



◊ North Carolina Wildlife Resources Commission ◊

Gordon Myers, Executive Director

June 18, 2020

Mr. Allen Nicholas
Forest Supervisor, National Forests in North Carolina
U.S. Forest Service
160 Zillicoa Rd., Suite A
Asheville, North Carolina 28801

SUBJECT: NCWRC Comments on the Nantahala and Pisgah National Forests Land Management Plan and Draft Environmental Impact Statement

Dear Mr. Nicholas:

Staff of the North Carolina Wildlife Resources Commission (NCWRC or Commission) have reviewed the *Proposed Land Management Plan* (LMP or Plan) and the *Draft Environmental Impact Statement* (DEIS) for the Nantahala and Pisgah National Forests (Forest). The Commission is charged with management, regulation, protection and conservation of wildlife resources and inland fisheries in North Carolina (N.C. General Statute 113-132). The Commission's mission includes conserving North Carolina's wildlife resources and their habitats. Comments on this proposed rule are provided in accordance with certain provisions of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

NCWRC staff assists the US Forest Service (USFS) in assessing and managing wildlife resources on Forest lands and are familiar with the Forest's fish, wildlife, and associated recreational values. The NCWRC commends the USFS' efforts to revise the Plan and develop the DEIS with input from a wide range of stakeholders. Our comments are intended to help the USFS develop a plan that supports a diversity of wildlife habitats, overall health and resiliency of the Forest, and wildlife-based recreation.

NCWRC supports a plan that will promote a diversity of natural communities with a range of vegetative age structures, thereby providing habitat for rare and common species alike. Our recommendations for the Plan and DEIS support the protection, maintenance, and restoration of habitats for game and priority species, namely the 2015 North Carolina Wildlife Action Plan's Species of Greatest Conservation Need (SGCN). We recommend that the USFS maintain the flexibility to manage the Forest for the benefit of both terrestrial and aquatic communities. We

also encourage a management approach that increases the public's opportunity to enjoy wildlife-related activities, such as hunting, fishing, wildlife viewing, and photography.

NCWRC believes that a broadly supported plan will allow implementation of on-the-ground work at a pace and scale that benefits wildlife not only during this planning period, but into the future. Our comments and recommendations are based on sound science and professional expertise related wildlife and natural resource management, and they also consider the multiple interests that have coalesced around this plan. In support of the collaborative process, we have participated in the Nantahala Pisgah Forest Partnership, Fish and Wildlife Conservation Council, and the Stakeholders Forum for the Nantahala and Pisgah National Forest. While our own comments and recommendations may not mirror the proposals and recommendations provided by each of these collaboratives, we recognize the importance of these collaboratives and believe that collaboration required by the 2012 planning rule has occurred. We trust the Forest Service to finalize a plan that will allow for the greatest support for implementation and will also meet the habitat and resource needs of wildlife across the Forest.

We offer the following comments on the Plan, DEIS, and appendices:

Land Management Plan

General

- NCWRC is supportive of the framework and general direction of the Plan, including the Management Area framework, the desired conditions, objectives, guidelines, and standards (DOGS), and the Geographic Areas.
- NCWRC supports the Plan's emphasis on ecological restoration as the driver of forest management projects. However, economics is still a consideration in planning restoration projects; commercial timber harvests can be used to maximize effort and overall project benefits.
- Document format
 - References to best available science should include citations or reference to the DEIS, which should also reference or cite bibliography/literature. More integration of the Plan with the DEIS would improve readability, as many questions about the Plan can be answered in the DEIS, and vice versa.
 - Many tables in the Plan, DEIS, and appendices of both documents span multiple pages, and providing table headers for each page would be helpful.
- NCWRC is supportive of tiered objectives in the Plan. Tier 1 objectives are defined, "as based on a continuation of recent Forest Service budgets and capacity, while Tier 2 objectives reflect additional outcomes that may be possible with added capacity of partners and partner resources" (Plan, p. 5). We recommend clarifying the distinction between Tier 1 and 2, as both Tier 1 and 2 depend on resources outside of USFS. For example, the Tier 1 objective for permanent grass/forb areas is 3,750 acres. The vast majority of the USFS'

current capacity to maintain permanent openings is due to work completed by NCWRC through cooperative agreement.

- We support many of the aquatics-related DOGS in the plan, and we appreciate the standards regarding aquatic organism passage, channel and riparian zone restoration, and roads and trails.

Chapter 2: Public Involvement

- There will be added benefit and value in pursuing and accepting input and/or feedback when there are plans to implement prescribed fire, timber management, direct impacts to aquatic and terrestrial wildlife resources, and modifications to the road and trail system, especially when it overlaps interest of government agencies, general public, and multiple user groups. We encourage the USFS to continue using this engagement to enhance the value of their projects and purpose.

