



Southeast Regional Rendezvous

March 2024



Image © 2024 Airbus



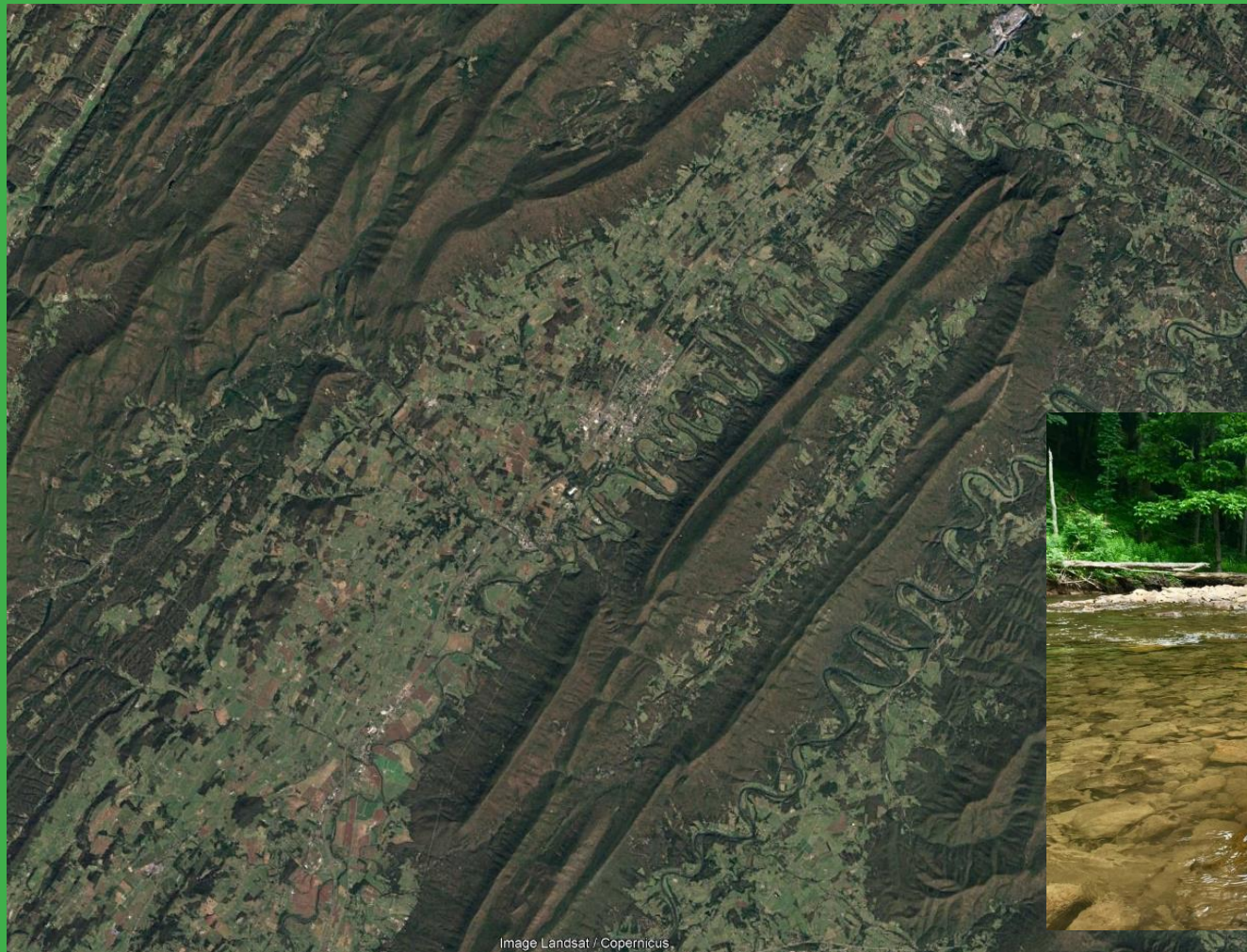


Image Landsat / Copernicus





Homer

Image Landsat / Copernicus

61°06'36.01" N 153°54'13

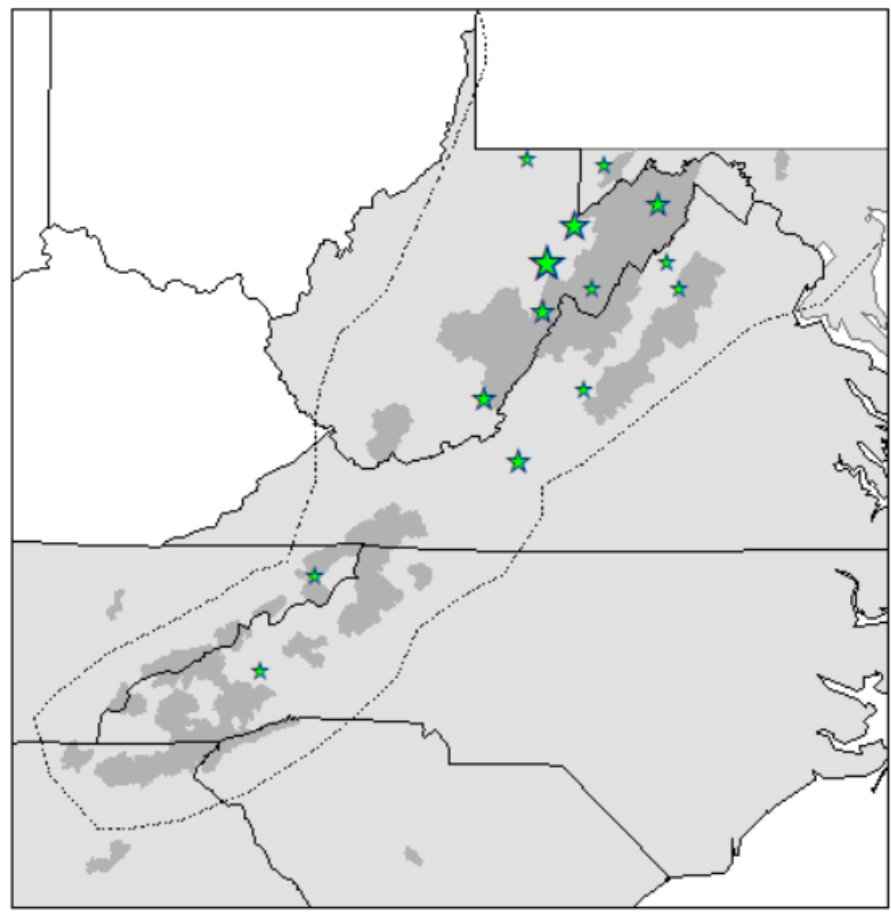




Image Landsat / Copernicus



Mid-Atlantic and Southern Appalachian Conservation Staff



Ben Harris



Seth Coffman



Dustin Wichterman

Additionally

