APPALACHIAN TRAIL CONSERVANCY®

Natural Resources: Monitoring and Management on the A.T.

1921

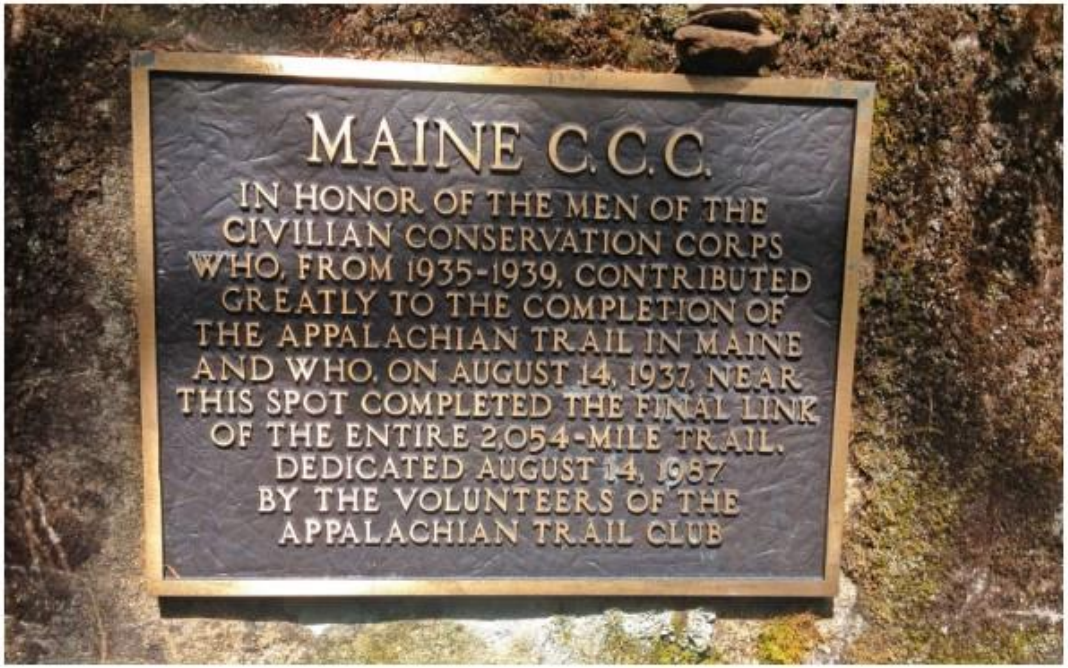
July 1921: Benton MacKaye begins writing "An Appalachian Trail: A Project in Regional Planning."

ATC formed 1925

The Appalachian Trail Conference is formed as a confederation under Major William Welch.

1931

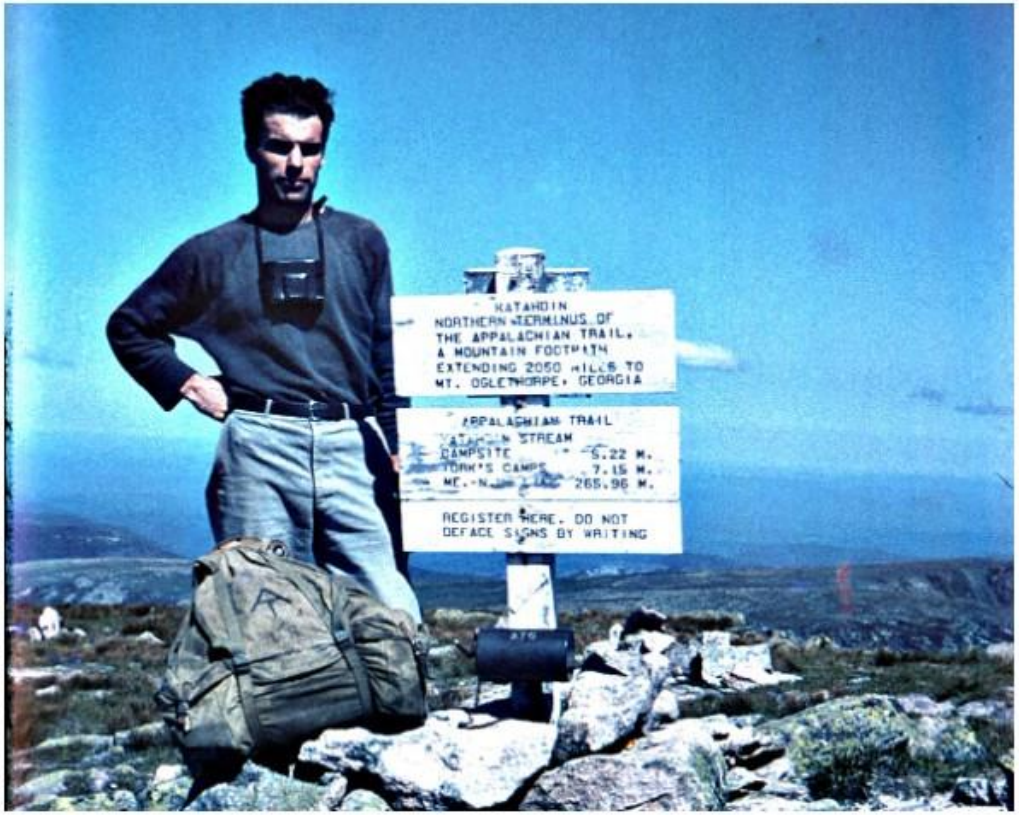
Myron H. Avery takes over leadership of the ATC and accelerates Trail-blazing.



1937

The A.T. is fully connected from Maine to Georgia.

1948



Earl Shaffer reports first A.T. thru-hike; interest in A.T. accelerates.

1952

Mildred Norman Ryder becomes the first woman to thru-hike the A.T.

1968 National Trails System Act

The National Trails System Act is signed into law by President Lyndon B. Johnson, making the A.T. a national scenic trail under federal protection. The ATC hires its first employee.

1976

A.T. amendments to National Trails System Act become law.

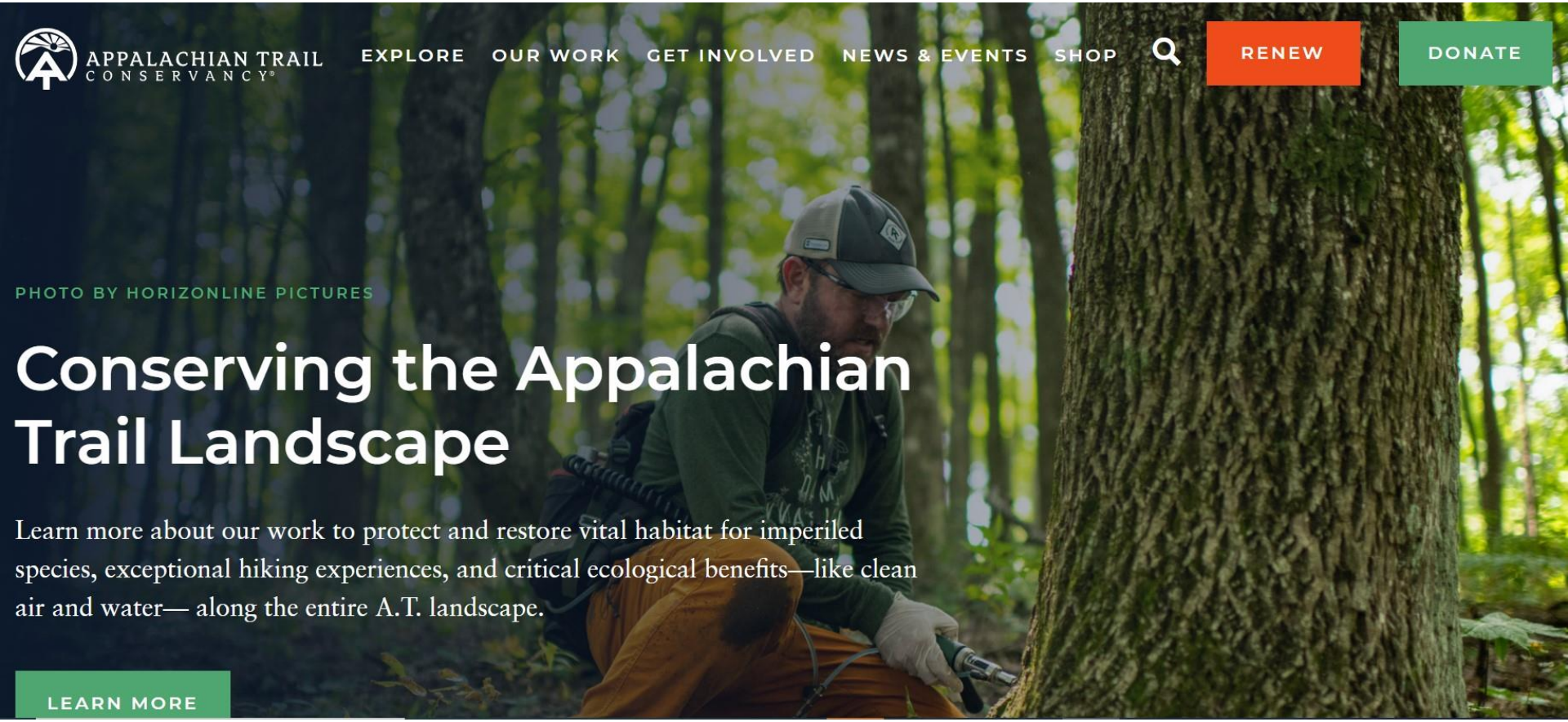
1984

NPS delegates park-management responsibilities to the ATC, beginning land-management obligations.

