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August 12, 2024

Nicholas Larson
USDA Forest Service
Attn: GAP Restoration Project
109 East Lawing Drive
Nebo, NC 28761

Re: Grandfather, Appalachian, Pisgah Restoration Project (GAP Project) Draft Environmental Assessment (EA) Comments

To Whom it May Concern:

On behalf of the Ruffed Grouse Society & American Woodcock Society (RGS & AWS) and our members, I thank you for the opportunity to comment on the *Grandfather, Appalachian, Pisgah Restoration Project (GAP Project) Draft Environmental Assessment (EA)* for the Pisgah National Forest.

Established in 1961, the Ruffed Grouse Society (RGS) is North America's foremost conservation organization dedicated to creating healthy forests, abundant wildlife, and promoting a conservation ethic. Together with the American Woodcock Society (AWS), established in 2014, RGS & AWS work with landowners and government agencies to develop critical wildlife habitat utilizing scientific management practices.

According to the Association of Fish and Wildlife Agencies' Eastern Grouse Working Group report in December 2020, ruffed grouse populations have declined 71% since 1989 in the Southern Appalachians (Eastern Grouse Working Group, 2020). The report identified that, "Loss of young forests across the landscape is the primary driver of this decline." The species is identified as a Species of Greatest Conservation Need in North Carolina's State Wildlife Action Plan (North Carolina Wildlife Resources Commission, 2015).

Ruffed grouse are a reliable indicator for healthy, diverse forest ecosystems (Norman et al., 2004). The lack of forest age-class and structural diversity is a driver of decline for multiple at-risk wildlife species in the region, including species traditionally thought of as "disturbance-dependent" and "mature forest obligates" that both benefit from a biologically significant mix of young, open, and late-successional forest conditions across the landscape (Bakermans et al., 2011; Golden-Winged Warbler Working Group, 2013; Jacobs & Warburton, 2016; Lambert et al., 2017; Wildlife Management Institute, 2008; Wood et al., 2013).

Urgent action is needed at the landscape scale, above and beyond localized habitat improvement efforts, to halt the decline in ruffed grouse and other forest wildlife in western North Carolina before it is too late.

The best available science suggests that maintaining 8-12% early successional habitat across the Nantahala and Pisgah National Forests would optimize for bird diversity, including “young forest obligates” and “mature forest obligates” (Jacobs & Warburton, 2016). We recognize bird diversity is not the only factor to consider when managing public land. However, to ensure viable wildlife populations are maintained long-term, it is essential that there is a pathway to create early successional habitat conditions somewhere within the 8-12% range.

RGS & AWS fully supports the intent of the GAP Project and appreciates the Forest Service’s commitment to “...reduce wildfire risk, restore fire-adapted forests, treat non-native invasives, and continue to provide clean and abundant water at a landscape scale across jurisdictions surrounding the Forest” (USDA-USFS, 2024). We are encouraged to see that many of the issues we raised in our prior comments have been addressed in the Draft EA. We are supportive of the project and its intent, but would like to share the following comments to ensure that the project makes meaningful progress towards achieving Forest Plan objectives for vegetation management and ecological integrity:

- **We are pleased to see Vegetation Management Areas (VMAs) and the broader Areas of Interest spanning across a range of fire adapted ecological zones (see table 9 below from the GAP Draft EA).** Fire adapted tree species (e.g., oak) are not regenerating across fire adapted ecological zones, including shortleaf pine-oak heath, pine-oak heath, dry oak, dry-mesic oak, mesic oak, and high elevation red oak. In addition, these ecological zones are much more closed canopy than historic conditions, as evident in the natural range of variation model included in the Forest Plan and EIS. Conducting timber harvesting and noncommercial forest stand improvements will increase structural and age-class diversity across fire adapted ecological zones to help achieve restoration objectives established in the Forest Plan and increase the forest’s resilience.