Chapter 2: Watershed

- NCWRC supports the use of a watershed planning framework, as many of the priority watersheds support Brook Trout and/or state listed or rare species. It appears that most aquatics-focused objectives for stream/riparian restoration, road and trail maintenance, road decommissioning, and unauthorized road obliteration are targeted for priority watersheds. We recommend providing an objective or adjusting current objectives to address specific stream restoration and trail/road problems that are not in priority watersheds. We also recommend including an option to amend the priority watershed list during the planning period.
- In WSD-O-01, we recommend including wetland restoration to support watershed resiliency and water quality, especially to address erosion problems and stormwater impacts in wetlands adjacent to streams and/or in the floodplain. Specifically, we recommend the following edit to Tier 1 ii: "...focusing on restoring floodplain connectivity, *wetlands*, stream channel function..."
- We support the objective to restore watershed condition (WSD-O-01). However, rather than pushing to achieve Tier 2 objectives, we recommend putting more effort into road and trail maintenance, as well as decommissioning, where appropriate (see our comments below on the Transportation and Access and Dispersed Recreation components).

Chapter 2: Water

- We recommend adding a desired condition (DC) such as "Hydropower facilities and other impounding features affecting streams and rivers are removed/decommissioned to allow for natural flow regimes when they are no longer needed."

Chapter 2: Aquatic Systems

- We suggest adding a DC to support aquatic conservation, as follows: "Sustain and improve aquatic habitat to benefit native aquatic species, with management actions that support the conservation of key native species, including Brook Trout and Species of Greatest Conservation Need (SGCN) defined in NCWRC's Wildlife Action Plan. Continue to expand

the known occupied range of the SGCN aquatic species through increased inventory, improved aquatic organism passage, population augmentations, and species reintroductions.”

- We also recommend adding the following DC: “Work with partners to support aquatic-based recreation opportunities (e.g., angling, boating, snorkeling) and high-quality conservation education opportunities.”

Chapter 2: Streamside Zone

- We recommend adding wetlands to the list of aquatic resources in SZ-DC-01, as follows: “Areas along streams and rivers and around ponds, reservoirs, and *wetlands* are healthy...”
- We propose an additional DC, SZ-DC-03: “Streamside zone wetlands are dominated by diverse and native vegetation, have intact and stable hydrology, provide habitat for native wildlife, and are managed appropriately for the wetland type and community classification.”
- We support the objective to restore streamside zone (SZ-O-01). However, rather than pushing to achieve Tier 2 objectives, we recommend putting more effort into road and trail maintenance, as well as decommissioning, where appropriate (see our comments below on the Transportation and Access and Dispersed Recreation components).
- In SZ-S-01, NCWRC strongly recommends that streamside zones be expanded from 15 ft to 50 ft for intermittent streams and wetland features to support forested riparian area functions, such as pollutant filtration, water and air temperature maintenance, stream bank stabilization, riparian-dependent wildlife habitat, groundwater and surface water exchange, and nutrient cycling. This would also make the streamside zone equivalent to the North Carolina State BMP and avoid confusion. A wider streamside zone is likely to be more important in supporting these functions as shifts in air temperature and the frequency and intensity of storm events occur due to climate change. We also recommend that the standard specify that vegetation management activities within streamside zones contribute to aquatic, wetland, and/or riparian ecosystem restoration.

Chapter 2: Terrestrial Ecosystems

- NCWRC generally supports the forest-wide DCs for structure with the qualification that the objective targets for both young forest (YF) and open forest be increased so that DCs can actually be achieved. We offer justifications for these increases below.
- *Young forest.* The previous planning period has clearly demonstrated that sustained timber harvest levels around 800 acres annually are inadequate to address the diminishing habitat needs of YF and early-seral wildlife species across the Forest. Given the current dearth of YF conditions (the DEIS estimates approximately 13,000 acres) and that more than 4,500 acres of existing YF created through timber harvest will be aging out of this condition over the next 10 years, it is paramount that the USFS provide YF in much greater amounts. NCWRC estimated the amount of various vegetative structural classes needed at different elevations to support wildlife species across the Forest in “The Bird Matrix” (NCWRC 2016). According to this analysis, 83,000 to 134,000 acres of YF are needed to both provide quality structural habitat conditions to maintain richness and evenness of YF-dependent species and to balance forest age class distributions. Therefore, we urge the USFS to find

ways not to only meet the lower end of YF desired conditions (60,000 acres) proposed with the draft Plan, but to move towards meaningful amounts at the upper end of the DC range.

Findings from the DEIS show that annual amounts of timber harvest proposed in the Tier 1 objectives will be insufficient at achieving even the lower part of the DC range, and therefore it is imperative that the USFS operate at timber harvest levels proposed for the Tier 2 objective. Specifically, NCWRC recommends the implementation of regeneration harvests of at least 2,000 acres annually, but we prefer that the upper end of the Tier 2 objective range of 3,200 acres/year be achieved.