1987

Lori “Tenderfoot” Pierce is the first known Black thru-hiker.

2024



What Makes the A.T. Exceptional?

- 250,000 acres of connected land spanning 11° of latitude, and over 6,500 ft in elevation
- Protects 1st and 2nd order headwaters of major east coast watersheds
- Acts as an ecological corridor, connecting otherwise disconnected conservation lands
- Is a part of the most significant migratory pathway in the Eastern U.S.

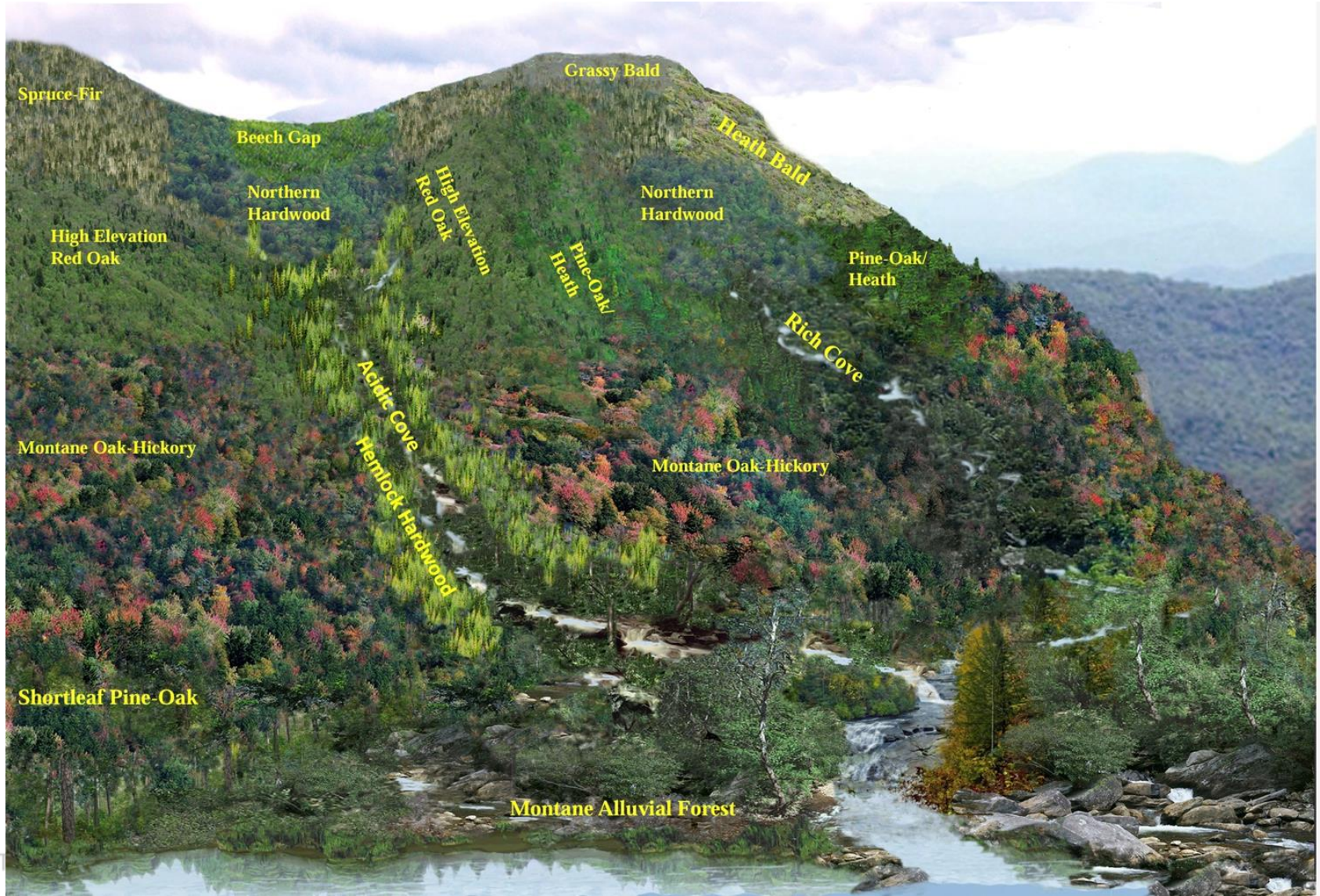
Natural Heritage Inventories Identified…

- 1,845 species occurrences (discrete populations)
- 297 significant natural communities
- 482 sites

A.T. Science and Stewardship Programs at a Glance

- **Rare plant monitoring and management**
- **Invasive exotic species management**
  - plants and animals
- **Open areas management**
  - for vistas and wildlife
- **Wildlife habitat management**
  - i.e. migratory birds and pollinators
- **Forest Health**
- **Boundary stewardship**

Image Credit: Gary Kauffman - NFsNC

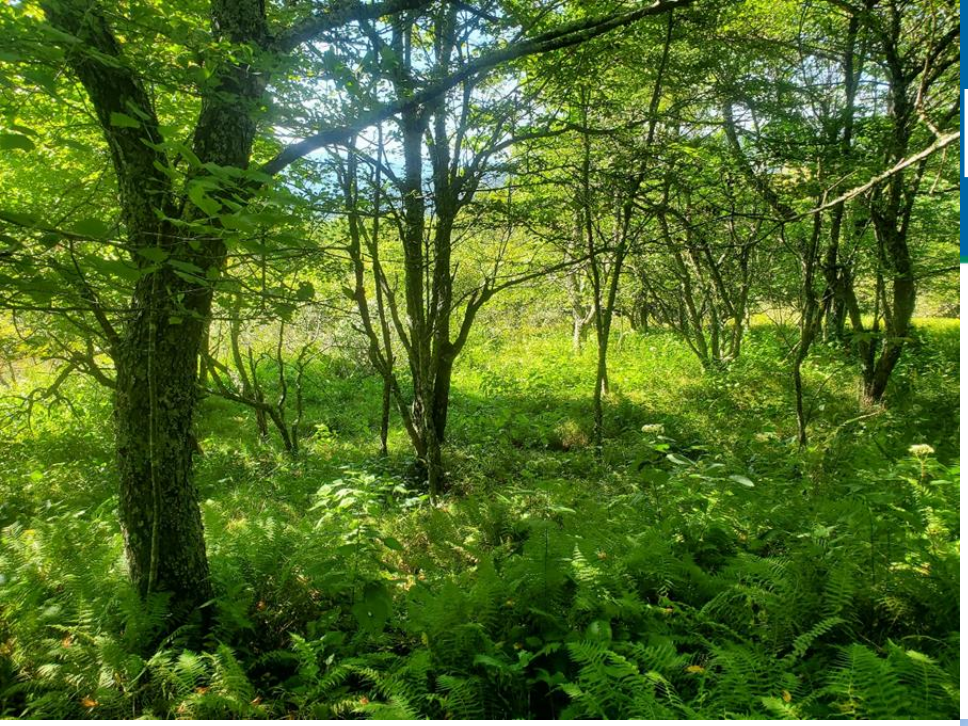


Open Areas Management

- In 2023, nearly 150 acres of open areas were managed at more than 20 sites in NC and TN


2023 Hump Mountain
Treatment Area
Legend
2023 Hump Mountain Treatment
Contour_Avery
WILDWOOD
CONSULTING PLLC
PROFESSIONAL FORESTRY SERVICES
0
800
1600 ft