In addition, there are wildlife species that are at-risk associated with the higher elevation and more mesic fire adapted ecological zones on the Forest, including ruffed grouse and golden-winger warbler. For example, ruffed grouse are largely restricted to elevations greater than 2,000 feet in the Southern Appalachians. Mesic forest types also have wide-spread access to food and an advantageous microclimate for species like ruffed grouse (Tirpak et al., 2010). If we’re not able to restore habitat where it’s needed at a fast pace, we’re going to lose significant elements of our forest’s biological diversity. With proper resource protection measures in place, conducting restoration activities in more mesic fire adapted ecological zones will have positive benefits for many at-risk wildlife species. As such, we are pleased to see the mix of ecological zones included in the planned work areas.

Table 9. Acres of Ecozones in the Project Area.

Ecozone	Areas of Interest (Acres)	VMA with Saw Timber Product¹ (Acres)	VMA without Saw Timber Product¹ (Acres)
Acidic Cove	65,925	3,467	4,662
Dry-Mesic Oak	41,008	2,297	2,835
Dry-Oak	16,746	701	1,701
Floodplain Forest	713	62	30
High Elevation Red Oak	5,365	19	30
Mesic Oak	35,730	1,783	2,325
Northern Hardwood	3,020	44	209
Pine-Oak/Heath	35,301	815	2,498
Rich Cove	36,973	1,583	851
Shortleaf Pine	12,434	1,422	2,117
Spruce-Fir	711	1	0

¹Located within the AOIs

- **RGS & AWS strongly believe that commercial timber harvesting is the most cost-effective means to achieve the GAP Project’s objectives to reduce the risk of wildfire, restore fire adapted forest ecosystems, and support healthy forests and abundant wildlife more broadly.** We are pleased to see the list of potential harvest options extended beyond thinning and woodland management. All silviculture prescriptions, including regeneration harvesting, should be included in the project to help restore fire adapted forest ecosystems in terms of forest structure and composition. Promoting diverse age classes is a key strategy to maintain and enhance a forest’s species and structural diversity. Increasing forest age class and structural diversity is a fundamental component of forest climate adaptation frameworks (Swanston et al., 2016). Diverse forests are more resilient to disturbances that are increasing with climate change, including catastrophic wildfire events, drought, pests, and diseases. Maintaining a mix of tree ages, sizes, and canopy positions helps buffer the vulnerability of a forest to stressors. Including an extended list of harvest methods gives the Forest Service flexibility in choosing a harvest method depending on site conditions. We do have some concerns about the absence of detailed information in the current Draft EA as to where exactly harvests will occur and what type of harvest methods will be used. Ultimately, we trust the Forest Service staff to make sound decisions based on current stand conditions to move the landscape toward desired conditions. However, more details would ease concerns about what types of management will be happening, and in what locations, especially since outcomes vary based on the type of harvest method used.
- **RGS & AWS commend the Forest Service for including the need to promote and recruit fire-tolerant species (e.g. oak, hickory) to fulfill the project’s objective to restore fire adapted ecosystems.** It is

great to see the Forest Service including forestry practices across fire adapted ecozones, including mesic oak and high elevation red oak. Our suggestion in these areas is to implement all stages of the shelterwood method, including the preparatory treatment, establishment cut, and overstory removal. In addition, irregular shelterwood harvesting and shelterwood-burn techniques should be included. The evidence shows that oak trees are declining across the Pisgah National Forest and the Southern Appalachians more broadly due to a lack of management and mesophication. Oak is not regenerating on its own, even in stands that have “characteristic” oak tree species in the overstory for that ecological zone, and the proportion of young oak stands is decreasing. Appalachian oak forests require active forest management to reduce the competitiveness of mesic trees (e.g., red maple) and increase oak's competitive advantage. This includes the shelterwood treatment to establish, recruit, and release oaks seedlings and saplings. We are excited to see the Forest Service focusing on regenerating fire tolerant species to restore the landscape. Additionally, we are happy to see a commitment to removing uncharacteristic and fire-intolerant tree species to restore tree species that are more characteristic of ecological zones. With the aid of prescribed fire and herbicide treatments, controlling these uncharacteristic and fire intolerant species will allow other fire tolerant species to be recruited into the subcanopy and canopy.