- *Woodlands*

- Restoration goals. NCWRC is concerned with the Plan's ability to meet the DCs for open forests/woodlands as proposed. Given the importance of woodland habitats to a large suite of species and overall biodiversity across the forest, a greater number of acres should be treated over the life of the Plan. NCWRC's Bird Matrix (2016) estimates that 240,000 to 386,000 acres of woodland (excluding YF) should occur across the Forest at any one time.

We recognize that there are inherent challenges in creating "functionally restored" acres, and it is difficult to estimate how many acres could potentially be restored over the life of the Plan. The USFS provides an objective range of 1,500 to 6,000 acres of restored woodland over the next 10 years, but it does not describe how the number of "functionally restored" acres translate to planned acres to be treated. Presumably there would be many times more acres treated than would be restored. In order to clarify the actual on-the-ground work needed to accomplish this objective, we encourage the USFS to explain their strategy for achieving restored woodland conditions by stating objectives in terms of acres to be treated along with the estimate of expected functionally restored acres goal.

NCWRC recommends that the USFS treat at least 25% of the total DC acres for woodland conditions over the planning period. Additionally, we recommend that $\frac{1}{3}$ to $\frac{1}{2}$ of those treated acres include a single-entry commercial thinning where appropriate. The remainder should be treated through non-commercial treatments in middle-aged and developing stands. In addition, all woodland management work, regardless of treatment type, should include some level of prescribed fire in fire-adapted ecozones.

- Clarifying woodland DOGS. NCWRC encourages the USFS to use a broader context to describe open forest and woodland structural conditions. Primarily using 40-60% canopy closure to describe open forest over-simplifies the complexity and diversity of woodland conditions, resulting in the misinterpretation that percent canopy closure is the primary factor across all ecozones. NCWRC's Bird Matrix (2016) estimated woodland overstory structural conditions as 8% of the Forest with 20-40% canopy closure, 22% of the Forest with 40-60% canopy closure, and 24% of the Forest with 60-80% canopy closure. This variability is important to recognize within the Plan, as canopy or overstory structure is often tied to site condition, aspect, and elevation. It is also highly influenced by disturbance intensity and frequency, and it therefore fluctuates over time as overstory is removed or develops. For this reason, we suggest expanding the definition of open

forest/woodland to include ecozone-specific classifications, recognizing the diversity of these habitats across the Forest (e.g., provide descriptions of woodland by ecozone in Table 2, beginning on p. 47 of the Plan). It may also be helpful if pictures were included in the Plan to provide representative examples of woodland conditions that might be found in various ecozones.

Finally, we suggest being more explicit in describing open forest/woodland conditions as they pertain to the DCs derived from Natural Range of Variation (NRV). Table 7 (p. 72 of the Plan) presents Forestwide desired amounts of habitat types via totals derived across all age classes. It is important to clarify that stand dynamics, disturbance, and age class distribution affect how much open forest/woodland conditions are expected across the Forest. Therefore, differences in those conditions would be expected to be present among mid-, late-, and old-growth developmental stages (e.g., woodland conditions in mid-successional classes may occur at a higher stem density relative to canopy closure or consist of smaller canopy gaps than late- and old-growth conditions within the same ecozone). Noting these differences may communicate the complexity and diversity of structural conditions expected across the Forest from NRV.

- *Fire.* NCWRC recognizes the inherent challenges of burning, particularly in planning desired amounts to be implemented over time due to factors such as weather, institutional capacity, and funding. However, NCWRC strongly encourages the USFS to reconsider and increase their prescribed burning objectives for the following reasons:
 - A minimum of at least 15,000 acres/year will be needed to help meet DCs for YF and open forest/woodland.
 - Approximately 342,000 to 519,000 acres across the Forest occur in ecozones which need fire as a regular disturbance.
 - Relative to National Forest size and the resources available for burning, the proposed objectives for prescribed burning are significantly less than those of other regional National Forests.
 - Available increases to capacity provided by partners and resources outside of the USFS are at the highest levels that they have ever been within the region.
 - Prescribed burning goals proposed by the Pisgah Restoration Initiative through the Collaborative Forest Landscape Restoration Program are approximately 10,000 acres/year on the Pisgah National Forest alone.
 - It would expand the USFS' ability to reduce the potential of catastrophic wildfires that could spread from the Forest to private lands.
 - Over 100 years of fire suppression have contributed to substantial decreases in forest diversity and wildlife and plant species dependent on regular fire.

NCWRC is generally supportive of the fire return intervals for fire-adapted ecozones except those for high elevation red oak (HERO) (Plan, p. 60). NCWRC encourages the USFS to

reconsider using the fire return interval for maintenance for HERO which was presented to the Stakeholders Forum in a presentation in 2017. NCWRC believes that a maintenance rotation of 11-20 years is more appropriate to maintain oak reproduction and control northern hardwood competition and encroachment. While HERO communities do occur on richer sites than do dry-mesic oak and dry oak communities, they similarly occur on aspects which are more fire prone. Additionally, HERO communities are much slower growing than mesic oak communities, which increases the importance of fire for controlling competition to allow oaks to reach maturity.