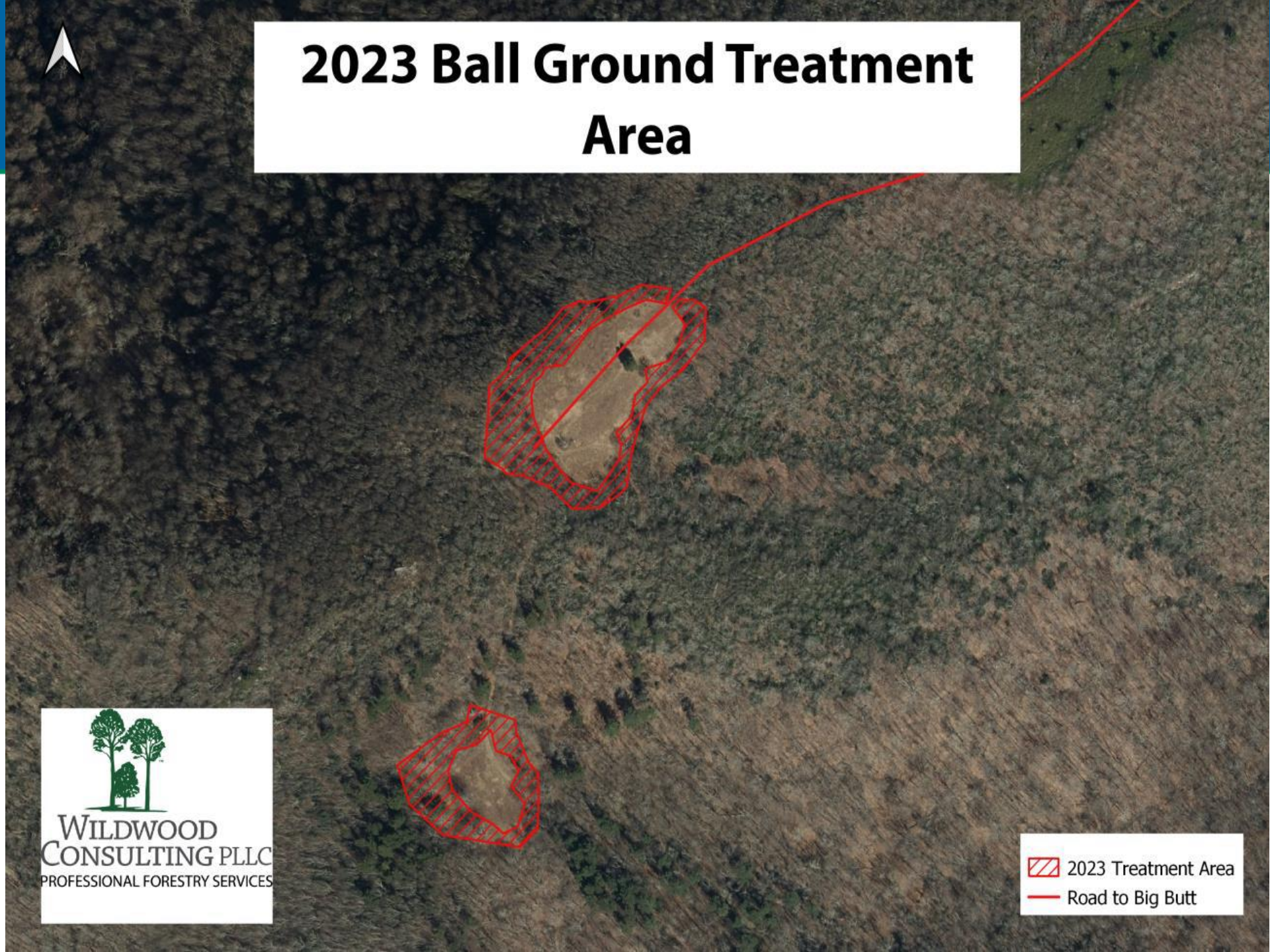
Hump Mountain



Before

After

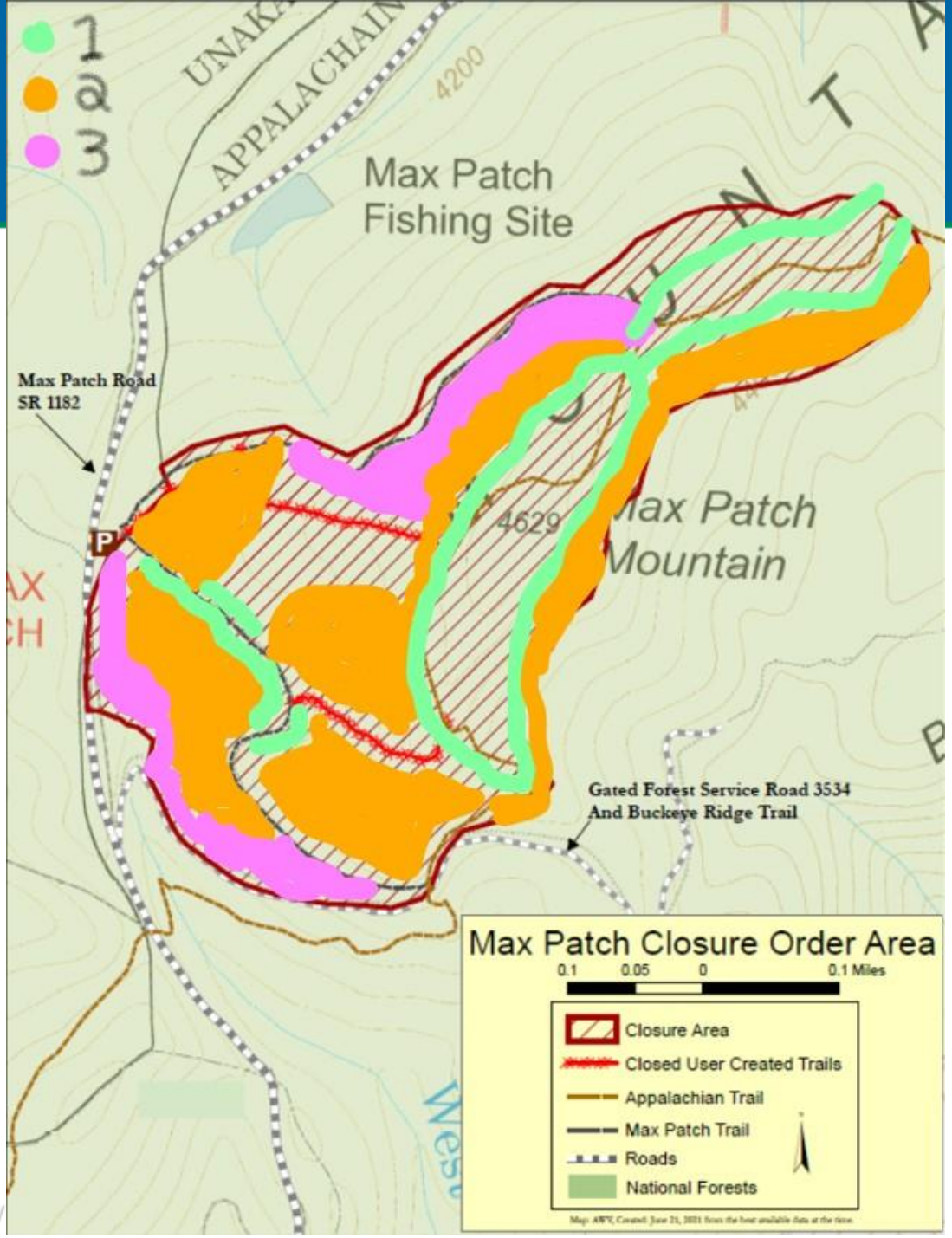
2023 Ball Ground Treatment Area



2023 Cheoah Treatment Area

WILDWOOD CONSULTING PLLC
PROFESSIONAL FORESTRY SERVICES

Legend
2023 treatment area



Max Patch Holistic management

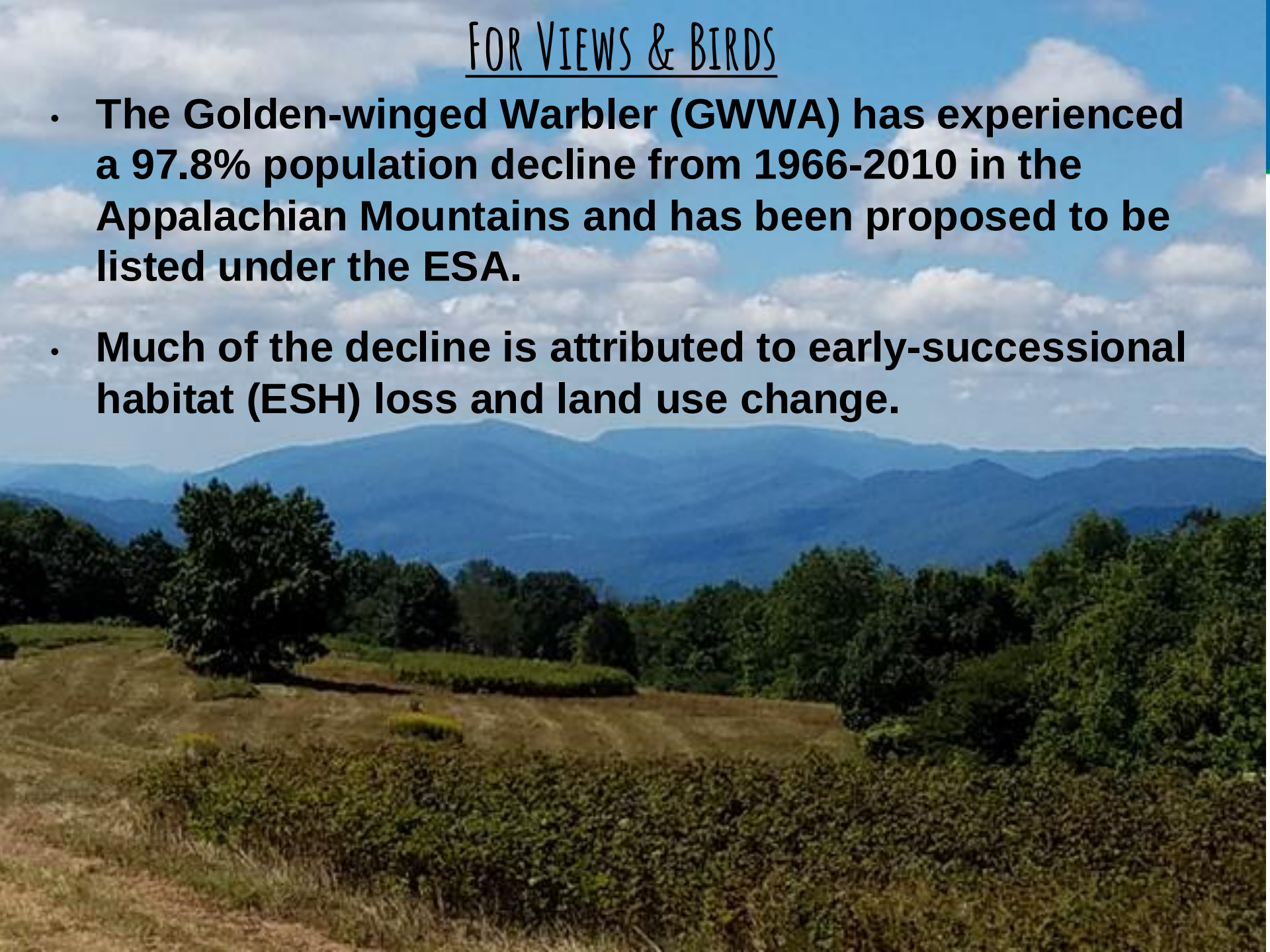
Integrating Wildlife Habitat Management into a Social Trail Closure