Project Managers – 3

Conservation Planner – 1

Stream Restoration Specialists – 5

Conservation Crew – 6

Communications – 1

Administration - 1



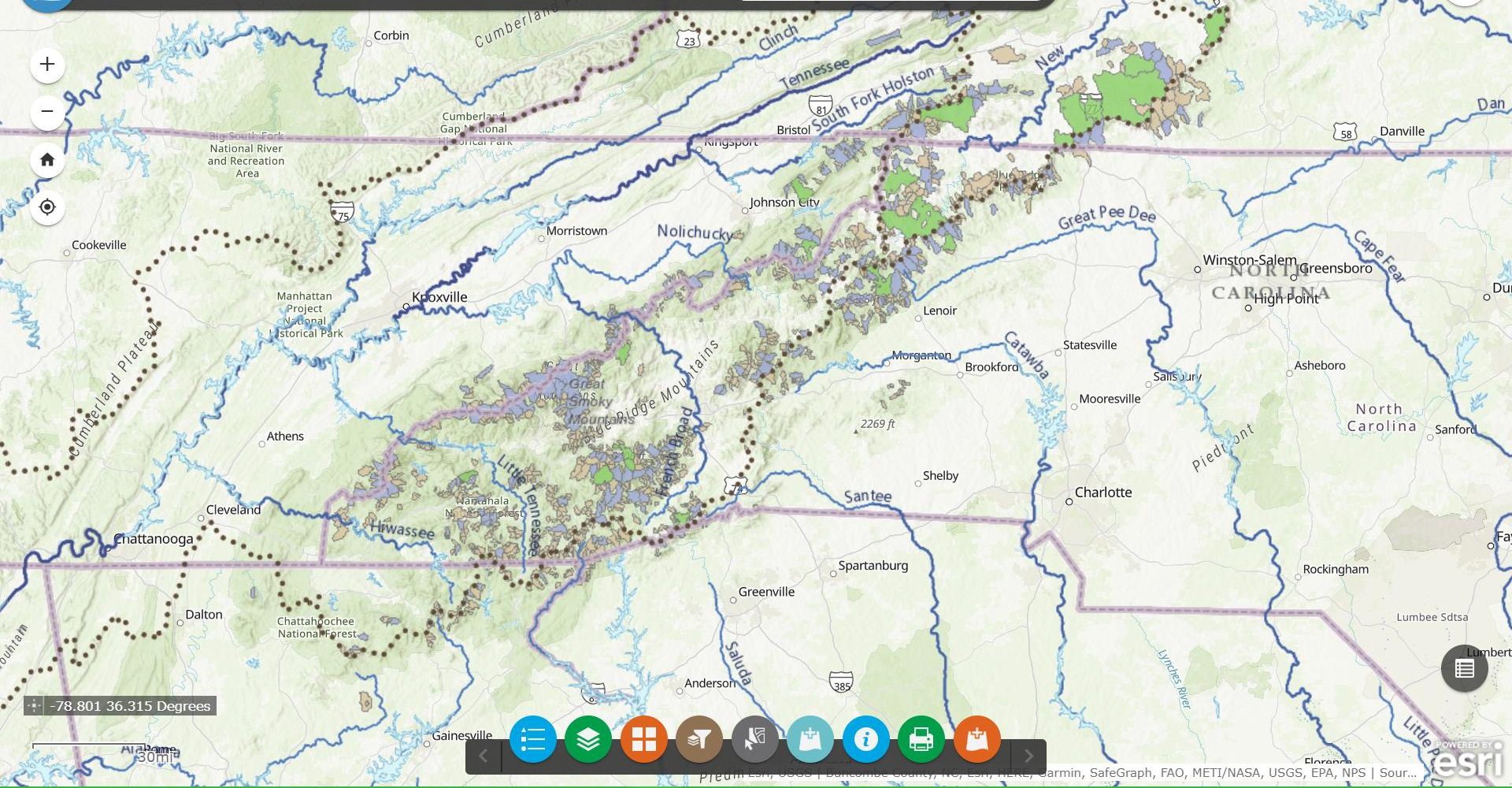
Jeff Wright



Amy Annino

Southern Appalachians Brook Trout Focal Area Assessment

Find address or place



Map navigation controls: a plus sign for zoom in, a minus sign for zoom out, a home icon, and a location pin icon.