Given the importance of fire to HERO, NCWRC recommends the inclusion of a prescribed burning objective for HERO. This will ensure plan level focus is given to addressing the need to maintain and restore HERO as an important ecozone type across the Forest. This may be achieved through the development of a separate objective or including HERO in the language proposed under ECO-O-06. Given that HERO occupies only a small portion of the entire Forest (40,000 acres, Table 2, LMP), we suggest treating at least 200-300 acres annually with fire.

- NCWRC supports the option that NRV goals may be exceeded at the project level to contribute to meet goals at the landscape and or ecozone level, and we recommend specifying this within a new ecozone standard.
- ECO-S-19, iii. NCWRC does not support the use of clearcutting specifically to enhance water yield values unless it is to achieve a specific aquatic ecological benefit. The use of clearcutting to enhance instream water yield would likely only be effective on a large scale and provide a temporary water yield increase. There are many potentially deleterious effects of large-scale clearcutting, such as sedimentation, temperature shifts, and in-stream instability due to flashy flows.
- Ecozone Desired Conditions, Table 2 (Plan, pp. 47-57)
 - Ecozone descriptions should include embedded Unique Habitats, as there is no other association made between Unique Habitats and Ecozones.
 - Include percentages along with acreage estimates based upon potential natural vegetation type from ecozone modeling. It is unclear if the numbers in the table indicate the existing condition, desired condition, or departure from desired condition, and we recommend clarifying what the numbers represent.
 - Indicating current structural distributions across the Forest would be helpful, including age class distributions overall and by ecozone.
- Some larger wildlife openings, at least 10 acres but preferably 20, are desirable for golden-winged warblers (GWWAs) and other wildlife. We recommend revising ECO-DC-22 with the following addition: “Larger openings to support multiple territories of GWWA will be considered in GWWA priority areas.”
- ECO-S-16 should be modified with the following addition: “All management within spruce-fir ecozones should be driven by ecozone restoration goals.”

- ECO-S-31 should be modified to specify that any non-native material and its uses should be explicitly listed in project-level plans.
- Add a new forest health standard (ECO-S-37) specifying survey and control of non-native invasive plant species (NNIS) after timber management activities.
- While NCWRC appreciates that the Plan recognizes the need to address populations of game species. We recommend the following wording be used to address ECO-DC-30 in terms of habitat: “Habitats across the forest are diverse and support robust populations of game species such as ruffed grouse, black bear, white-tailed deer, and wild turkey that are stable or increasing and meet the goals and objectives identified in NCWRC’s deer biological objectives (NCWRC, 2015a) and Black Bear Management Plan (2012). Habitats are distributed across the forest to provide opportunities for hunters to harvest game species at levels that are sustainable and allow for high levels of hunter satisfaction.”

NCWRC also recommends including an additional DC that specifically addresses the need to provide habitat for elk on the Forest within NCWRC’s Elk Management Zone (NCWRC 2013). A suggested DC is: “Suitable habitat conditions for North Carolina’s expanding elk herd are provided within NCWRC’s Elk Management Zone and managed to meet the objectives of NCWRC’s Elk Management Plan.”

Chapter 2: Plant and Animal Diversity

- NCWRC is supportive of the standards related to plant and animal diversity. We recommend adding a standard for timber rattlesnake hibernacula possibly associated with the green salamander standard (PAD-S-13) in the following way: move PAD-S-13 to the “Rocky Habitats - Standards” section and modify PAD-S-06 to read, “Remove or relocate travelways from boulderfields or rock outcrops known to support species such as the Allegheny woodrat, green salamander, and timber rattlesnake at least 50 meters to minimize disturbance of suitable habitat. Maintain solar exposure at rattlesnake maternity rocks that are not shaded rocks within the documented range of green salamanders.”
- NCWRC supports the directive for coordination with NC Natural Heritage Program during project development outlined in PAD-O-05. We ask for the addition of a parallel objective which will direct the USFS to coordinate with NCWRC during the interdisciplinary stages of project development and planning among USFS staff, allowing NCWRC input on project components and treatment priorities.
- Given the unique character of Southern Appalachian balds and their importance in maintaining ecological diversity within the region, we recommend further prioritizing bald maintenance and restoration within the Plan. Currently, the Plan proposes to maintain existing balds across the Forest and to restore and maintain 10-20 acres of balds within the Roan Mountain Management Area. While NCWRC is supportive of these objectives, we recommend expanding restoration to include historic and encroached balds outside of the Roan Mountain Management Area. Particular attention should be given to restoring shrub or heath balds, which are exceedingly rare and limited across the Forest, as well as to bald restoration in the Nantahala National Forest. NCWRC recommends that PAD-O-04 be

expanded to include a Tier 2 objective specifying the restoration and maintenance of 20-30 acres of balds outside of the Roan Mountain Management Area.