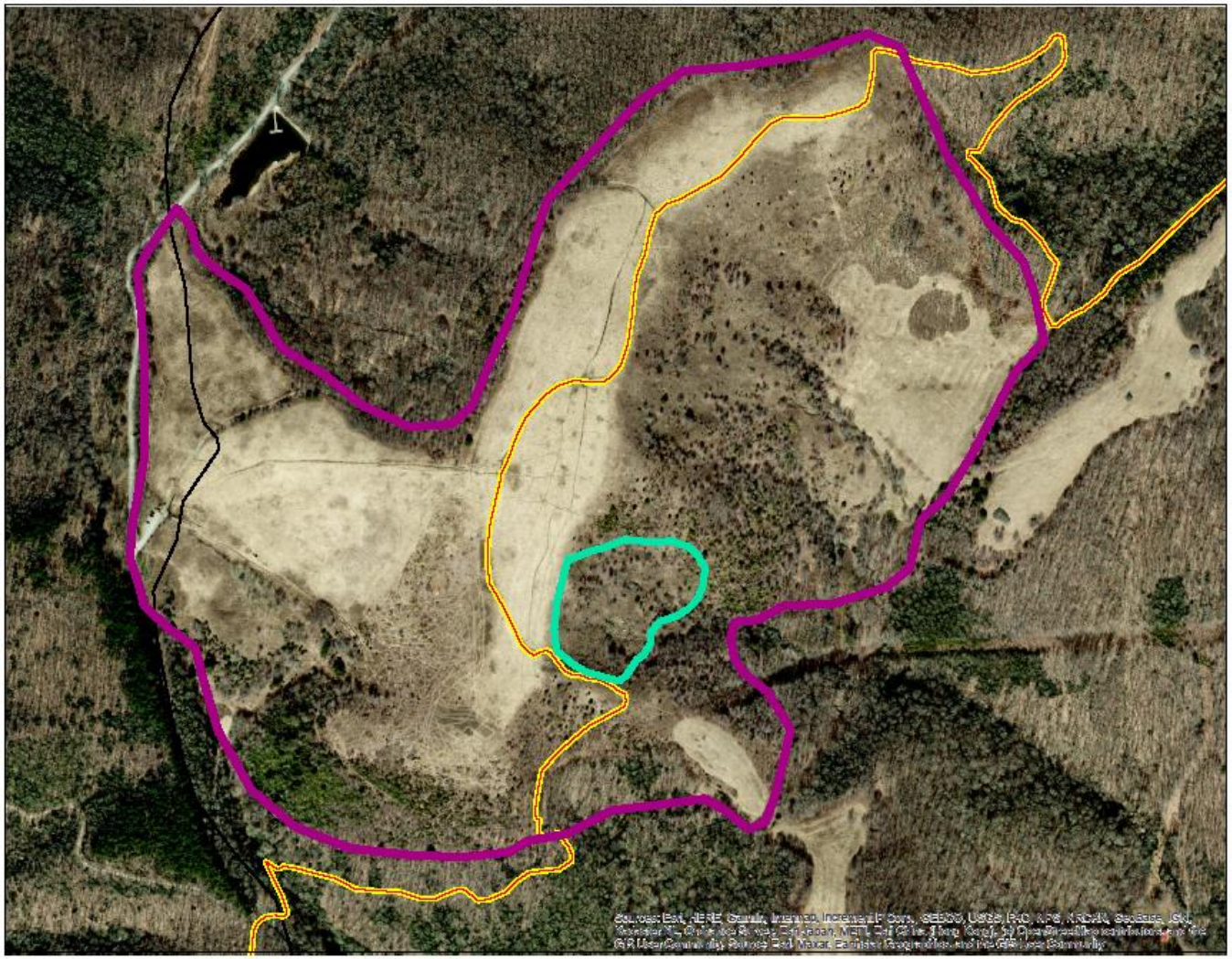
Seeding Native Grasses and Wildflowers

For Views & Birds (ESH Management)

For Views & Birds

- **The Golden-winged Warbler (GWWA) has experienced a 97.8% population decline from 1966-2010 in the Appalachian Mountains and has been proposed to be listed under the ESA.**
- **Much of the decline is attributed to early-successional habitat (ESH) loss and land use change.**



