

**USDA Forest Service, Region 8  
Nantahala and Pisgah National Forests  
Land Management Plan Revision**

**Final Response to Objection Issues and Instructions  
January 2023**



**for the greatest good**



## CONTENTS

Contents .....	2
Introduction.....	7
Land Management Planning Process .....	7
Administrative Review Process .....	7
History of the Nantahala and Pisgah National Forests Plan Revision.....	7
Objection Resolution Meetings.....	9
Response Reading Guide .....	9
Objection Issues and Responses .....	11
PLANNING .....	11
Issue 1: All Lands Approach to Planning .....	11
Issue 2: Failure to Provide for Ecological Integrity.....	15
Issue 3: Public Engagement.....	19
Issue 4: Existing Projects and Plan Consistency.....	23
Issue 5: Administrative Changes to the Plan .....	26
Issue 6: Sustainability and Integration of Social, Economic, and Cultural Considerations .....	30
Issue 7: Best Available Scientific Information .....	33
Issue 8: Revised Plan Needs to Add Additional Plan Components and Analysis.....	36
Issue 9: Monitoring Program .....	37
Issue 10: Tiered Objectives.....	41
Issue 11: Tiered Objectives and Adaptive Management .....	43
Issue 12: Prioritizing Tiered Objectives .....	46
Issue 13: Management Areas.....	47
NEPA .....	51
Issue 1: Purpose and Need and Alternatives.....	51
Issue 2: NEPA Efficiency .....	57
Issue 3: Alternative E Fails to Address Concerns of the Public .....	60
Issue 4: Response to and Consideration of Comments.....	63
Issue 5: Effects Analysis and Hard Look.....	66
ADMINISTRATIVE REVIEW PROCESS .....	69
Issue 1: Eligibility and New Information.....	69
SOCIAL AND ECONOMICS AND ENVIRONMENTAL JUSTICE .....	72
Issue 1: Community Impacts and Environmental Justice.....	72
SPECIAL INTEREST AND DESIGNATED AREAS .....	78



Issue 1: Craggy/Big Ivy Mountain Forest Scenic Area .....	78
Issue 2: Failure to Analyze an Alternative for Craggy NSA .....	84
Issue 3: Panthertown Management Area Allocation .....	88
WILD AND SCENIC RIVERS .....	93
Issue 1: Wild and Scenic River Recommendations .....	93
Issue 2: North Fork of the French Broad River .....	105
Issue 3: Recommend Overflow Creek, Thompson and Whitewater Rivers .....	109
Issue 4: Upper Tuckasegee River .....	113
Issue 5: Chattooga River .....	116
WILDERNESS .....	121
Issue 1: Wilderness Study Areas and Recommended Wilderness .....	121
STATE NATURAL HERITAGE AREAS .....	136
Issue 1: Protect State Natural Heritage Areas .....	136
Issue 2: Natural Heritage Areas – Effects Analysis .....	140
RECREATION .....	143
Issue 1: Recreating in Wilderness .....	143
Issue 2: Sustainable Recreation .....	145
Issue 3: Rock Hounding .....	148
Issue 4: Equestrian Camping .....	151
Issue 5: Multi-Use Trail Decision Criteria .....	153
Issue 6: Mountain Biking and Equestrian Closures .....	154
Issue 7: Recreational Special Uses and Management Areas Desired Conditions .....	158
Issue 8: Climbing .....	160
NATIONAL SCENIC TRAIL .....	164
Issue 1: Integrating the Appalachian National Scenic Trail into Plan Direction .....	164
Issue 2: Appalachian National Scenic Trail Plan Components .....	167
Issue 3: Harvest in the Appalachian National Scenic Trail Corridor .....	169
Issue 4: Effects to the Appalachian National Scenic Trail .....	173
RECREATION OPPORTUNITY SPECTRUM .....	175
Issue 1: Plan Components for Sustainable Recreation .....	175
Issue 2: Backcountry Land Allocation .....	179
Issue 3: Recreation Settings, Affected Environment and Environmental Consequences .....	182
CLIMATE CHANGE .....	184
Issue 1: Climate and Carbon Storage Benefits of Old Forests .....	184