Chapter 2: Lands and Special Uses

- Land acquisition priorities should also include rare or unique habitats and lands that would remove inholdings or reconnect disjointed parcels (LSU-G-03).

Chapter 2: Transportation and Access and Dispersed Recreation

- TA-DC-01 to TA-DC-12: We recommend adding a DC such as “Roads and trails are not vectors for the spread and transmission of NNIS or forest pests and diseases.” We recommend that the USFS work with partners to develop specific strategies to minimize the introduction and spread of NNIS associated with roads and trails.
- In order to put road and trail maintenance and decommissioning objectives into context, it is important to understand the current status of roads and trails. We recommend providing the following information in the plan, and if the current status is unknown, we recommend including objectives to perform surveys of road and trail status:
 - Percentage and total mileage of roads that currently meet and do not meet the National Forest standards (TA-O-01)
 - Estimated mileage of unauthorized road and trail miles (TA-O-04)
 - Percentage and total mileage of trails currently meeting the National Quality Standards (REC-O-06)
 - Percentage and total mileage of off-highway vehicle trails currently maintained to sufficient levels (REC-O-05)
- Maintenance should be prioritized where roads and trails impact aquatic communities and rare habitats/species. If possible, road decommissioning should be done in a way that provides benefits to wildlife. New seasonally open roads should be regularly maintained and wildlife habitat enhanced where feasible.
- We believe that there is significant potential for impacts to aquatic communities from sediment originating from unmaintained roads and trails. Given the vast trail and road network on the Forest and the current level of deferred trail and road maintenance, our primary concern over the life of the Plan is to protect aquatic communities from acute and cumulative sediment impacts resulting from problematic trails and roads. The DEIS (p. 426) states “the Forest Service continually has requests for more miles of trails despite the fact that the current trail network is not sustainable.” It is extremely important to address existing problems regarding roads and trails. We offer the following specific comments and recommendations:
 - We support the development of the Travel Analysis Report, forest-wide road maintenance plan, and the plan to obliterate and restore unauthorized road and trail miles during the life of the Plan. We encourage more planned road and trail maintenance and a

greater emphasis on reducing deferred road and trail maintenance over the life of the plan with the following changes for related objectives:

- TA-O-01: Increase Tier 1 and Tier 2 levels for road maintenance. We are unsure what “reducing road maintenance level” means and if this artificially accounts for road maintenance that has not actually occurred but has been eliminated by road closure.
 - TA-O-04: Increase the Tier 1 level and provide a Tier 2 level to obliterate unauthorized roads and trails.
 - REC-O-05: Increase Tier 1 level and provide a Tier 2 level to eliminate off-highway vehicle trail deferred maintenance.
 - REC-O-6: Increase both Tier 1 and Tier 2 levels to increase trail miles meeting National Quality Standards.
- We are concerned that the potential for new trails during the plan period will outpace the USFS’ ability to maintain existing trails. We support the concept of identifying the minimal trail network needed on the Forest. New trails should only be added if additional maintenance is budgeted; otherwise, an equivalent amount of trail mileage should be closed. The concept of a Trail Bank has the potential to accomplish this goal. We are in support of minimizing trail stream crossings and keeping as much of the trail system out of streamside zones as possible. NCWRC would like to contribute to planning processes used to determine which roads will be maintained, improved, opened, closed, and decommissioned.
- While NCWRC is supportive of daylighting 2-5 miles of road annually within NCWRC Wildlife Habitat Management Areas (WHAMAs), additional daylighting work outside of WHAMAs, particularly within the Matrix management area, will be needed to achieve YF goals across ecozones and elevations of the Forest. Daylighting should be achieved using both commercial and non-commercial treatments such as mastication. We recommend that the USFS work with partners to develop specific strategies to minimize the introduction and spread of NNIS associated with road daylighting.
 - NCWRC encourages the USFS to include additional language in the plan to address recreational access and opportunities for people with disabilities. Specifically, NCWRC recommends increasing available opportunities to this population for dispersed recreation across the forest. This could be achieved with a new guideline in Chapter 2 Dispersed Recreation component that states, “Newly constructed or replaced gates on administratively closed roads that are managed as linear wildlife openings or provide access to other wildlife openings should be ADA-accessible where appropriate.” NCWRC would like to work with the USFS to determine where ADA-accessible entrances may be most beneficial.

Chapter 3: Geographic Areas

- Wilson Creek is called out in EE-GLS-09, which specifies working with partners to maintain a quality recreation experience, reduce erosion and sedimentation, and achieve aquatic

ecological goals. We recommend that the USFS address the extreme overcrowding in the Wilson Creek gorge, and that controlling access, at least seasonally, be considered to protect riparian and aquatic habitats.