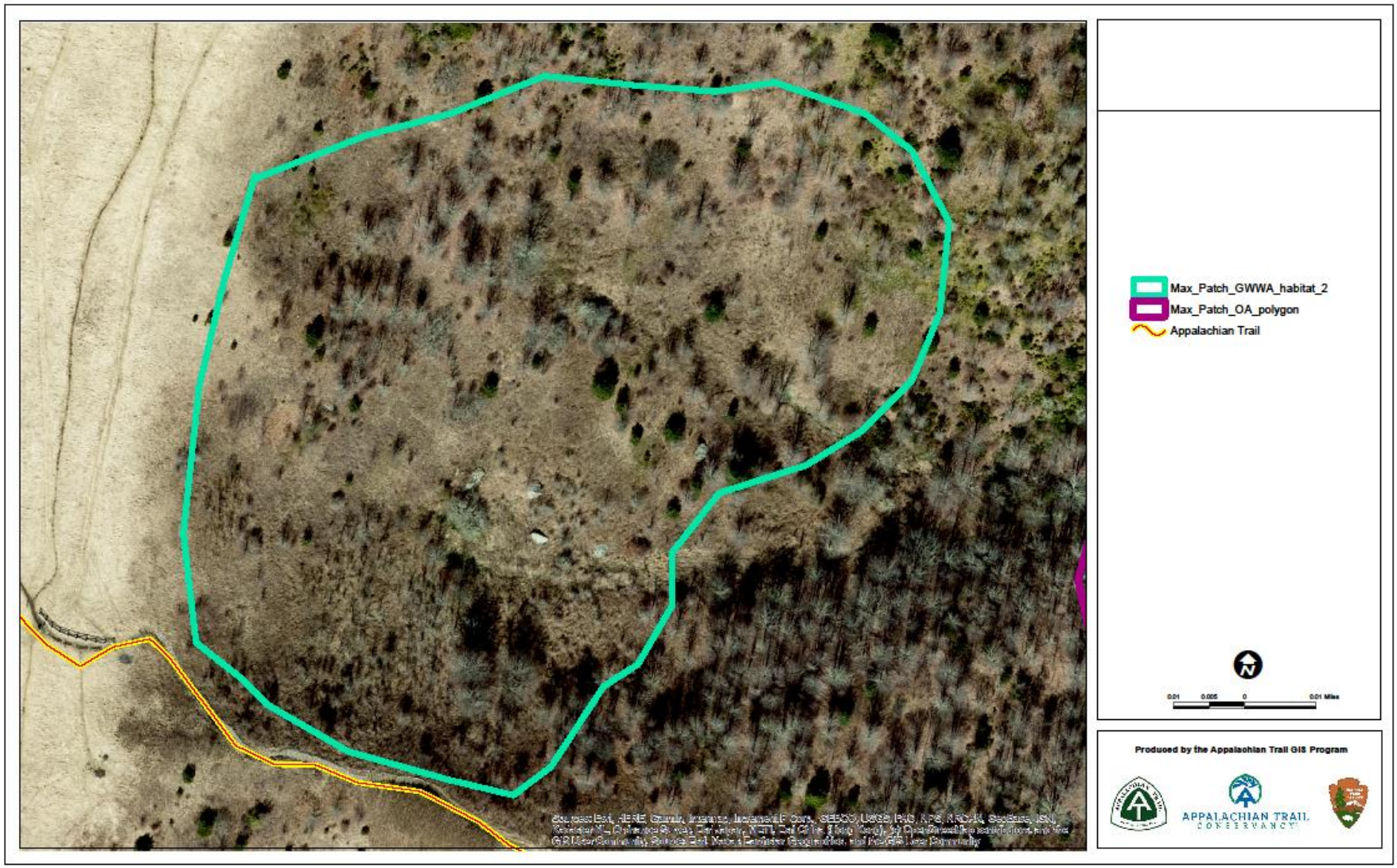


Max_Patch_GWWA_habitat_2
Max_Patch_OA_polygon
Appalachian Trail

0.06 0.03 0 0.06 Miles

Produced by the Appalachian Trail GIS Program

APPALACHIAN TRAIL CONSERVANCY


Max_Patch_GWWA_habitat_2
Max_Patch_OA_polygon
Appalachian Trail
0.01 0.005 0 0.01 Miles
Produced by the Appalachian Trail GIS Program
APPALACHIAN TRAIL CONSERVANCY

Golden-winged Warbler NPS Grant

- Four 5-acre sites treated, two at Max Patch, and one at Miller Cemetery and Hump Mountain
- 3 more habitats to be treated in 2024, possibly into 2025, 3 at Hump Mountain and 1 at Max Patch.
- 7 sites in VA include: Tilson Tract, Symms Gap, Burrus Tract, Apple Orchard Mtn., Tar Jacket Ridge, and Atkins Tract

Max_Patch_GWWA_Site_1
Appalachian Trail

0.01 0.005 0 0.01 Miles

Produced by the Appalachian Trail GIS Program

APPALACHIAN TRAIL CONSERVANCY

Max Patch GWWA Habitat 1 Guidelines

- · Cut and paint all maples
- · Drop all pines (white and VA) that you can safely
- Be aware of power lines
- · Cut and paint approximately 2/3's of sourwood (ATC will mark "leave" trees in blue)
- · Cut and paint diffuse mountain laurel and rhododendron in core treatment areas
- o Exclude areas of dense mountain laurel and rhodos – ATC will delineate, including trail buffer (30-40' buffer on blue blaze trail)
- · Area east of blue polygon – thin trees approximately 30' into rhodo/laurel edge – ATC will delineate and mark any leave trees
- · Leave 2-3 brushpiles per acre · Hack and squirt occasional "take" trees to create snags if they have single leader/durable form
- · Lay felled trees flat with maximum ground contact and no vertical branching (expect for brush piles)

- **Non-Native Invasive Species Management**
- **51.25 acres of non-native invasive species managed in 3 Forests (mostly Pisgah NF, some in Nantahala NF and Cherokee NF)**
- **Some inventories were performed in TN, NC, and GA, but we have some issues with the data – mileage and locations TBD.**

Events – Garlic Mustard Challenge

APPALACHIAN TRAIL
GARLIC MUSTARD
CHALLENGE

- Over 23,000 lbs. pulled Trailwide in the last 13 years!
- Drastic reduction in amounts pulled annually
- SORO sites: Bly Gap (USFS), Tellico Gap (TBD) , Lemon Gap (4/23, 5/1), Devils Creek Gap (4/26), and Roan (4/26)


WILD EAST

Invasive Species Have the Potential To:

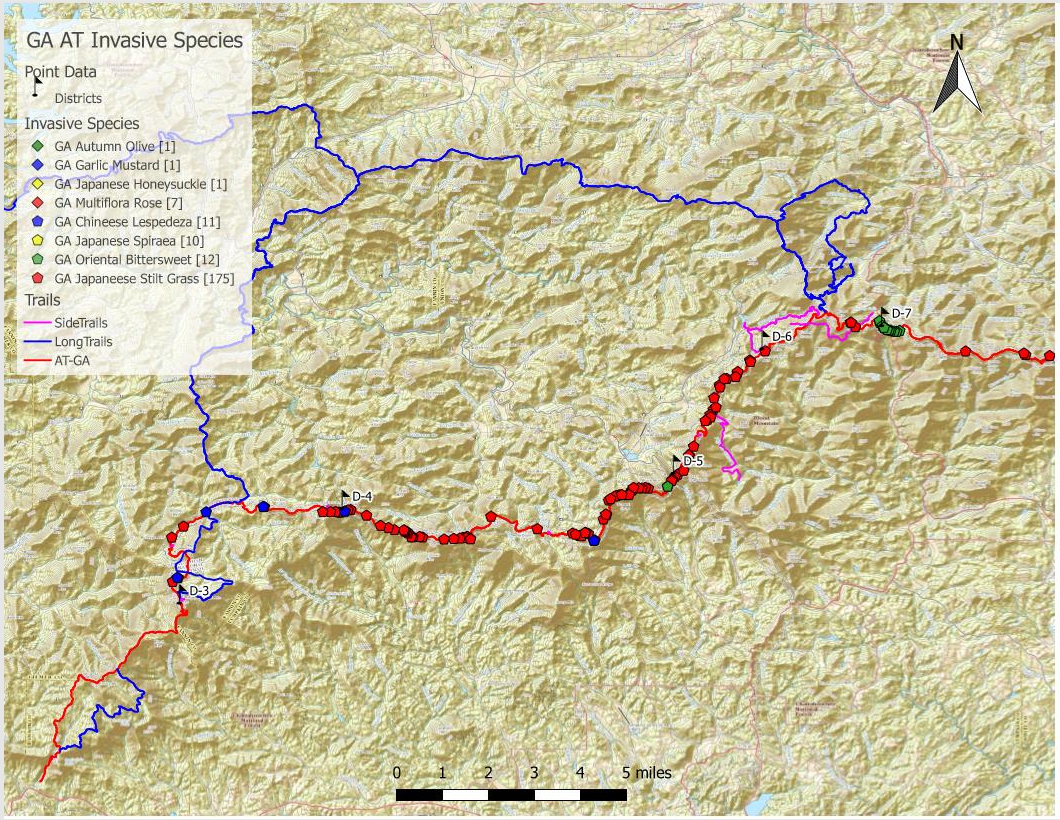
- Displace rare plant species
- Reduce habitat diversity (*structure*)
- Disrupt the food web by repelling native insects and reducing diversity of food supply (*composition*)
- Interfere with natural succession and ecosystem processes (*function*)
- Damage or kill trees by girdling or over-burdening
- Compromise the aesthetics of a primitive Trail experience

Invasive Exotic Plant Management

- **INVENTORY** – Systematically survey the Trail to document invasive exotic plant infestations
  - Start with highest priority areas
    - Wilderness
    - Open Areas
    - Road crossings, major waterways, rights-of-way

- **EVALUATE** – Determine highest priority areas for control efforts and consider likelihood of success

- **Early Detection, Rapid Response!**
  - Control small infestations before they spread
  - Control new species before they are widespread



Ash Treatment at High Rock Area, AT, NC

Major forest pests & pathogens of concern along the A.T.