Issue 2: Effects of Climate Change.....	190
Issue 3: Climate Change and Disturbance Regimes .....	193
Issue 4: Climate Modeling.....	201
Issue 5: Carbon Sequestration.....	203
Issue 6: Carbon Analysis .....	206
Issue 7: Carbon Storage and Emissions Analysis and Effects.....	211
Issue 8: Carbon Sequestration and Cumulative Effects.....	215
HYDROLOGY AND SOILS .....	217
Issue 1: Ephemeral Stream Protection .....	217
Issue 2: Erroneous Riparian Management Zone Identification .....	223
Issue 3: Protection of Drinking Water Sources.....	225
Issue 4: Water Quality Impacts and Reliance on BMPs .....	228
Issue 5: Chattooga River Water Quality, Log Jam and Sediment .....	233
Issue 6: Chattooga River Water Quality Impacts – Whitewater Boats.....	237
Issue 7: Impacts to Soils from Logging on Steep Slopes.....	239
Issue 8: Inadequate Protection of Soils/Soil Impairment.....	243
ROAD SYSTEM .....	246
Issue 1: Number of Roads on the Forests .....	246
Issue 2: Insufficient Analysis of Road System .....	252
Issue 3: Plan Should Ensure Less Road Impacts .....	255
Issue 4: Road Maintenance .....	256
AQUATIC SPECIES .....	259
Issue 1: Federally Listed Aquatic Species .....	259
Issue 2: Salamanders and Amphibians .....	269
Issue 3: Chattooga River Trout Habitat .....	276
Issue 4: Chattooga River Trout and Outstanding Resource Water Management .....	284
THREATENED & ENDANGERED, SENSITIVE SPECIES, AND SPECIES OF CONSERVATION CONCERN .....	289
Issue 1: US Fish & Wildlife Service Consultation .....	289
Issue 2: Standards and Guidelines, Desired Conditions .....	291
Issue 3: Threatened and Endangered Species, Lack of Species Level Protection .....	297
Issue 4: Coarse Filter, Fine Filter Approach.....	298
Issue 5: Coarse Filter, Fine Filter and Road Density .....	304
Issue 6: Habitat Protection and State/Private Lands .....	307
Issue 7: Carolina Northern Flying Squirrel.....	310



Issue 8: Bats .....	315
Issue 9: Noonday Globe.....	320
Issue 10: Rusty-Patched Bumblebee.....	322
Issue 11: Birds.....	326
Issue 12: Slugs, Snails, and Snakes .....	329
Issue 13: Peregrine Falcon .....	332
BOTANY .....	335
Issue 1: Insufficient Protection of Rare Plants.....	336
INVASIVE SPECIES .....	340
Issue 1: Invasive Species Plan Components .....	340
Issue 2: Use of Herbicides .....	345
Issue 3: NNIS monitoring .....	346
ECOLOGICAL INTEGRITY, NATURAL RANGE OF VARIATION AND EARLY SERAL HABITAT .....	348
Issue 1: Ecological Interest Areas .....	348
Issue 2: Natural Range of Variation.....	349
Issue 3: Early Seral Habitat.....	357
OLD GROWTH NETWORK.....	362
Issue 1: Logging in Old Growth and Defining Old Growth .....	362
Issue 2: Old Growth Cap and Trade .....	371
Issue 3: Old Growth Passive Management and Closed Canopy Forests .....	373
ECOZONES.....	374
Issue 1: Conditions of Ecozones .....	374
Issue 2: Impacts to Ecozones by Natural Disturbance.....	377
REFORESTATION AND SILVICULTURAL ACTIVITIES .....	381
Issue 1: Silviculture and Reforestation .....	381
TIMBER .....	384
Issue 1: Spectrum Model .....	384
Issue 2: Forest Products and Open Woodland Desired Conditions .....	388
Issue 3: Harvest Levels and Flexibility.....	393
Issue 4: Payment in Lieu of Taxes (PILT) and Local Economy.....	395
Issue 5: Suitability of Timber Harvest.....	399
Issue 6: Allowable Sale Quantity and Projected Timber Sale Quantity .....	402
FIRE AND FUELS .....	411
Issue 1: Prescribed Fire and Best Available Science .....	411