Coordinates: -78.801 36.315 Degrees

Map navigation and tool icons: a list icon, a layers icon, a grid icon, a compass icon, a location pin icon, a search icon, an information icon, a print icon, and a share icon.

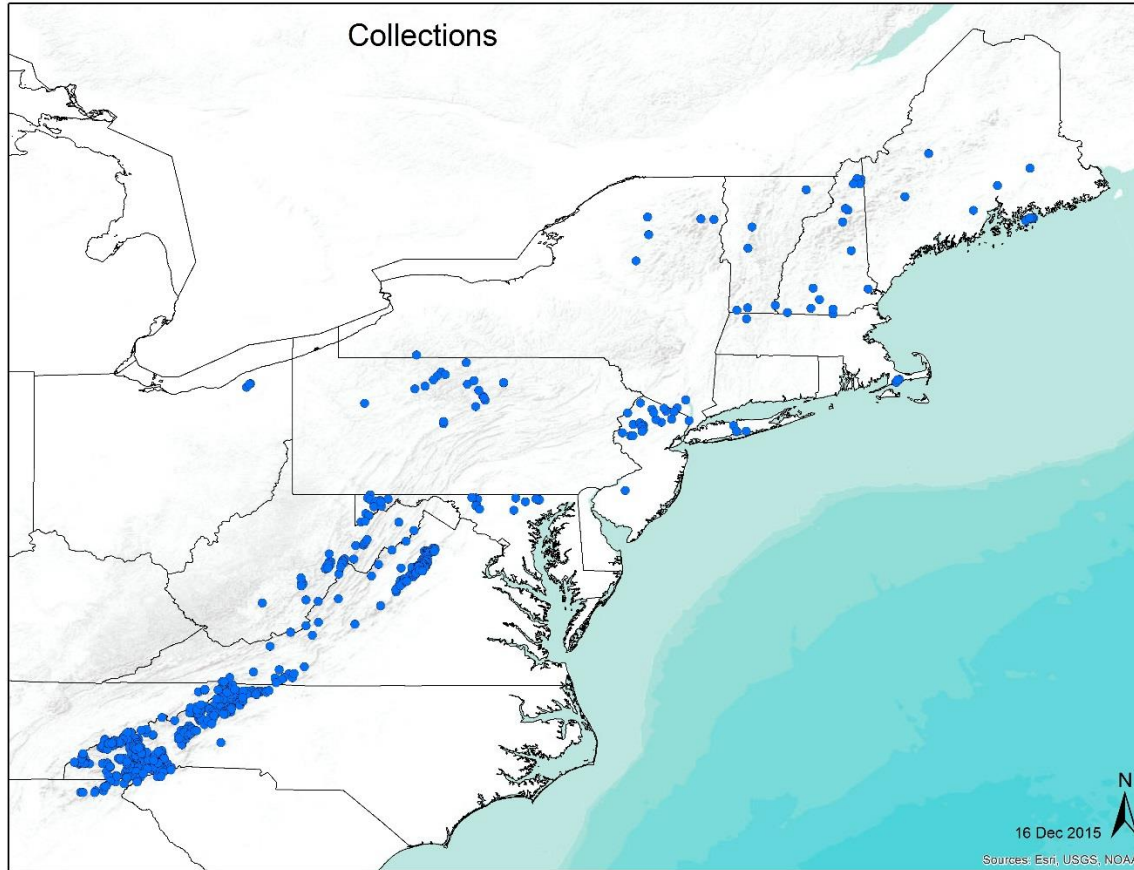
POWERED BY
esri

Focal Area analysis findings



- EBT habitats in Southern Appalachians represent less than 5% of the total area occupied by EBT in the Eastern US
- Only 46 habitat patches (< 3%) meet our definition of a stronghold
- There are nearly 15,000 unassessed stream crossings in EBT habitat patches across the region
- Conclusion: EBT habitats in Southern Appalachians are highly fragmented and very vulnerable to extirpation. TU's work to assess stream crossings fills a critical information gap, and our partnership with USFS to remove fish passage barriers addresses a critical limiting factor to brook trout populations in the Southeast.