- Beech bark disease
  - American beech trees
- Gypsy moth
  - 300 species of trees and shrubs
- Hemlock wooly adelgid
  - eastern hemlock, Carolina hemlock
- Thousand canker disease
  - black walnut trees
- Spotted lantern fly
  - over 65 species of host plants and trees
- Chestnut blight
  - American chestnut, allegheny chinkapin
- Laurel Wilt
- Emerald ash borer

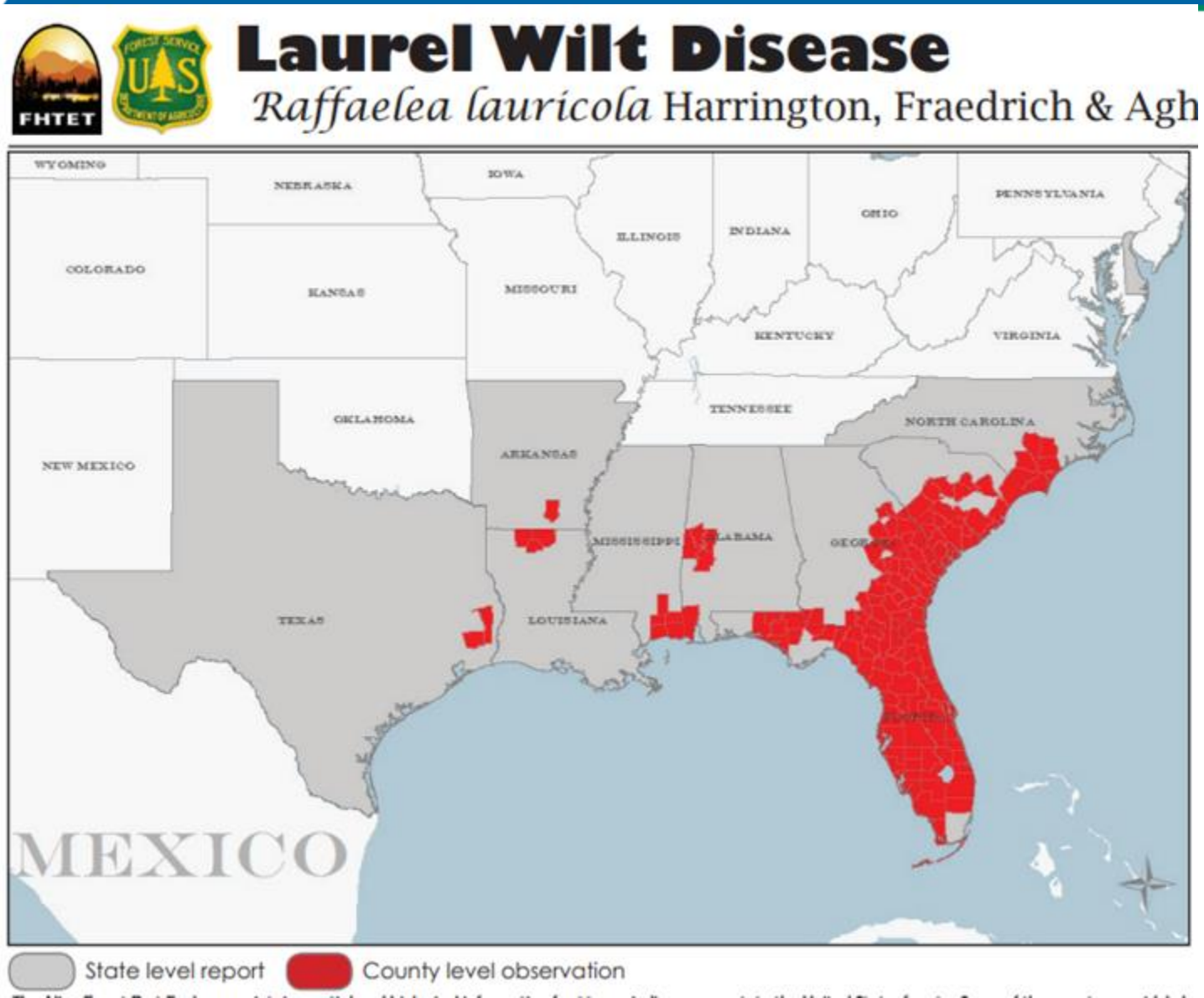
Protecting ash against emerald ash borer

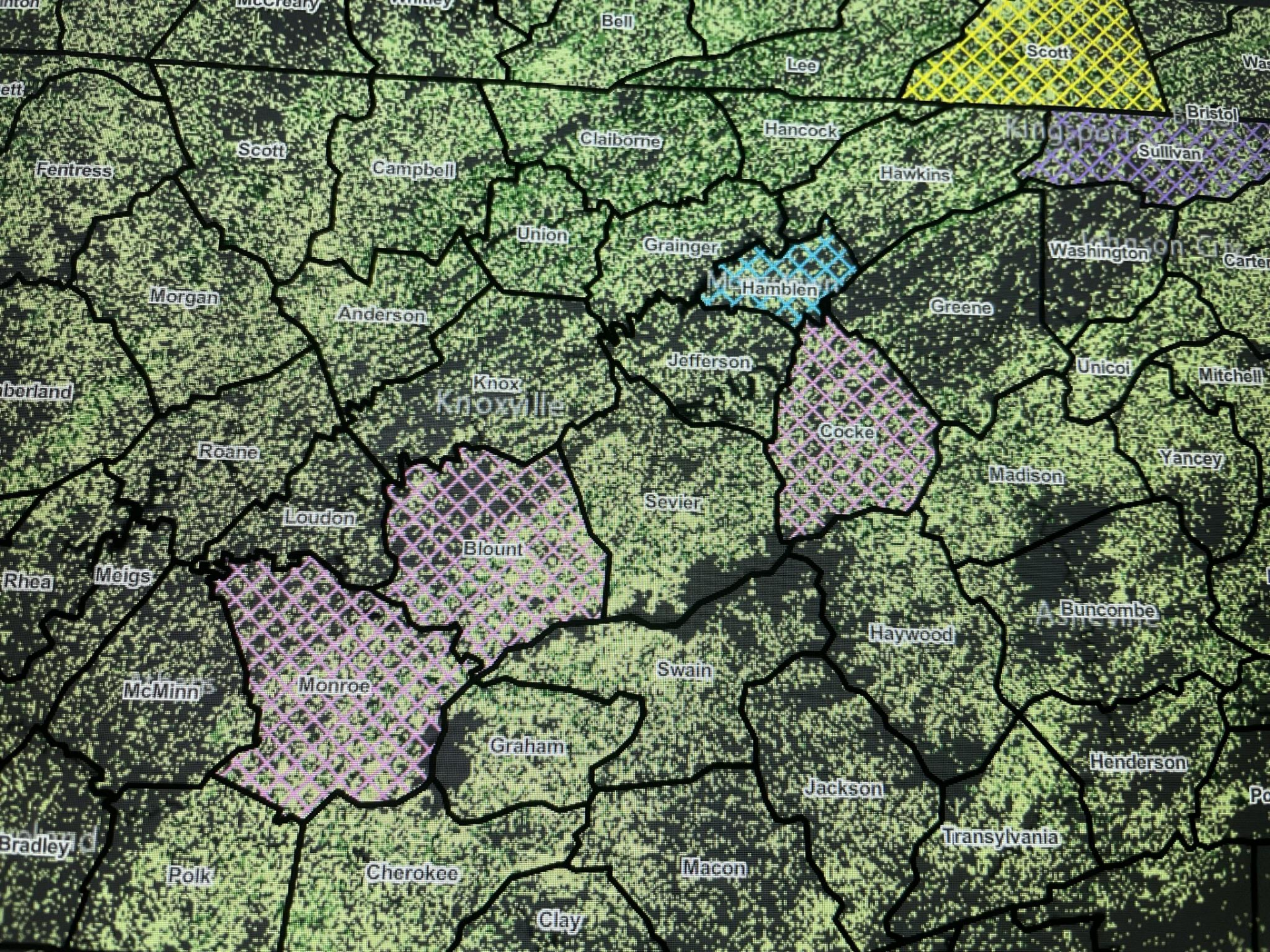
- ATC is working with partners to protect select ash groves in ME, VT,GA,TN & NC

- The primary purpose of this project is to protect the genetics of these trees for future reintroduction efforts.

- So far these protection efforts have been funded by ATC's NC License Plate Grant Program, Appalachian National Scenic Trail, and private citizens

Discovered on sassafrass in NC this year - also affects spicebush




Bell
Scott
Lee
Bristol
Claiborne
Hancock
Sullivan
Scott
Fentress
Campbell
Hawkins
Union
Grainger
Washington
Hamblen
Morgan
Anderson
Greene
Jefferson
Unicoi
Knox
Knoxville
Cocke
Roane
Yancey
Madison
Loudon
Sevier
Blount
Rhea
Meigs
Buncombe
Haywood
Swain
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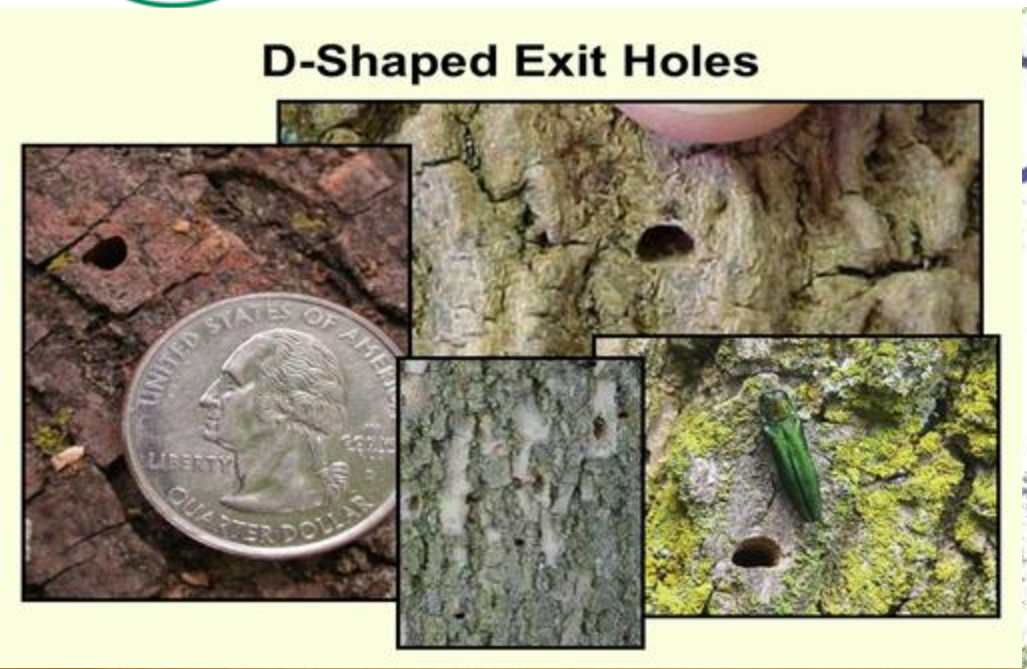
Graham
Henderson
Jackson
Transylvania
Bradley
Polk
Cherokee
Macon
Clay

EAB - What to Look For?