Issue 2: Prescribed Fire in Old Growth..... 416

Appendix A – Eligible Objectors and Interested Persons

Appendix B – Acronyms Used



## **INTRODUCTION**

### **Land Management Planning Process**

As required by the National Forest Management Act (NFMA) and guided by the Code of Federal Regulations (CFR) at 36 CFR 219, Forest Service Manual (FSM) 1920, and Forest Service Handbook (FSH) 1909.12, National Forest System (NFS) land management units are required to develop and maintain land management plans for the management of NFS lands, and those which depend upon them. Land management planning (planning) is a science-informed process which aims to ensure ecological and economic sustainability, maintenance or restoration of federally listed species and their critical habitat, and provide sustainable multiple uses, all within the inherent capability of the plan area, and the fiscal capability of the unit. Planning is broken into three separate yet interconnected milestones – assessment, plan development, and monitoring - which ensure proper integration of information, expertise, and public engagement. Plan development requires preparation of documents in compliance with the National Environmental Policy Act (NEPA) and the regulation at 36 CFR 219 that afford interested and affected publics the opportunity to participate in the development of the environmental documents and forest plan.

### **Administrative Review Process**

Planning also incorporates a pre-decisional administrative review process, where interested and affected publics can raise objections to Forest Service leadership regarding planning documents (final land management plan, Final Environmental Impact Statement (FEIS), and draft Record of Decision (ROD)) and utilize a collaborative process to work toward final documents by which all can be proud of. At the conclusion of the administrative review process, the Forest Supervisor will document his or her decision regarding the final land management plan (forest plan) in a final ROD. This ROD will formalize the thinking and rationale for the findings made in the FEIS and forest plan and will result in the approval and adoption of the revised forest plan. All revised forest plans are effective 30 days after the date of publication in the Federal Register.

### **History of the Nantahala and Pisgah National Forests Plan Revision**

The U.S. Forest Service, Southern Region, Nantahala and Pisgah National Forests, has revised the forest plan for the Nantahala and Pisgah National Forests (Forests). The Forest Plan provides a strategic framework for the next 10-15 years. The Forest Plan includes desired conditions and goals for the future of the Forests, objectives that describe actions the Forest Service will take to move toward those goals, standards and guidelines that constrain projects and activities that implement the Forest Plan, and other plan content such as suitability determinations, identification of management and geographic areas, and management approaches that describe the principal strategies and program priorities the responsible official intends to employ to carry out projects and activities developed under the plan.

The NFMA requires that land management plans be revised every 10 to 15 years or when conditions on the planning unit have changed substantially. Since the original 1987 plan was



significantly amended in 1994, there have been changes in economic, social, and ecological conditions on the Forests, as well as changes in resource demands, availability of new information based on monitoring and scientific research, and promulgation of new policy, including the 2012 Planning Rule. Additionally, extensive public and employee involvement, collaboration with State and local governments, other Federal agencies, tribal consultation, along with science-based evaluations, have helped to further identify the areas of the existing forest plan that need to be changed.

The Forest Plan positions the Nantahala and Pisgah National Forests to address the challenges that the Forests anticipate in the years ahead, such as the growth of the wildland urban interface; the spread of the insects, disease, and invasive species; development pressure on adjacent private lands; unprecedented increase in recreation; and the escalating impacts from climate change. In this time of accelerated change, ensuring forest ecosystems are healthy and resilient is critical to long-term sustainability of the diverse habitats these forests provide for wildlife and plants, and for supplying the clean water and other ecosystems benefits that the public depend on. The Forests provide environmental, social, and economic benefits to local and regional communities and across the nation, making the Forests an important and unique part of Western North Carolina. The Forests make up 27 percent of all forested land in the 18-county plan area and together total approximately 1.04 million acres.