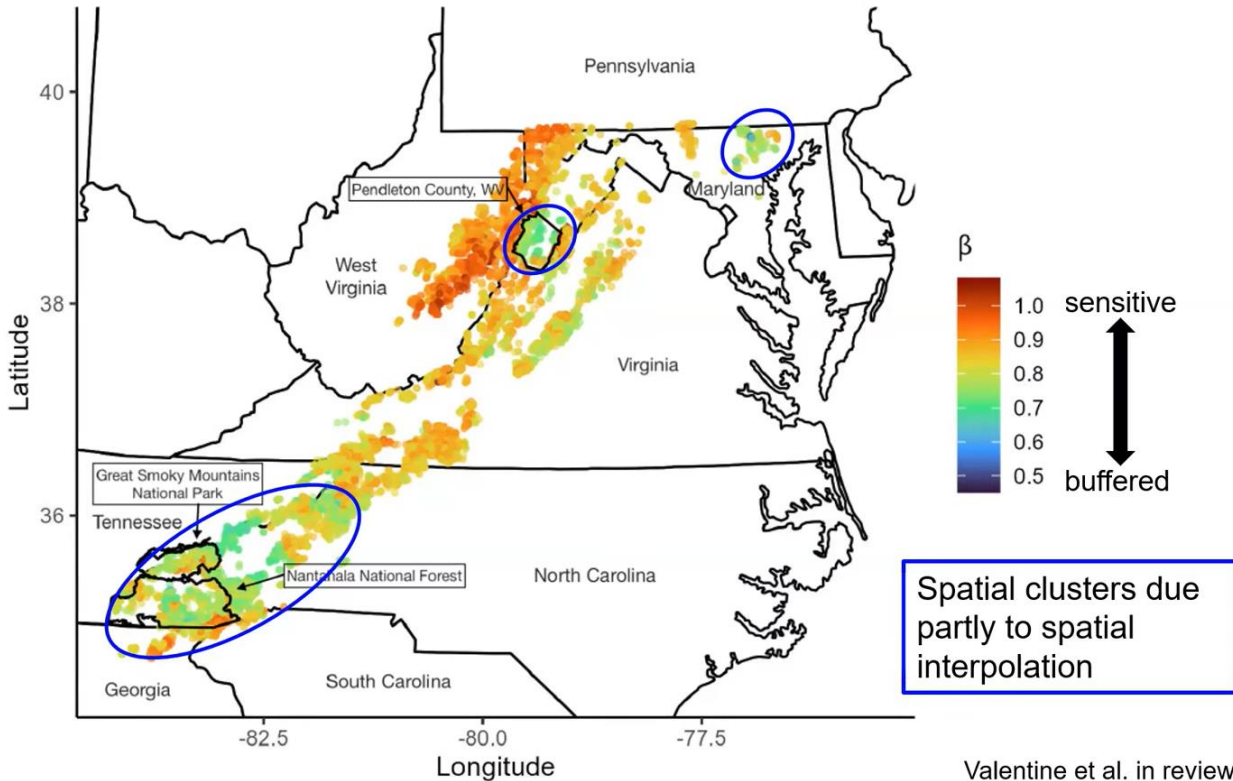
Brook Trout Genetics



- Within-population diversity tended to be lower in the southern Appalachians
- Among-population differentiation was more pronounced in the southern Appalachians.
- Most populations in the southeast were isolated with small effective population sizes, and the hallmark signatures of genetic drift were widespread.
- Nearly all populations had a unique genetic signature.

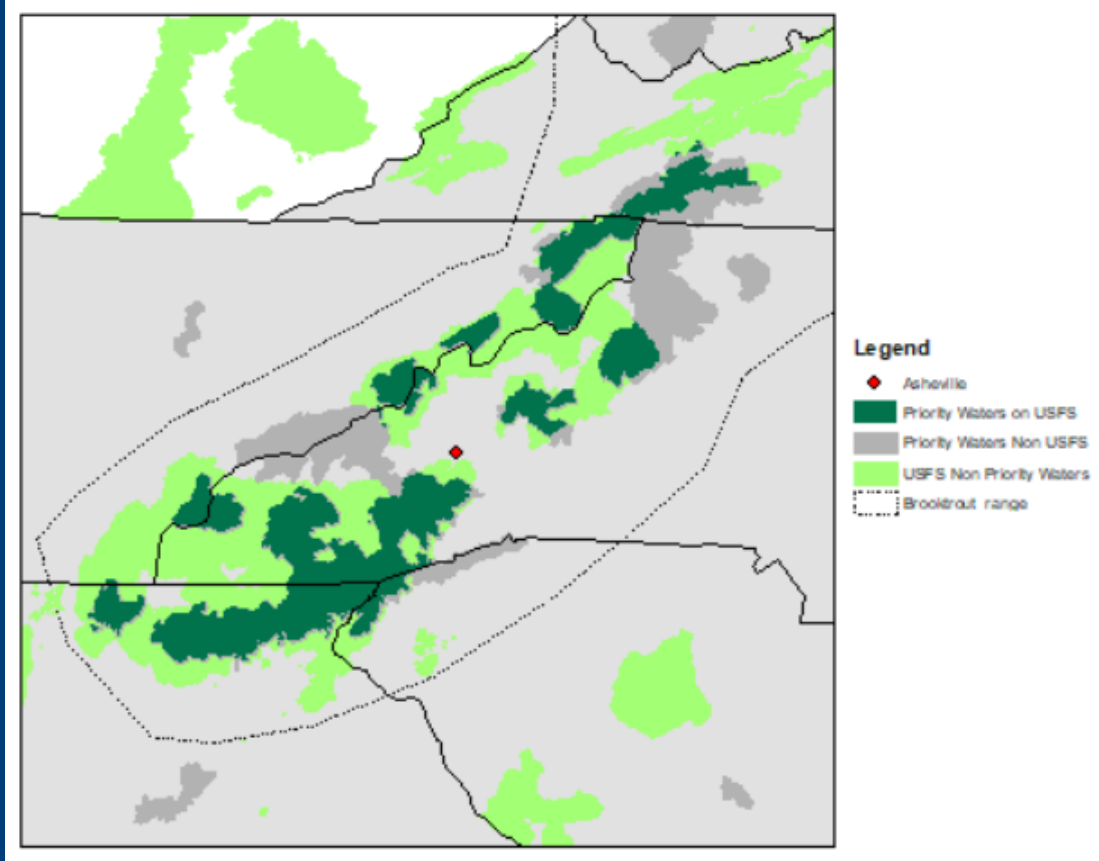
Southeast Climate Adaptation Science Center