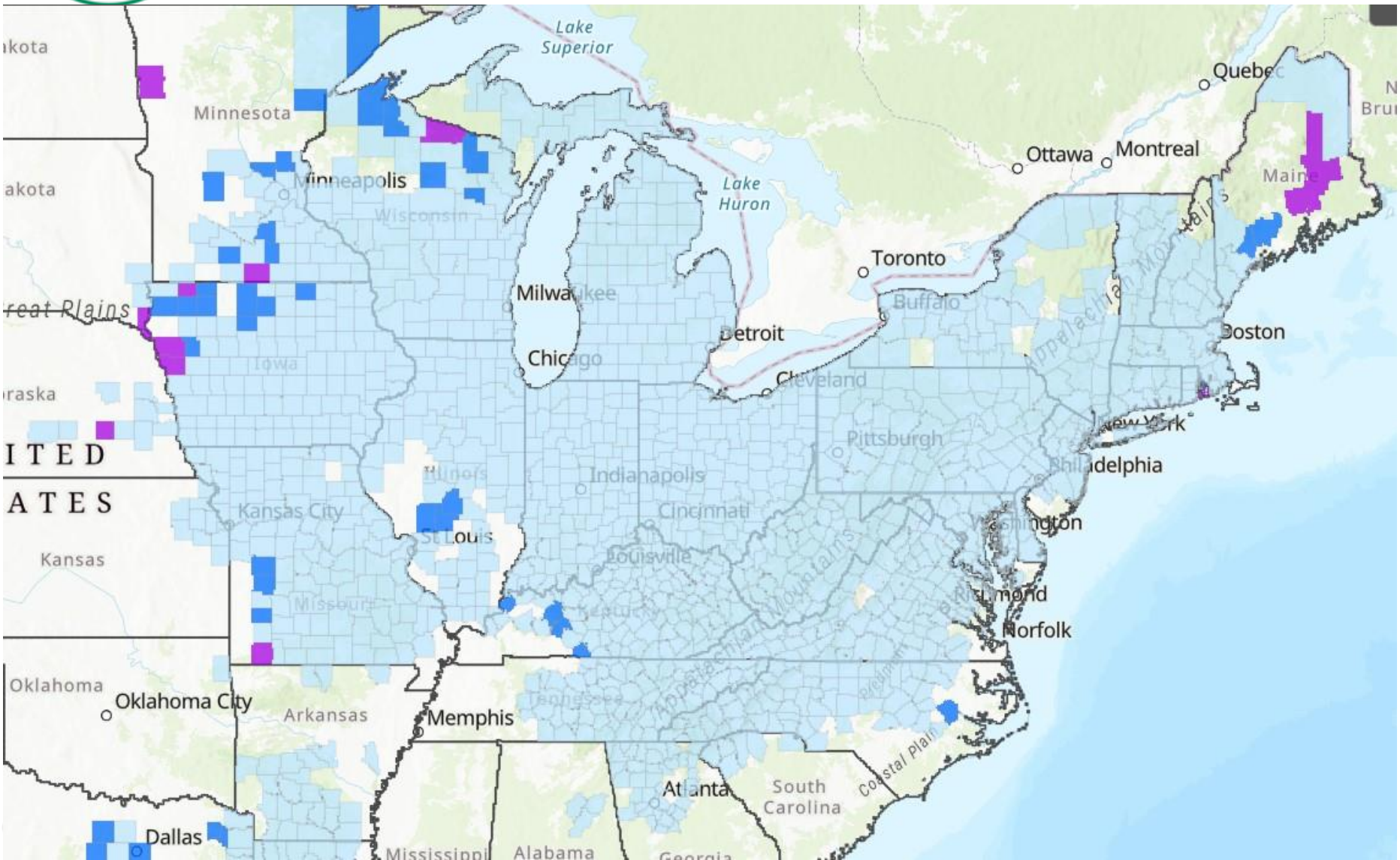


Save Our Ashes Project

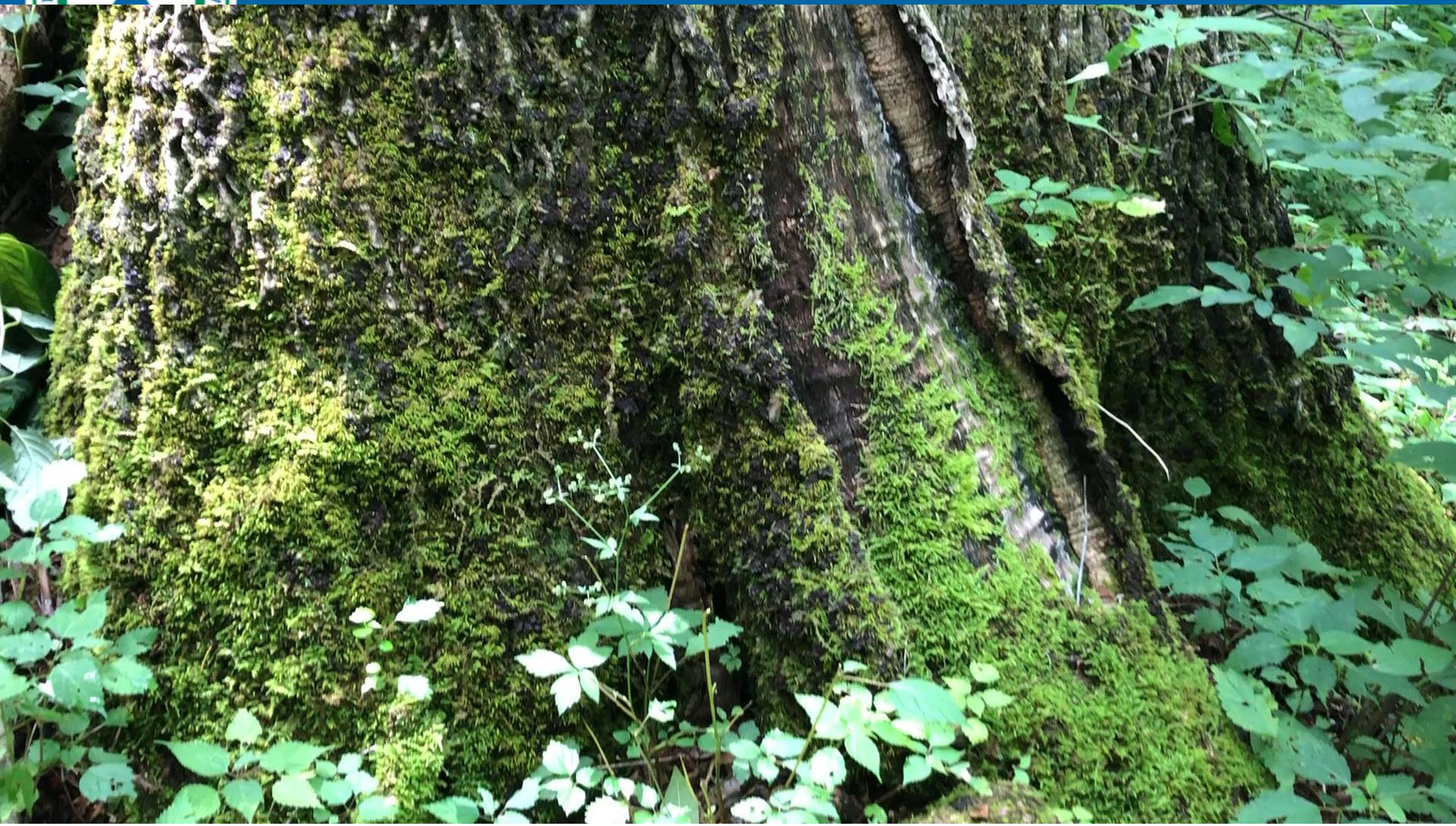
- 193 ash trees were treated at Dismal Gap, GA(79) and Bluff Mountain, NC (114)
- 2024 treatment sites: Deep Gap, NC (40), Max Patch to Brown Gap, TN, NC (229), Osborne Farm to Grindstaff Monument, TN (103)