The Forests are divided into six Ranger Districts located within 18 counties in Western North Carolina and include Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Swain, Transylvania, Watauga, and Yancey Counties.

There are 12 federally recognized Native American tribes associated with the Forests that have historic ties and interest in the management of the Forests. These Tribes include: Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Catawba Indian Nation, Cherokee Nation, Coushatta Tribe of Louisiana, Eastern Band of Cherokee Indians, Kialegee Tribal Town, Muscogee (Creek) Nation, Poarch Band of Creek Indians, Shawnee Tribe, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians.

The Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on March 12, 2014. Thousands of submitted comments reflected the strong values people have for the Nantahala and Pisgah National Forest's as well as the commitment that individuals have for ensuring appropriate management into the future. A 135-day public comment period on the draft Forest Plan and associated Draft EIS was initiated on February 14, 2020. Over 9,700 comments were received. Following the comment period and consideration of comments, the Forests continued to work with on the plan and EIS, responding to the comments received.

The Forests prepared a final EIS (FEIS) and draft ROD, and initiated the objection filing period on January 21, 2022. The objection filing period closed on Tuesday, March 22, 2022; a total of 5,825 objections and attachments were filed via CARA (Comment Analysis and Response Application), thousands of which were a form letter or variation of a form letter generated by the interest group I Heart Pisgah, who also submitted a thumb drive with an additional 8,916



objection form letters. Hundreds of these objections were submitted anonymously. In addition, the interest group Forest Plan Report Card Coalition submitted 8,885 objections in bulk pdfs, along with an Excel file of names and addresses of objectors. Nearly all of these objection form letters asserted the senders were eligible objectors because the FEIS included “new information” based on the inclusion of a new alternative (Alternative E), which responded to public comments submitted on the draft EIS. In addition, the objectors claimed that the FEIS included a new Forest Scenic Area. However, the 2012 Planning Rule requires that in order to be eligible to object, a person or organization must have previously submitted written comment during a designated opportunity to comment, unless the objection concerns an issue that arose after the opportunities for formal comment. While the Final EIS and draft ROD include an additional alternative (Alternative E), which was the selected alternative in the draft ROD that was not analyzed in the draft EIS, it was developed in response to public comment, does not contain new issues and the effects analysis for Alternative E is not outside the range of alternatives analyzed in the draft EIS. In addition, the Forest Scenic Area within the Craggy Wilderness Study Area was not considered to be a new issue because it was included in Alternatives A through D of the Draft EIS and was expanded to include additional acreage under Alternative E, directly in response to public comments on the draft EIS and draft Forest Plan. Because these objectors did not raise new issues, their objections were set aside without further review. In total, there were 825 eligible objectors to the FEIS, draft ROD and Forest Plan.

## **Objection Resolution Meetings**

As required by the 2012 Planning Rule, resolution meetings were held August 2-4, 2022, via Microsoft Teams, which included a phone line for those without internet access. Attendees included representatives from Tribal Government, other federal agencies, North Carolina state agencies, collaborative groups, numerous conservation groups, other forest user groups and outdoor sports groups, staff members for State Legislature Representatives, county commissioners, and other interested publics. The meetings were recorded and posted to the Forest’s website. The meetings were structured each day with set topics so that attendees could choose which subjects were of interest to them. Both objectors and interested persons were given the opportunities to speak to topics of interest.

At the end of the meeting, delegated Objection Reviewing Officer Rick Lint, Deputy Regional Forester, offered his reflection of what he heard over the three days. While no resolutions were reached during the meetings, the Reviewing Officer and Responsible Official, Forest Supervisor James Melonas, continued to discuss the proposed resolutions and final responses to the objections.

## **Response Reading Guide**

The following responses bundle issues together to preserve the context of the objection issues and allow the Reviewing Officer to consider similar issues. The format includes the name of the issue and a list of primary objectors that may or may not include everyone that brought up the issue, but are represented by the primary objectors. There is then a summary of the issue(s) and remedies provided by objectors. Following the issue and proposed remedies are the applicable laws, regulations and policies that guide the Forest Service, what has been found in the project



record, and the response to the issue. Please note that all citations to page numbers noted in the project record section of the responses are based on the documents that were made available during the objection filing period.