Predicting thermal sensitivity at all brook trout streams in the study area (8,600 segments)



- Thermal refugia more likely occur:
 - Southern latitudes (higher altitudes)
 - Higher baseflow index (groundwater input)
 - Smaller watersheds
 - Lower channel gradient

Trout Unlimited - USFS Partnership



80% of brook trout
habitat

south of Asheville, NC

is on Forest Service lands

Buck Creek Mainstem – Clay County, NC

Nantahala Watershed



TU provided: project management,
matching funds



Buck Creek projects reconnected 4.5 miles.

Buck Creek Headwaters – Barrier Removal



Little Buck Creek Pond Dam Removal



Reconnected 1 mile.

Revels Prong – Transylvania County, NC

French Broad Watershed



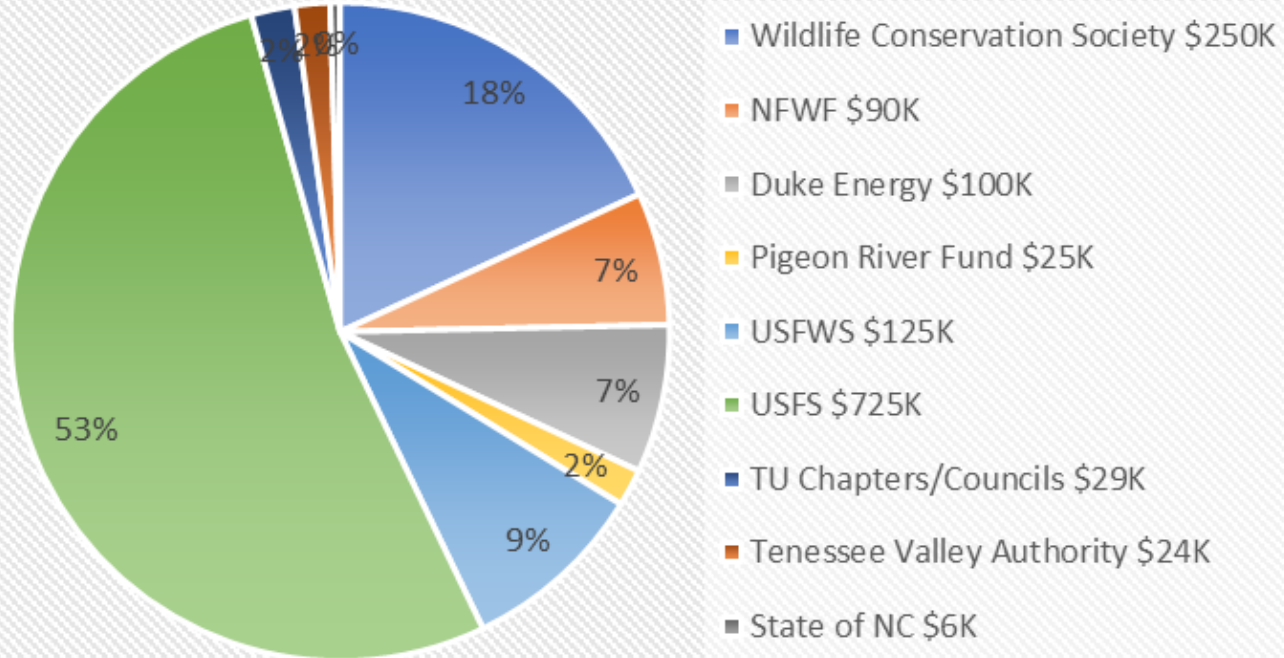
Reconnected 2.5 miles.