- **RGS & AWS advocate strongly for active forest management and believe the following commercial and noncommercial forestry practices outlined in the Draft EA will be highly additive for recruiting desirable species like oak: midstory removal treatments, shelterwood (irregular and regular) supplemented with prescribed fire, crown touch release, and even and uneven-aged regeneration harvests.** Midstory removal will be especially useful in mesic oak stands where undesirable trees are more competitive (e.g., red maple and poplar) and frequent fire is less appropriate. These treatments can also be implemented noncommercially with herbicide as the first phase of a shelterwood sequence to establish advance oak regeneration in a subcanopy. We recommend establishment cutting as part of a shelterwood-burn technique to establish and recruit oak. This includes commercial timber harvesting as a partial overstory removal and subsequent prescribed fire implementation. This could be implemented irregularly as an expanding gap shelterwood approach (i.e., *femelschlag*), which is especially useful in drier oak stands where oak is more competitive and frequent fire is more appropriate. The overstory removal treatment through a commercial timber harvest (i.e., one-cut shelterwood) where there's currently advance oak regeneration established will also be advantageous. The presence of advance oak regeneration in the forest understory is currently less common across the landscape due to mesophication but could be in locations with previous thinning or fire activity or on drier sites where oak is inherently more competitive and subcanopies are more open (i.e., dry ridges). There could also be places that previously received an establishment cut of the shelterwood method or a heavy thinning. Crown touch release is an appropriate approach in stands that have reached the stem exclusion phase of stand development to decrease tree stocking density and favor fire adapted tree species (i.e., oak, or hard pine). We believe that a combination of noncommercial and commercial forestry practices will be beneficial to the landscape and look forward to working with the Forest Service to implement work on the ground with other partners.

- **The GAP Project’s current goals fall short of meeting the habitat restoration needs established in the 2022 Nantahala and Pisgah National Forests Land Management Plan (LMP).** The 2022 LMP established ambitious active forest management objectives based on the Tier 2 concept:

Decision	Previous 1994 Forest Plan	2022 Nantahala and Pisgah National Forests LMP (Tier 2 Objectives)
Young forest creation (annual acres)	650	1,200-3,200
Projected timber sale quantity (MMCF)	2.1	10.4
Intermediate thinning treatments (annual acres)	150	400-600
Thin and burn for open forest woodland (annual acres)	N/A	600-900
Prescribed fire (annual acres)	8,500	20,000-45,000

While we understand that the GAP project only includes the Pisgah National Forest, and is one decision, it is likely going to be a significant part of the implementation of the LMP on the Pisgah National Forest for the next 5-10 years. As such, the goals in the GAP project fall short of the landscape needs. For this reason, we would love to see more young forest creation outlined in the GAP Project with support from partners to achieve Tier 2 objectives in the LMP. However, we ultimately support the current scope of work and look forward to working with conservation partners and the Forest Service to implement restoration work on the ground.

RGS & AWS commend the Forest Service’s efforts to “...reduce wildfire risk, restore fire-adapted forests, treat non-native invasives, and continue to provide clean and abundant water at a landscape scale across jurisdictions surrounding the Forest” (USDA-USFS, 2024). We fully support the GAP Project and its intended purpose and goals and appreciate the time, effort, and resources the Forest Service has put into this project to date. Our comments above, for the most part, are suggestions for the Forest Service to consider when the implementation phase of the project begins. While we would have liked to have seen some parts of the project done differently, especially the pace and scale of the harvesting affiliated with the project, we acknowledge that the Forest Service is managing a multi-use landscape with multiple project goals. We look forward to working with the Forest Service and other conservation partners to implement this important restoration work and help the Pisgah National Forest achieve its Tier 2 objectives outlined in the LMP.

We appreciate the opportunity to comment.



Sincerely,

A handwritten signature in cursive script, appearing to read 'Nick C. Biemiller'.

Nick Biemiller, Forest Conservation Director

Southern Appalachian Region

Ruffed Grouse Society & American Woodcock Society

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