Ash Treatment Sites South to North								
State	**Site**	**Notes**	**Groves**	**First Treated**	**Last Treated**	**Club Section**	**Treatment Notes**	**# trees**
GA	Justus Mountain	includes Cooper Gap and headwaters of Brookshire Creek	2	2019	2022	GATC	tallest ash tree in GA, trees treated around parking area	73
GA	Dismal Gap		1	2019	2023	GATC		79*
GA	McClure Gap	Powell Mtn. area, south of Dicks Creek Gap	1	2019	2022	GATC		40
NC	Deep Gap	Trail North	1	2018	2021	NHC	trees treated around parking area	40
NC	Siler Bald	Trail North of Siler Bald, before 180 degree turn in Trail	1	2018	2018	NHC		48
NC/TN	Max Patch South	between Max Patch and Brown Gap	1	2017	2021	CMC		229
NC	Bluff Mtn.	Trail North of summit	1	2017	2023	CMC	potentially underdosed 2018	114*
NC	High Rock	Trail South of High Rock	1	2019	2022	CMC		83
TN	Moffett Laurel	Trail North of Greasy Creek Gap	1	2019	2022	TEHCC		72
TN	Osborne Farm	parking lot to Grindstaff monument	2	2018	2021	TEHCC	trees treated around parking area	75*
MA	Kellogg Rd	Two historic trees along Kellogg Rd in Sheffield, MA	1	2017	2021	AMC-berk	treated 2017, 2019, 2021	2
MA	Outlook Ave	Ash surround edges of Outlook OA	1	2019	2022	AMC-berk	treated 2019, 2022	7
MA	Tyringham	Treatments north of Fernside Rd and south around Shaker campsite	2	2021	2021	AMC-berk	treated 2021, planned re-treatment 2024	132
MA	Day Mountain	Treatment throughout Day Mountain restoration site	1	2021	2021	AMC-berk	treated 2021, planned re-treatment 2024	122
VT	Stage Road	South/Uphill -treatments by ATC 2023	1	2023	2023	GMC		39
VT	Stage Road	Roadside (north) - expected treatments by USFS 2024	1	2024	2024	GMC	planned 2024	39
VT	Thistle Hill	Vernal Pools - treatments by ATC 2023	1	2023	2023	GMC		23
VT	Thistle Hill	Shelter and hillside - expected treatments by USFS 2024	1	2024	2024	GMC	planned 2024	40
VT	West Hartford	West Hartford, VT - treatments by USFS 2023	1	2023	2023	GMC	also found 55 black ash trees outside designated treatment area which we hope to treat in next cycle	37
VT	Bennington	South of Route 9 - expected treatments by USFS 2024	1	2024	2024	GMC	a few trees treated 2023, rest planned for spring 2024	34
Totals			20					1266

EAB DISTRIBUTION MAP 4/23



Tallest Ash Tree in GA



2022 Tallest ash tree in GA

Southern Appalachian Spruce Restoration Initiative
www.southernspruce.org

About SASRI

The Southern Appalachian Spruce Restoration Initiative (SASRI) is a partnership of diverse interests with a common goal of restoring spruce ecosystems across the high elevation landscapes of the Southern Blue Ridge. It is comprised of private, state, federal, and non-governmental organizations which recognize the importance of this ecosystem for its ecological, aesthetic, recreational, economic, and cultural values.


APPALACHIAN TRAIL
Newfound Gap 1.7
Mount Collins Shelter 3.3
Clingmans Dome 6.2
SASRI


SASRI

- **Spruce Restoration**
- **ATC worked with the USFS and the Southern Appalachian Spruce Restoration Initiative (SASRI) to secure over $250K to contract out R8 (Hellbender Region) NEPA, this will enable ATC and partners to utilize the necessary tools for landscape level NEPA. Future work will occur in the VA Highlands, Roan Highlands, and Unaka Mountain. Matt is serving on the Red Spruce Technical Advisory Board to guide the NEPA process.**

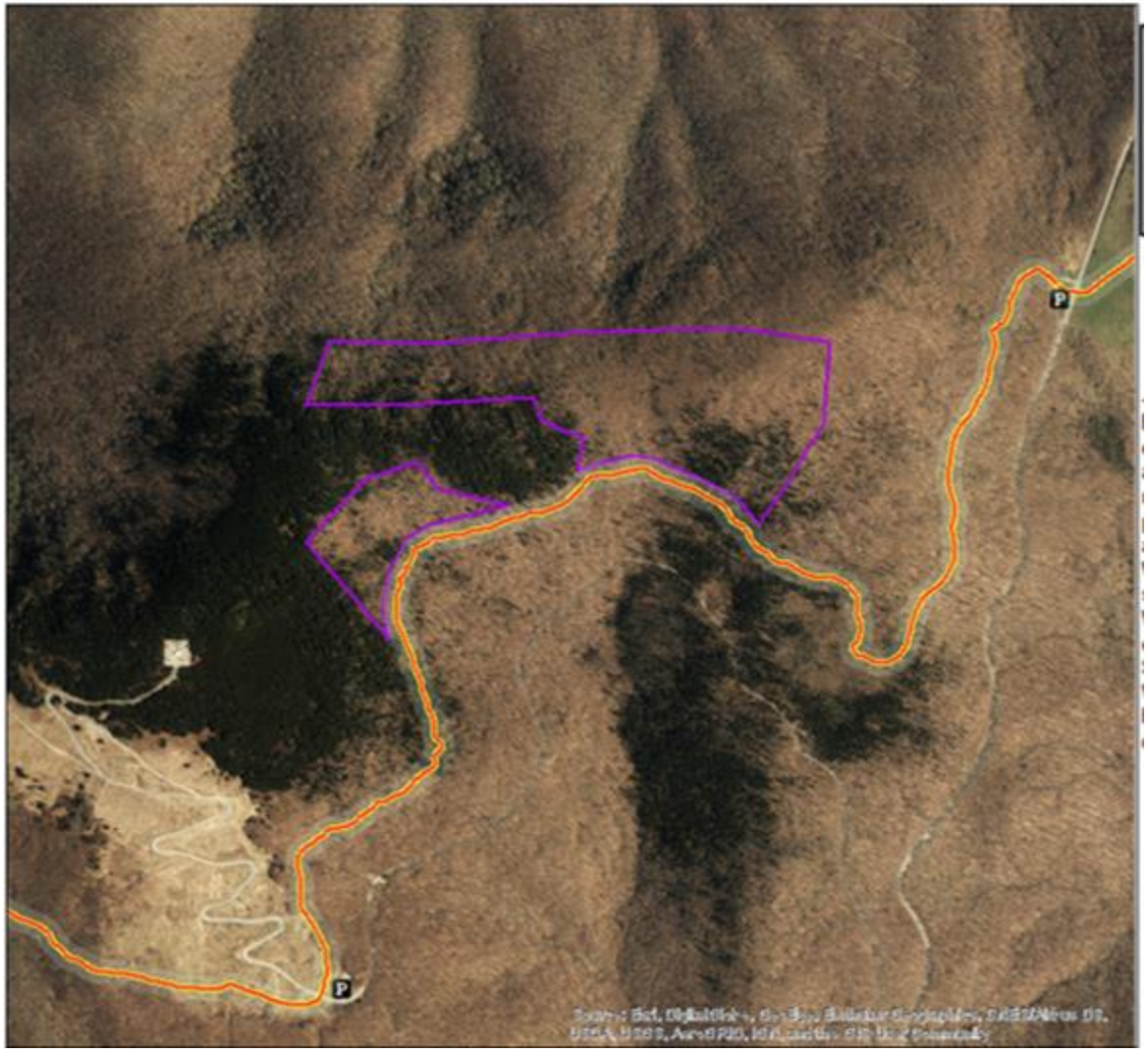
Spruce Management Continued

- ATC continues to engage on the Pisgah Restoration Initiative (CFLRP) that will provide funding for spruce restoration (also, golden-winged warbler habitat management, NNIS work, and Southern Appalachian Grassy Balds Management).

- ATC worked with the USFS, SASRI, and National Forest Foundation (NFF) to secure funding for a 2-year Spruce Coordinator position, housed by NFF that will work on all the spruce focal areas in the Southern Appalachians.

Designing Spruce Restoration Projects

- Above 5,000 ft elevation
- Connecting disjunct populations
- Understory spruce density is high



Spruce Habitat Restoration

- Spruce Release (felling/girdling)
- Spruce Plantings

Over-stocked Spruce Stand with Little Natural Regeneration

Suppressed Saplings Lose Apical Dominance

Abundant Natural Regeneration

Questions?