

January 8, 2026

Troy Waskey, District Ranger
Nantahala National Forest
90 Sloan Road
Franklin, NC 28734

Re: Northside Restoration Project Draft EA

The Nature Conservancy (TNC) of North Carolina appreciates this opportunity to provide comments on the Northside Restoration Project EA on the Nantahala National Forest. We enthusiastically support public scoping that is collaborative and engages with a diversity of partners. To that end, we are glad to see that this project was developed with the intent to foster greater collaboration between the US Forest Service (Forest Service) and the Eastern Band of Cherokee Indians (EBCI) and are in full support of Indigenous co-management of public lands. We hope this sets a precedent for greater opportunities where members of EBCI can practice co-management across their ancestral lands. Further, we defer to any guidance provided by EBCI wherein any of the below recommendations are in conflict.

Enhancing and Maintaining Ecological Values

TNC supports the Northside Restoration Project for its stated objectives to improve, restore, or maintain wildlife habitat, species diversity, soil and water resources, and forest health, particularly in the fire-adapted ecozones within the Project Area. Prescribed burning and non-commercial stand improvement practices such as midstory removal, crown touch release, and oak woodland thinning are useful for enhancing and maintaining existing oak/hickory forests by reducing competition to promoting conditions that support the regeneration, recruitment, and vigor of young oaks and hickories. Based on our own land management practices, we recommend using a 20% solution of imazapyr (i.e., Polaris AC, Arsenal AC, Imazapyr 4SL) in midstory removal/reduction units to ensure greater treatment efficacy relative to treatments using solutions of glyphosate and triclopyr.

Additionally, we recommend providing contractors with a “no treat” list of ecologically or culturally important woody species (besides oaks and hickories) that exhibit high wildlife value yet contribute very little to midstory competition. This list may include soft mast-producing species such as dogwoods (*Cornus florida* or *alternifolia*) and serviceberry trees (*Amelanchier arborea* or *A. laevis*), and hard mast-producing species such as American chestnut and chinkapins (*Castanea* spp.), unless some of these species are dense enough to be considered a competition or shade problem for oaks and hickories.

Combining Fire and Silviculture

We are encouraged to see additional burn units proposed in this project since scoping, some acres of which overlap with timber and stand improvement units in fire-adapted ecozones. We believe there should be more stand improvement practices within existing and proposed burn units where they overlap with fire-adapted ecozones to better enhance structural and compositional characteristics. We recommend the Forest Service prioritize the restoration of fire-adapted forest types by developing more prescribed burn units that intersect with midstory removal proposals. If the objective is to achieve desired oak/hickory regeneration and recruitment outcomes, these practices are known to work better when combined rather than separate from each other. TNC's Southern Blue Ridge On-Call Fire Crew is willing to support this effort by helping map and scout burn units, in addition to being available to assist with prescribed burn prep and implementation. Additionally, "The Fire Manager's Guide to Blue Ridge EcoZones" is a great resource from TNC for developing goals and parameters of prescribed burns in our region.

Recruitment of Oaks and Other Masting Species

We enthusiastically support management practices that release desirable oak/hickory trees wherever appropriate. Because oak and hickory trees are also often found in a variety of other forest communities, we recommend tailoring management practices in moist ecozones to help release existing oak and hickory advance regeneration where they occur, however sparse. For example, in moist ecozones where crown touch release will be employed, ensure the release of existing oak and hickory trees, as well as more mesic hard mast-producing trees such as American beech (*Fagus grandifolia*) and soft mast-producing species, such as black cherry (*Prunus serotina*), blackgum (*Nyssa sylvatica*), white basswood (*Tilia americana*), and other species of ecological and cultural importance. These recommendations coincide with the project's stated goal of increasing wildlife habitat and biodiversity by helping to promote tree species that provide relatively greater benefits to a range of wildlife species.

Commercial Timber Harvest

We support using commercial treatments such as irregular shelterwood harvest and two-aged shelterwood to release desirable oak/hickory advance regeneration. However, in oak-dominated stands, adequate overstory density must be retained where desirable oak/hickory regeneration is absent otherwise the treatment will encourage the regeneration of faster growing competitor species, namely yellow-poplar. Regenerating oak-dominated stands without using appropriate intermediate silvicultural practices that establish advance regeneration is unfortunately a common cause for the conversion of oak-dominated stands to stands that will become dominated by yellow-poplar and other mesic species. In some areas, techniques such as coppice-with-standards to stimulate vigorous oak sprouts may be suitable where advance regeneration is low or unsuitable for

release (i.e., poor stem form or having a flat-topped terminal leader). Prior to timber harvests in both dry and moist ecozones, we recommend identifying existing oak/hickory advance regeneration and ensuring timber sales are marked to carefully release desirable regeneration where it occurs. Enrichment planting of oak seedlings may be useful or necessary in other areas but will require tending practices such as site prep and release to ensure successful establishment and recruitment.