Mill Station Creek – Transylvania County French Broad Watershed

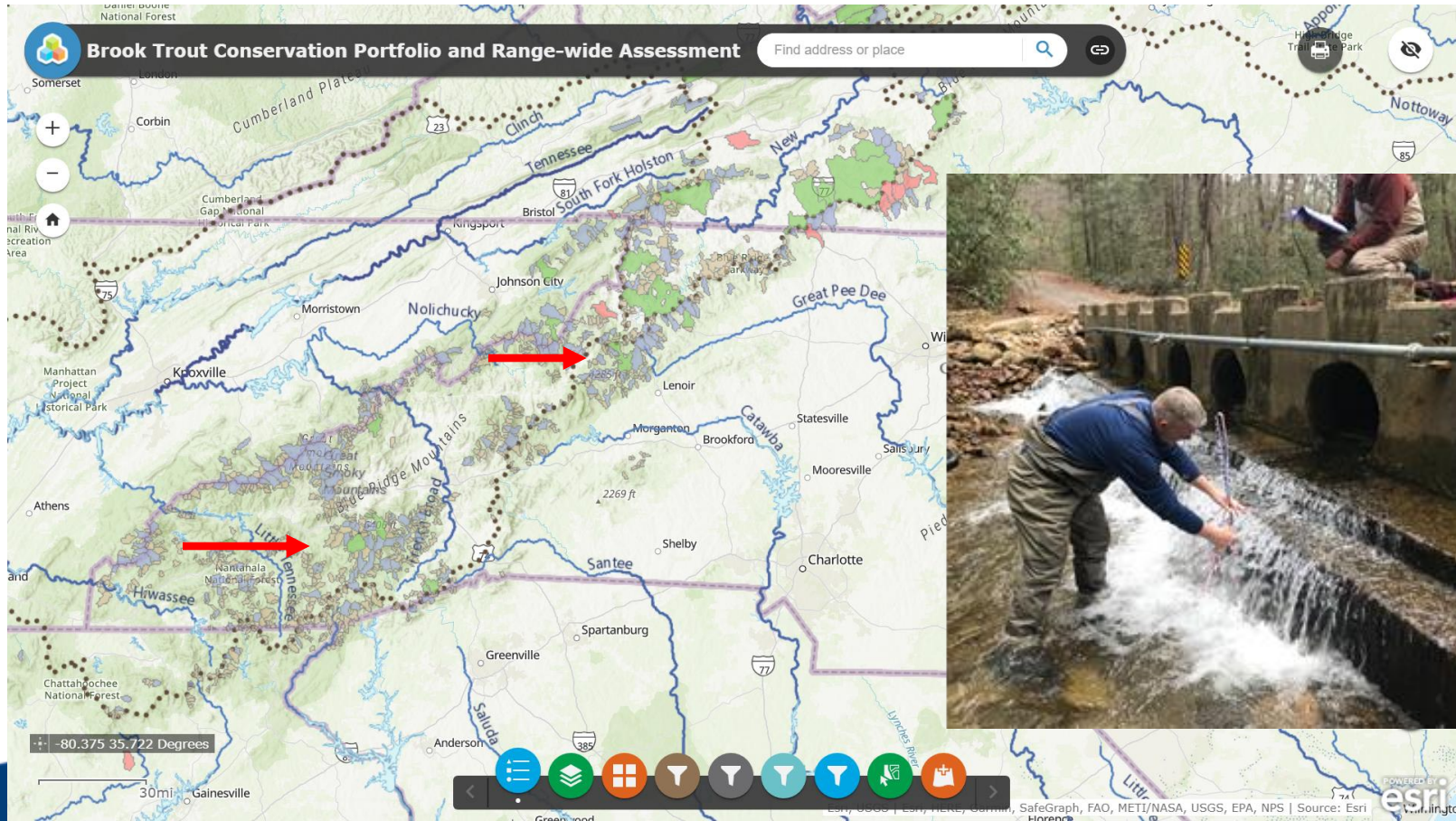


Reconnected 2.9 miles.