At the end of each response, there may be instructions (additions or corrections to the record that are required for compliance with regulation or policy) or clarifications (minor edits or explanations that need to be added to provide more context to the topic) provided to the Responsible Official that must be addressed prior to the final decision and approval of the Plan. There are also voluntary modifications which the Responsible Official has determined will be made in order to be responsive to objectors or to improve the Forest Plan. Changes that result from these instructions, clarifications and voluntary modifications will be made in the Plan, EIS, appendices, Record of Decision, or the project record. The resulting EIS will be known as the final EIS and the resulting plan will be known as the final plan, which should not be confused with the versions shared publicly prior to the objection period.

A full list of Objectors and Interested Persons can be found in Appendix A.

Acronyms used in this response can be found in Appendix B.



## OBJECTION ISSUES AND RESPONSES

### PLANNING

#### Issue 1: All Lands Approach to Planning

**Objector(s):** I Heart Pisgah; Friends of Big Ivy; Forest Keeper

Objectors contend that the final revised land management plan (Forest Plan) and FEIS fail to adhere to the 2012 Planning Rule, by failing to take an all-lands approach in their analysis and plan development. As one objector explains, “the 2012 Planning Rule states that a forest plan should “reflect the unit's expected distinctive roles and contributions to the local area, region, and Nation, and the roles for which the plan area is best suited, considering the Agency's mission, the unit's unique capabilities, and the resources and management of other lands in the vicinity.” Another objector goes on to say that “by failing to account for off forest data, such as young growth and stand status’, especially on private lands, the forest has an incomplete picture of the surrounding lands and its impacts on the forest resources. The Planning Rule specifically contemplate instances where the National Forest may need to compensate for degraded conditions on the broader landscape or to mitigate the effects of external stressors to “contribute to maintaining a viable population of the species within its range.” 36 CFR 219.9(b)(2)(ii). “Some of these species may include the North Carolina Northern Flying Squirrel, several federally listed bat species, and over two dozen salamander species.”

Objectors also assert that the FEIS does not examine the status and trends of these species across the broader landscape, how private lands are either contributing to or detracting from species conservation goals, and what unique role the National Forests play in providing refuge for these species. Instead, they state that the FEIS and Forest Plan includes a lengthy explanation regarding how the Agency needs to create more acres of early seral habitat to respond to demand to provide quality hunting opportunities for a small number of “demand wildlife species,” such as grouse, deer, and turkey, and has established numerous desired conditions, standards, and guidelines to accomplish this.

#### **Remedy(s) proposed by Objectors:**

- Adopt an accurate and consistent all-lands approach that considers the plan “in the context of the broader landscape” as required by the 2012 Planning Rule.

### REVIEW FINDINGS

#### **Law, Regulation, and Policy**

National Forest Management Act, Section 6 (G)(3)(B): “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan adopted pursuant to this section, provide, where appropriate, to the degree practicable, for



steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan;”

The 2012 Planning Rule regulations at 36 CFR 219 set forth the requirements for Forest Plan revisions. Specifically, 36 CFR 219.1(b): “Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528-531) (MUSYA), the Forest Service manages the NFS to sustain the multiple use of its renewable resources in perpetuity while maintaining the long-term health and productivity of the land. Resources are managed through a combination of approaches and concepts for the benefit of human communities and natural resources. Land management plans guide sustainable, integrated resource management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas.”

36 CFR 219.3: “The responsible official shall use the best available scientific information to inform the planning process required by this subpart for assessment; developing, amending, or revising a plan; and monitoring. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.”

36 CFR 219.8: among other items, the plan is required to contain plan components to maintain or restore ecological integrity of the plan area and place it in the context of the broader landscape.

## **Project Record**

All primary documents in the planning effort considered the plan area in the context of the broader landscape, including the following:

The Nantahala and Pisgah National Forests Assessment (2014) which documents the current condition and trend of ecological, social and economic resources in the context of the 18-county planning area.