In all forestry operations, commercial and non-commercial, we broadly support the retention of large legacy trees, wolfy trees, shaggy-bark trees, den trees, and other trees with similar characteristics to retain legacy values and valuable wildlife habitat for bats and other wildlife species. Additionally, we recommend retaining 1 – 3 large oak trees (approximately 16” d.b.h. and greater), preferably white oak, northern red oak, or chestnut oak, where they occur on the northern edges (northwest to northeast) of Wildlife Opening Management units to maintain acorn production and biological legacies while limiting the interference of shade.

We support efforts to convert artificial conifer monocultures into site-appropriate species assemblages using commercial (where feasible and appropriate) and non-commercial practices to remove or reduce off-site conifers and by reforesting with oaks where appropriate. When clearcutting and thinning conifer plantations, consider targeting the release of existing oak and hickory overstory trees (reserves) and advance regeneration as they occur in each unit. While the frequency of naturally regenerating oak/hickory under a planted pine stand will vary based on several pre-treatment structural and environmental conditions, this method of targeted release will help to fast-track the conversion of conifer plantations to more site-appropriate species while still contributing to the overall density reduction of conifers as intended. It will also have the added benefit of increasing the variability of stand structure.

All efforts should be made to limit erosion, particularly on steep slopes and where soils are highly erodible, as stated in the project proposal. We support the intended use of low-impact harvest systems in this project and encourage the Forest Service to require the use of specialized equipment on steep slopes, such as a cable yarder or jammer, to limit erosion relative to that which would be caused by traditional ground disturbing heavy equipment. On gentler terrain, we recommend the use of a forwarder over typical grapple or cable-skidding equipment. By carrying cut-to-length logs rather than dragging them, forwarders reduce soil compaction during logging operations relative to the use of skidders and require tree-tops to be left in the woods. Additionally, tops and limbs should be used to cover skid/forwarder trails to help limit compaction and support forest soil regeneration.

We appreciate the intended rehabilitation of log decks using direct seeding. However, we recommend that language regarding species and ecotype selection be added. We highly encourage the use of grass and forb seed mixes that contain native species appropriate for the respective natural community types within which each log deck will be rehabilitated.

Non-Native Invasive Plant Species

TNC appreciates that this project identifies the need to manage for non-native invasive plants species (NNIS). Any activities that increase sunlight (such as silvicultural treatments), prepare the seed bed (such as prescribed burning), or disturb forest soils (such as transportation management) have the potential to rapidly increase the abundance of NNIS on site or support the migration of NNIS into the site. There are many existing examples of past silvicultural treatments and wildlife habitat treatments that have not been properly tended to which has allowed NNIS to take over and persist unabated. Therefore, we recommend the Forest Service commit to treating all of the proposed treatment units for NNIS before and after all vegetation management and transportation management activities and continue monitoring those sites for NNIS establishment into the future. The EA identifies numerous species that are within the project area, indicating a continued need to monitor and treat infestations that respond positively to forest management practices.

Special Interest Area

We are supportive of management actions that aim to restore, enhance, or maintain the unique ecological conditions that characterize the Alarka Laurel spruce bogs. We recommend extreme caution be taken to ensure that these actions do not directly or indirectly cause adverse impacts to these rare, special systems. This includes unintended human-facilitated spread of invasive or ecologically disruptive species. The Bog Learning Network, a consortium of scientists and land managers working to advance the restoration and management of Southern Appalachian bogs, provides a recommended protocol for cleaning and disinfecting personal clothing items, equipment, and vehicles prior to entering bogs. We recommend inclusion of this protocol (see Appendix A) for all projects that occur in the Alarka Laurel spruce bogs and all other Southern Appalachian bogs in the future.

Transportation Maintenance

TNC generally supports the use of existing road prisms versus creating new ones for timber harvest operations. We encourage the Forest Service to permanently close out non-system roads that no longer function to provide operational access or are not integral to prescribed burning or wildland fire fighting operations using the active strategies described in the draft EA, as well as those provided for by 36 CFR Part 212 including but not limited to: re-establishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars, removing culverts, re-establishing drainage-ways, removing unstable fills, pulling back road shoulders, scattering slash on the roadbed, completely eliminating the roadbed by restoring natural contours and slopes, or other methods designed to meet the specific conditions associated with the unneeded road.

If non-system roads are inherent to future operational access or wildland fire fighting, we recommend the Forest Service be clear in these determinations and maintain said roads in such a way as to avoid sedimentation and landslide issues in the future, including removing improper drainage structures and installing water diversion structures where necessary based on Best Management Practices. If those issues cannot be confidently resolved, non-system roads should be permanently closed out to protect water quality and, where possible, enhance aquatic habitat.

As with log deck rehabilitation, we encourage the use of grasses and forbs using native species and, where possible, local ecotypes when conducting direct seeding for site rehabilitation that are site appropriate based on the natural communities within which they occur.