Funding Amounts - Total \$1.4 million



Priority Area identification and data gathering



Sky Island focal area

Watersheds

Cathey's Creek

North Fork French Broad

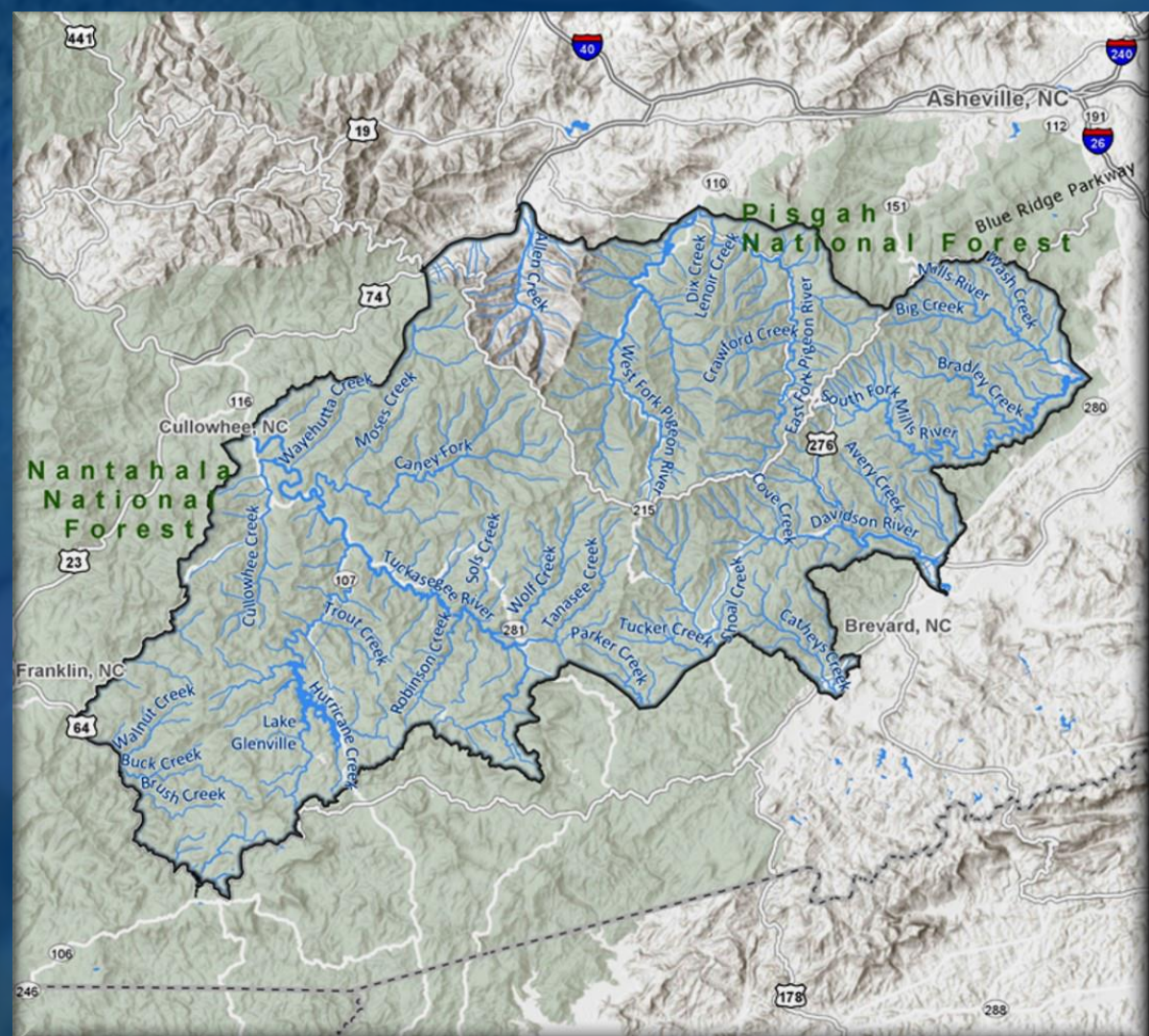
Cullasaja

Tuckasegee

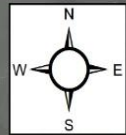
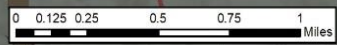
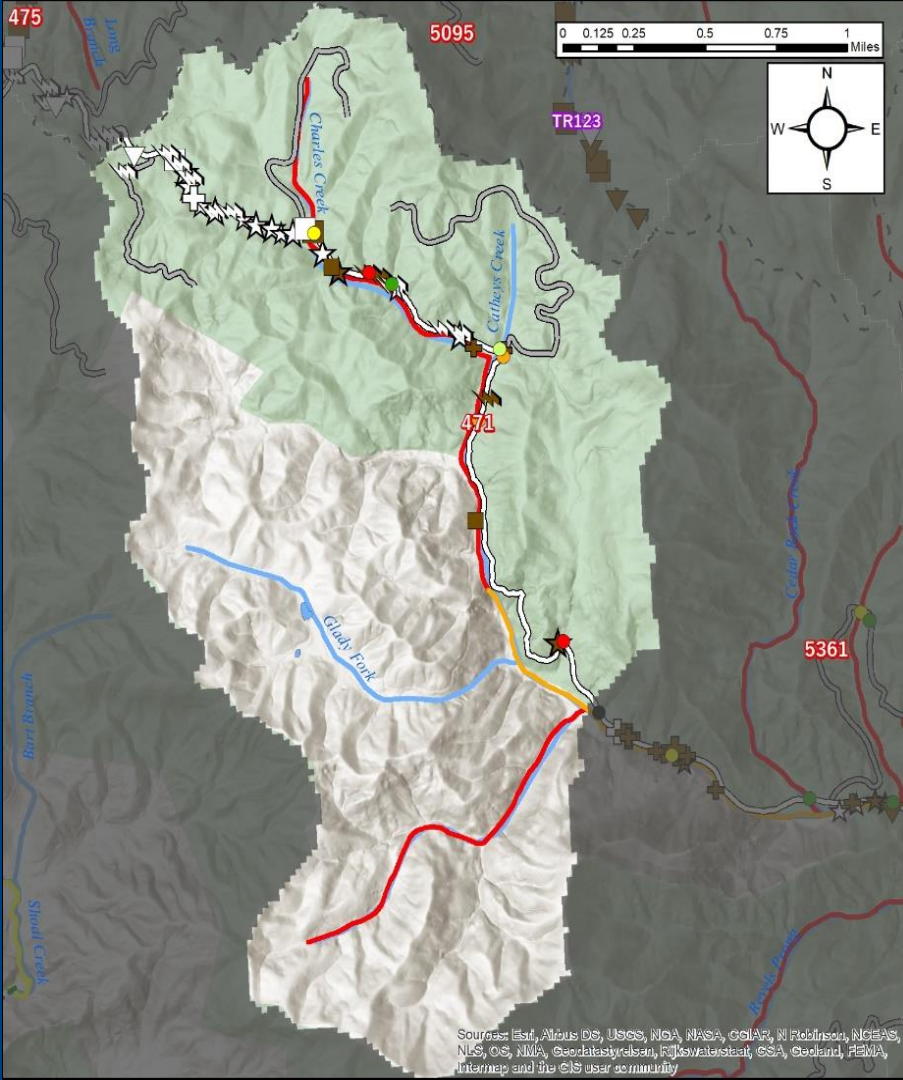
Pigeon

