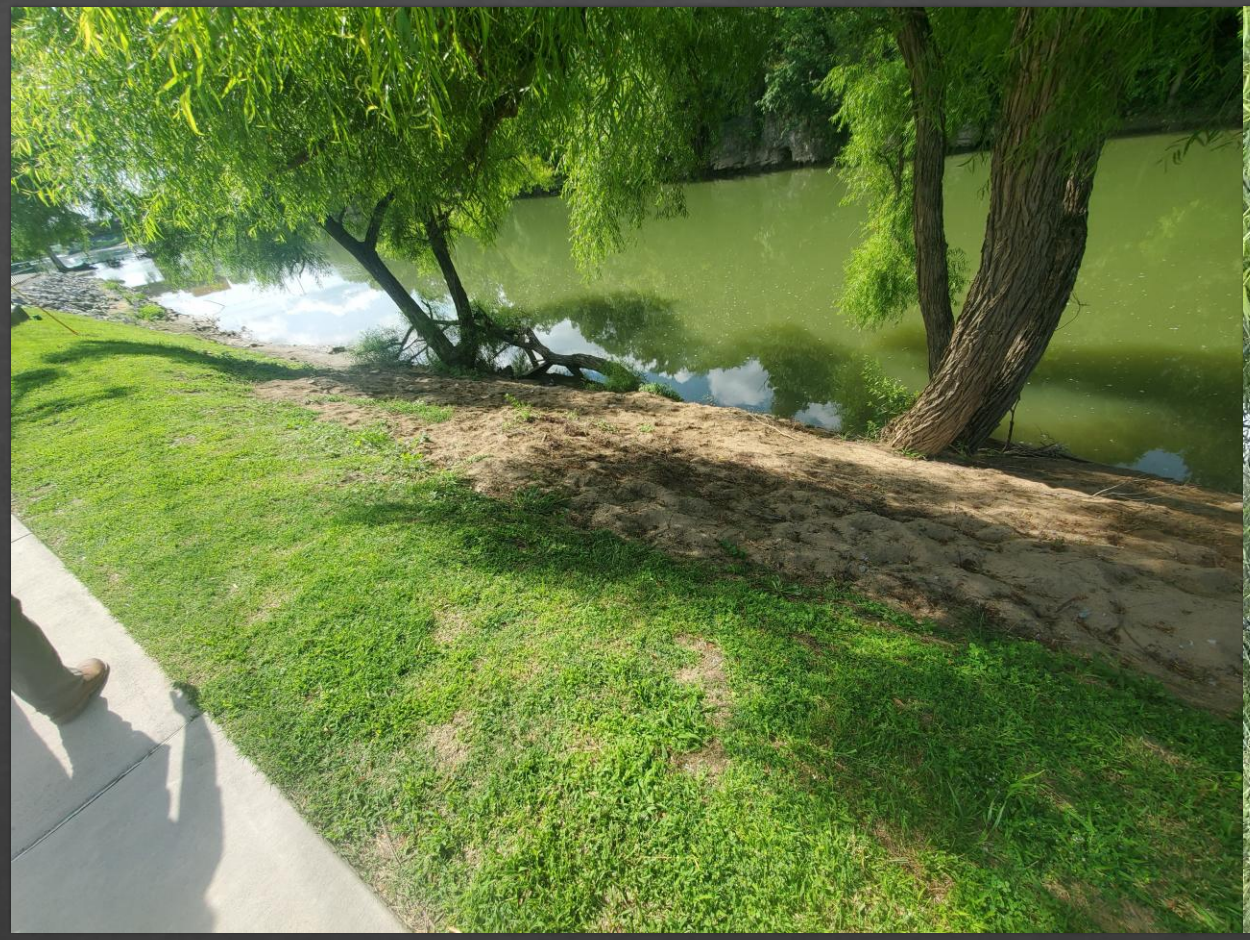
2. Plant sele

Renders: Taylor Wishart, 2025

Photos: Alex Bremner & Protect Tennessee Forests, 2026

Student Participation

Progress So Far



Photos: Alex Bremner (2025) & Taylor Wishart (2026)

"Don't worry about it. I have the money. I'll find the money. I want them to have something nice."

-Tennessee forester in response to concern about vegetation density

Questions?

Photo: Taylor Wishart, 2026

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