Species of Concern

On top of the endangered, threatened, and rare species listed within the draft EA, there are known Element Occurrences of Blue Ridge catchfly (*Silene ovata*) and Huger's carrion-flower (*Smilax hugeri*), state listed as Vulnerable (S3), that overlap with some of the treatment units within the Project Area (7-18, 7-37, 7-38, and 27-30). TNC recommends that those units be surveyed for these species and others, and their protection ensured during forest management and transportation maintenance operations.

Summary

On behalf of The Nature Conservancy, we appreciate your consideration of these comments as our ongoing partnership with the US Forest Service is very important to us. We look forward to continued engagement with the Nantahala Ranger District as well and wish to be involved in the planning and implementation phases of future projects. If you have any further questions for us, please do not hesitate to reach out.

Sincerely,

Jordan Luff, Southern Blue Ridge Forest Ecologist
Lucie Law, NC Mountains Freshwater Restoration Specialist

Appendix A – Bog Learning Network Recommended Cleaning and Disinfection Protocols for Working in Southern Appalachian Bogs

In order to minimize the human-facilitated spread of invasive or ecologically-disruptive species, including pathogens, the Bog Learning Network recommends cleaning and/or disinfecting equipment, clothing, and vehicles between wetland sites.

Disinfectant – In accordance with U.S. Fish and Wildlife Service protocol, we consider an appropriate disinfectant to be sodium hypochlorite bleach (i.e. household bleach) solution diluted to one part bleach to nine parts water in a tub or plastic container, or $\geq 0.3\%$ concentration of quaternary ammonium compounds (i.e., Sparquat 256, Lysol All-purpose Professional Cleaner, or the antibacterial form of Formula 409). Bleach/water solutions should be prepared fresh each day, since they degrade and become less effective over time due to air and sunlight exposure. A pump-pressurized applicator is effective for spraying equipment with the bleach/water disinfectant.

- **NEVER mix bleach and ammonia or any solutions containing bleach or ammonia as it will produce a poisonous gas**
- **NEVER allow disinfectants to enter streams or wetlands**

Minimal steps

Selecting equipment, footwear, and clothing for wetland use

- Look for products with minimal nooks, crevices, seams, folds, pleats, and other areas that may be hard to clean or harbor unwanted species or material.
- When a choice is available, choose equipment made with non-porous materials, e.g. metal bog turtle survey poles instead of wood, smooth rubber boots rather than neoprene boots.

Cleaning and disinfecting boots and field equipment

1. 1) Select a location, field or office, that will minimize chances of both spilling disinfectant into natural waters and post-cleaning contamination
2. 2) Using tap water, scrub and rinse boots and equipment to remove all soil and organic material
3. 3) Submerge or use a pump sprayer to coat boots and equipment with disinfectant. Keep disinfectant on surface for at least 15 minutes. If in a field situation, contain within a washbasin and transport used disinfectant to a suitable disposal site
4. 4) Rinse with tap water (faucet, hose, or pump sprayer) and air dry. If in a field situation, contain within a washbasin and transport rinse to a suitable disposal site

Additional measures for handling animals

- If authorized to PIT tag animals, use only single-use, sterile, disposable syringes
- If files are used to mark animals, disinfect file between each animal

- If holding animals, wash hands with soap and water and rinse well after each animal or apply hand sanitizer with alcohol and allow to dry between individuals. If animals are dead, diseased, or visibly unhealthy, use disposable exam gloves to handle the individuals, using separate gloves for each individual

Additional steps

Clothing

- If visiting multiple sites in one day, be sure to remove seeds from clothing before leaving a site, bring a second set of field clothes in case your clothes are covered in seeds or mud, and replace any fabric-based field gear between sites (e.g., hand-wiping rag, “turtle-bags”)
- Wash clothing and appropriate equipment in a washing machine using the hottest cycle possible for the material, conventional detergent, and bleach if material recommendations allow. Dry using the hottest setting allowable for the material

Vehicles

- If at all possible, decontaminate gear and boots, and remove soil and organic material from clothes before entering vehicle
- If possible, wash and rinse vehicles, especially tires and undercarriage, between wetland sites using tap water and conventional vehicle detergent

Example field decontamination kit

- 5- or 10-gallon pressurized sprayer with tap water
- 5- or 10-gallon pressurized sprayer with disinfectant
- Scrub brush
- Washbasin large enough to contain boots and equipment during disinfecting spray
- Washbasin large enough to contain boots and equipment during rinsing
- 1-3 extra 5-gallon buckets of water
- Extra disinfectant
- Lids to contain washbasins until contents can be appropriately disposed

References

Miller, D.L., and M.J. Gray. 2009. Disinfection of field equipment and personal gear. Southeastern Partners in Amphibian and Reptile Conservation, Disease, Pathogens and Parasites Task Team, Information Sheet #10.

U.S. Fish and Wildlife Service Disinfection Protocol for Bog Turtle Field Research, Surveys and Monitoring (revised August 5, 2009)