Chapter 4: Management Areas

- NCWRC is generally supportive of the proposed framework laid out within the Plan for roads, assuming no net loss of system roads within Interface and Matrix management areas.
- NCWRC is supportive of Ecological Interest Area (EIA) as a management area. NCWRC recognizes that regeneration harvest for the sole purpose of increasing amounts of YF would not be permitted within EIAs. However, EIA-S-02 should be clarified to allow timber harvest for the purpose of restoring structural departure. While this is alluded to in a footnote to this standard, we suggest providing clarification within the text of the standard itself, naming what commercial treatments would be allowed outside of regeneration harvest. Additional clarifying language may also be needed to address how “desired community composition” would be determined, either through potential natural vegetation type or through internal review at the project level.
- NCWRC supports the recognition of the most important NC Natural Heritage Program natural areas with the Special Interest Area management area.
- We support the proposed additions to the eligible Wild and Scenic River network, as many of the new stretches of river will provide additional protection for some priority aquatic habitats and rare species. We recommend adding a desired condition to restore historical species biodiversity in eligible/suitable river segments.
- We provide comments on the Designated Old Growth Network and proposed Wilderness in our Alternatives discussion below.

Chapter 5: Monitoring and Adaptive Management

- Although maintaining water quantity is mentioned as a DC (e.g., WSD-DC-01), little specificity is provided in the Plan. We recommend that streamflow monitoring be included in the monitoring program; streamflows will likely be particularly responsive to climate change and forest compositional change.
- Many monitoring goals can only be achieved with the participation of partners. For example, Brook Trout monitoring is described in monitoring questions MQ 1-4-T1 and MQ 1-5-T2, which ask, “What is the change in occupied range of brook trout and freshwater mussels across the forests?” and “What is the change in occupied range of brook trout and freshwater mussels across the Blue Ridge Province?” We support these questions in concept, but they are unrealistic as stated, as there are hundreds of Brook Trout populations on the Forest and others are likely to be discovered. Evaluating the change in occupied range for all populations is unrealistic from a personnel perspective, given that NCWRC would be responsible for much of this work. We recommend that the USFS work with NCWRC to set achievable goals.

- Additionally, we recommend expanding the monitoring questions focused on habitat and occupancy to include a broader range of terrestrial wildlife species, including Protected, Endangered, and Threatened (PET) species, Species of Conservation Concern (SCC), SGCN, and game species. Although the USFS does little monitoring of these species, there are partners, especially NCWRC, that do and can likely fulfill a monitoring role in a Tier 2 framework. We recommend that the USFS work with NCWRC to set achievable goals for terrestrial, aquatic (e.g., hellbenders), and wetland (e.g., bog turtles) wildlife. For example, new monitoring questions could be included with Tier 1 and Tier 2 levels:
 - MQ4-6-T1: Are SCC, SGCN, PET, or game bird species increasing or decreasing on the Forest over time? Indicator: occupancy, Region 8 bird surveys. Reporting period: 5 years. Although these data may not be robust enough for all species, they can support valuable analysis for some species.
 - MQ4-6-T2: Are SCC, SGCN, PET, or game bird species increasing or decreasing over time? Indicator: occupancy. Reporting period: 5 years. Additional partner data that can be included in this Tier 2 framework include peregrine falcon, GWWA, cerulean warbler, and grouse surveys.
- There has been discussion among stakeholders about establishing triggers that would be used to determine when and if the USFS can move from a Tier 1 to Tier 2 objective level. This is problematic for several reasons. First, if a trigger is needed, then one must assume that the DEIS does not adequately analyze the impacts of Tier 1 and Tier 2 actions. Second, many Tier 1 objectives are framed in terms of annual levels; would a trigger analysis be needed on an annual frequency? Finally, and perhaps most importantly, the monitoring and analysis work that may be needed for a trigger analysis would pull from already limited USFS resources, further limiting the resources needed for the work so desperately needed on the Forest itself.

Draft Environmental Impact Statement

Alternative Analysis

The action alternatives are similar in plan direction, DOGS, and the layout of many of the special designations (e.g., Special Interest Areas, Eligible and Suitable Wild and Scenic Rivers). The main difference among alternatives is how the Forest is allocated among management areas and some designations. Alternative D presents a compromise in terms of Plan restrictions versus project flexibility for vegetation management, recreation, and access. It also places some areas with rare and unique ecological values into the EIA management area and maintains a relatively larger amount of land in the Matrix management area, allowing for flexibility of active management. NCWRC analyzed the proposed management area allocations for this alternative, and we propose a number of changes that are specifically identified in GIS files provided to the USFS. We are supportive of Alternative D with the following modifications:

- *Old Growth*. We support the Designated Old Growth Network as proposed in Alternative D, but recommend modifying the language regarding old growth patch adjustment addressed in ECO-S-28 of the Plan as follows: “During project level analysis, no additional acres will be

added to the designated old growth network. However, the existing old growth network may be adjusted or reallocated within a project area with no net gain in acres to capture higher quality, existing, or more suitable future old growth patches. When making these determinations for adjustment or reallocation, consider management areas that are more appropriate for these conditions such as backcountry, special interest areas, research natural areas, wilderness study areas, recommended wilderness, and congressionally designated wilderness. Existing old growth areas not added to the designated old growth network will be managed consistent with the management area and ecozone for which it occurs.”