Mills

Davidson



Cathey's Creek Headwaters



- USFS Trails
- == USFS Open Roads
- == USFS Closed Roads
- == State Route
- == Secondary Route
- USFS Land

2021 Trout Distribuion

- Brook Trout
- Brown Trout
- Rainbow Trout
- Brook, Brown
- Brook, Rainbow
- Brown, Rainbow
- Brook, Brown, Rainbow

Stream Barrier Severity

- Ephemeral Crossing
- No Barrier
- Insignificant Barrier
- Minor Barrier
- Moderate Barrier
- Significant Barrier
- Severe Barrier

Erosion

	<150 ft	150 - 600 ft	>600 ft
Downslope Impact	+	+	+
Sheet	■	■	■
Rill	⚡	⚡	⚡
Gully	▼	▼	▼
Other Issues	★	★	★

Brown = Sediment reaching stream
White = No sediment reaching stream

Sources: Esri, Airbus DS, USGS, NOAA, NASA, GOLIAP, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



Southern Appalachian Forest Service Partnership

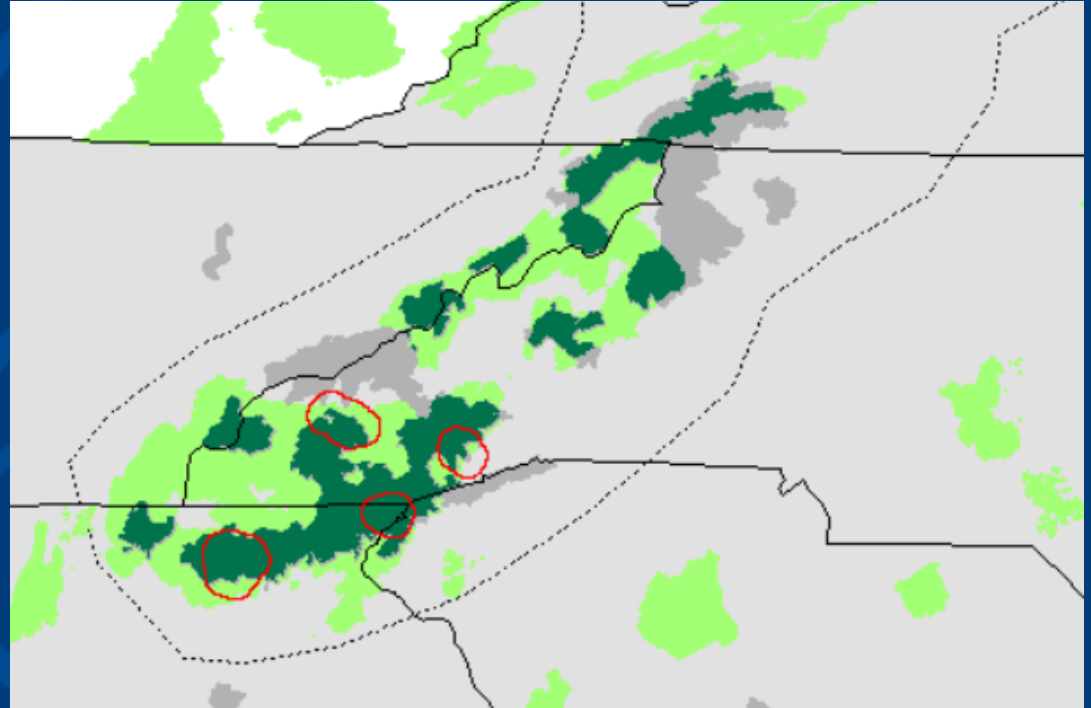
\$4.8 M - USFS Keystone

\$1.2 M - Catheys Creek NC

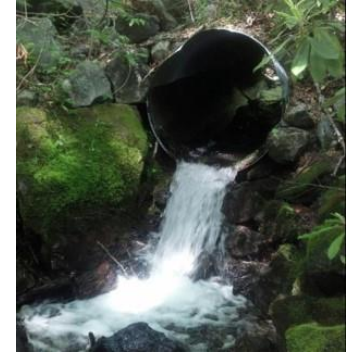
\$524K - Chattahoochee-Oconee
GA

\$550K - Alarka Creek

\$7.07M - Total



Southern Appalachians Projects





Southern Appalachian Priority Waters Activities



Tennessee

- Strategic wood loading
- Community science data collection in Great Smoky Mountains National Park

North Carolina

- Alarka Creek Headwaters – AOP
- Catheys Creek – AOP, Habitat Enhancement
- Wilson Creek – Sediment Reduction

Georgia

- Sediment reduction on Flatlands Road
- Coopers Creek – AOP
- Chattooga Headwaters - Planning

South Carolina

- Howard Creek - AOP

Questions