Proposed Wilderness. In general, NCWRC prefers Backcountry or EIA management area designations to Wilderness, as these management areas allow flexibility to address current and future ecological restoration needs. Alternative D names 16 areas as recommended Wilderness. Through a strategic analysis of restoration needs, we have identified five specific areas that we determined contain significant potential for restoration that could be limited by a Wilderness designation. NCWRC’s highest priorities for restoration in these areas include spruce-fir restoration, which benefits Carolina Northern Flying Squirrel and some high elevation-associated birds, and prescribed fire in fire-adapted ecozones. Most of the acreage in these proposed areas already consist of Inventoried Roadless Areas, which limit the degree to which active management can occur. We welcome discussions with the USFS and other partners regarding specific restoration needs and possible strategies for addressing restoration issues in these areas. We suggest alternative management area allocations for these five areas below. While we are proposing that these areas be removed from consideration for Wilderness during this planning period, we do not advocate for any changes to these areas that would remove them from consideration as potential Wilderness in the future. We recommend that the characteristics of these areas that qualified them for potential Wilderness consideration in this planning cycle (e.g., apparent naturalness, opportunities for solitude) be maintained.

- Joyce Kilmer/ Slick Rock-Deep Creek/ Avery Creek Ext #2 (443 of 2,355 acres total)—designate the 443-acre portion outside of Inventoried Roadless Area (IRA) to EIA due to the following factors:
 - 1.2 miles of existing road
 - 130 acres of identified Chestnut restoration opportunities
 - 57 acres of active restoration potential identified by The Nature Conservancy (TNC) in patches greater than 20 acres
 - Identified non-native invasive species issues
 - Overlaps with NCWRC Yellow Creek WHAMA
- Tusquitee Bald (15,957 acres)—designate IRA portion as Backcountry and other areas as EIA due to the following factors:
 - Portions outside of IRA overlap with NCWRC Fires Creek WHAMA
 - Contains 2,228 ac (14%) of the most fire-adapted ecozones; 44% of the southern portion of the Tusquitee Bald proposal area outside of IRA is fire-adapted
 - Prescribed burns conducted in 1993 to restore balds within proposed area should be reconsidered and maintained as a management tool
 - 4 miles of existing system roads
 - 1.6 miles of maintained linear wildlife openings and 6.4 acres of maintained wildlife openings

- 244 acres of identified uncharacteristic white pine stands
 - 1,078 acres of identified uncharacteristic yellow poplar stands
 - 1,669 acres of identified potential chestnut restoration opportunities
 - 1,126 acres of active restoration potential identified by TNC in patches greater than 20 acres
 - At least 6 historical bald areas totaling approximately 72 acres in need of restoration, of which 3 areas are currently open to some extent
 - Middle Prong Ext. (1,871 acres)—designate as Backcountry due to the following factors:
 - 4.1 miles of existing system roads
 - 94 acres in spruce-fir ecozone with potential for restoration work
 - 756 acres of active restoration potential identified by TNC in patches greater than 20 acres
 - 321 acres of identified high chestnut restoration potential
 - Black Mountains (11,875 acres)—designate as Backcountry due to the following factors:
 - 2.1 miles of existing system roads
 - 1,517 acres in spruce-fir ecozone with potential for restoration work, comprising largest contiguous area of spruce-fir on the entire Forest
 - 61 acres of uncharacteristic yellow poplar stands
 - 1,331 acres of active restoration potential identified by TNC in patches greater than 20 acres
 - 2,014 acres of potential chestnut restoration opportunities
 - Mackey Mountain (7,872 acres)—designate IRA portion as Backcountry and remainder of the area as EIA due to the following factors:
 - 2,711 acres (34% of total) of the most fire-adapted ecozones; 44% of the portion outside of IRA is in the most fire-adapted ecozones
 - Great need for increased burning in this area for Wildland Urban Interface protection and for expanding existing burns adjacent to area
 - 469 acres of identified uncharacteristic yellow poplar stands
 - 875 acres of potential chestnut restoration opportunities
- We recommend changing a limited number of areas across the Forest that are proposed as Matrix or Backcountry to EIA, Interface, or Matrix to allow for more focused management or additional management tools due to restoration needs in those areas. These modifications and those regarding proposed Wilderness named above would result in the following shifts to management area totals:

Management Area	DEIS Alt D Acres	NCWRC Modified Alt D Acres
Matrix	552,222	554,137
Interface	66,965	67,821
Backcountry	107,253	120,656
Ecological Interest Area	26,007	47,944
Recommended Wilderness	74,221	36,110

Ecological Sustainability Evaluation

- The Ecological Sustainability Evaluation (ESE) tool is limited in predicting the response of aquatic and terrestrial systems and species to changes over time.
 - For terrestrial species, the ESE analysis equates availability of habitat across the Forest with species resilience. Species health and resilience are driven by a large suite of factors not measured by the analysis, such as climate, disease, competition, and predation.
 - Forecasting change on a large (6th level) watershed level over 10-50 years is difficult, perhaps impossible, with this tool, as in many watersheds a significant proportion of land ownership is not in USFS ownership. Change in land use and riparian character on these private lands could be the main driver of aquatic integrity. These limitations are especially apparent for the analysis of the three federally listed aquatic species presented on pp. 274-283 of the DEIS. The conclusion that species “estimated health and resilience” would improve for Appalachian Elktoe or Littlewing Pearlymussel in some watersheds given changes on USFS land (Figures 87, 90) or would stay constant given changes on both USFS and private lands (Figures 88, 91) is not well-founded, as other issues likely drive species health and persistence, such as pathogens and climate change.
- Page 327 of the DEIS states the following: “Ecological Sustainability Evaluation modeling for the Nantahala and Pisgah Forest Plan Revision shows that conditions for white-tailed deer improve (slightly) from current condition, but remain “fair” in terms of woodland habitat conditions (Table 89).” Current deer harvest rates on the Forest are less than half of the NCWRC’s deer population objective of 1 antlered buck per square mile as outlined in NCWRC’s report, Evaluation of Deer Hunting Season Structures and Deer Management Units in North Carolina (2015a). Failure to meet this objective has negative cascading effects on other biological objectives for the deer population, including Objectives 4 and 5 noted in the same report, which aim to balance the sex ratio of the herd to improve breeding and fawning synchrony. Both of these objectives have numerous benefits to the condition of the herd. Although NCWRC did not specifically analyze National Forest land in this report, our multi-year deer season frameworks evaluation indicated that most objectives for the deer herd in this part of NC are not being met. Even if all Tier 1 or Tier 2 objectives identified in the Plan are achieved, it is unlikely that this level of management will provide enough habitat improvements to support an increase in the deer population that will meet NCWRC’s population objectives, such as achieving harvest of 1 buck per square mile.

Draft Environmental Impact Statement - Appendix C

- We offer the following recommendations to improve of the analysis and its presentation:
 - We recommend removing species that do not occur on Nantahala and Pisgah National Forest lands and adding some species to associations (e.g., NC Wildlife Action Plan birds).

- Clarification should be provided as to why some indicators are restricted to USFS lands and other indicators apply to all lands.
- Include weights in species association tables (all aspects of Table A).
- Some species used in the ESE have restricted ranges across the Forest yet are applied by the ESE tool across the Forest, which is unrealistic. However, this precautionary approach will benefit resources, and project level planning will clarify relevant resource concerns.
- The aquatics portion of the appendix is difficult to follow and appears to be missing key information. Table C presents expected outcomes for various watershed indicators, but there is no analysis that demonstrates how a composite indicator outcome was calculated, which is presented in the DEIS (e.g., Figures 87 and 88).

We appreciate the opportunity to participate in the forest planning process. We look forward to providing input and data as the USFS finalizes the Plan. Please feel free to contact Andrea Leslie at (828) 400-4223 if you have any questions about these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Gordon Myers", with a long horizontal line extending to the right from the end of the signature.

Gordon Myers, Executive Director

References

North Carolina Wildlife Resources Commission (NCWRC). 2012. North Carolina Black Bear Management Plan. 2012-2022. https://www.ncwildlife.org/Portals/0/Learning/documents/Species/Bear/Black%20Bear%20Management%20Plan_2012-2022.pdf

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NCWRC. 2015a. Evaluation of Deer Hunting Season Structures and Deer Management Units in North Carolina. <https://www.ncwildlife.org/Portals/0/Regs/Documents/Evaluation-of-Deer-Hunting-Seasons-and-Mgt-Units.pdf>

NCWRC. 2015b. 2015 North Carolina Wildlife Action Plan. <https://www.ncwildlife.org/plan>

NCWRC. 2016. The Bird Matrix: Development of a Model for Assessing Forest Structural Needs to Maximize Bird Species Evenness and Vegetative Structural Diversity. <http://www.ncwildlife.org/Portals/0/Conserving/documents/The-Bird-Matrix.pdf>

ec: Doug Besler, David Cox, Ryan Jacobs, Chris Kreh, Justin McVey, Kendrick Weeks, NCWRC