Forest Plan, Chapter 1, Distinctive Roles and Contribution section which describes the contribution of the forest to Western North Carolina, as well as the National Forest System, and public lands in general.

Forest Plan, Chapter 3, Geographic Area chapter which has a mini-chapter for each portion of the forest in the context of neighboring lands and identifies goals for each theme in an all lands context. Each geographic area includes goals.

FEIS, Chapter 3, Cumulative Effects analysis for each resource area, which considered the actions on nearby lands in addition to the actions planned on the national forest to determine the cumulative effect on each resource. The cumulative effects spatial boundary for each resource is larger than the National Forest Lands. For example:



FEIS, p. 3-247: Cumulative Effects: Many other sites across the 18-county area are in conservation agreements and while invasive plants are a concern they are being addressed. Six of the seven sites along the Little Tennessee River and its tributaries are being managed by state agencies or within conservation agencies. In contrast, 10 sites along the Toe River, Cane River or their tributaries are under private ownership with an uncertain dedication of conservation of Virginia Spiraea. A few sites have non-native invasive plant infestations. While they are far removed from the downstream USFS Nolichucky River occurrences, they could increase invasive species, such as Japanese knotweed, which establishes new colonies via rhizome fragments spread by river scour. These potential cumulative effects illustrate the importance of controlling non-native invasive plants on all lands, to the extent possible.

FEIS, p. 3-393: Third, an all lands analysis was completed across the larger landscape in western NC including all other public and private lands as part of the cumulative effects analysis. These other lands were considered if they were adjacent to USFS network lands identified above, and their management direction is toward an older forest seral condition with natural disturbance patterns as the primary change. In total, the incorporated other lands varied by alternative from about 127,000 to 153,000 acres.

The all lands analysis incorporated non-USFS lands including the following regional land trusts: Mainspring Conservation; Highlands Cashiers Land Trust; Conserving Carolina; Southern Appalachian Highlands Conservancy; Foothills Conservancy; North Carolina Land Trusts; The Conservation Trust of North Carolina (Beetree watershed); National Land Trusts; The Nature Conservancy; The Conservation Fund; North Carolina State Parks Dedicated Nature Preserves; North Carolina Wildlife Commission NC Natural Heritage Natures Preserves; North Carolina Forest Service Dedicated Nature Preserves; North Carolina Plant Conservation Program Preserves; Adjacent National Forests (Sumter, Chattahoochee, and Cherokee) Wilderness; Adjacent Cherokee NF Inventory Roadless Areas.

Other large areas, such as the Great Smoky Mountains National Park, Grandfather Mountain State Park, Lake James State Park, and Canton city drinking water watershed, provide large patch sizes in the ecoregion but are not directly adjacent to the old forest trending (OFT) landscape and therefore were not included in the analysis.

FEIS p. 3-343: The cumulative environmental consequences are spatially bounded by an area larger than the forest proclaimed boundary within the 18-county area of Western North Carolina. This analysis of cumulative effects considers foreseeable activities over the next 10 to 15 years.

Draft ROD, p.76: “The final EIS reflects consideration of cumulative effects of the alternatives by evaluating past, present, and reasonably foreseeable future actions in the plan area, including federal, state, tribal, and private lands. Moreover, although non-federal lands are outside the scope of this decision, effects from their management have been thoroughly considered and coordinated, to the extent practicable, in the final EIS.”

FEIS, Appendix G, Government Coordination: This appendix considers the public planning documents of 62 other local, state and federal governments which were reviewed for



compatibility and interrelated impacts of these plans and policies, ensuring that the broader context of how the Forest contributes to the region was taken into consideration.

## Response

Objectors assert that the plan fails to properly consider the broader landscape in which these forests are located, and therefore, the plan does not meet the requirements of the 2012 Planning Rule, requiring that plans consider the broader landscape in the development of plan components. The NFMA and the 2012 Planning Rule (the rule) requires the development of plan components, including standards and guides, to address a variety of areas such as: ecological integrity, maintenance and diversity of plan and animal communities, and social and cultural sustainability. During the development of the rule, part of the purpose and need was established to: “Ensure planning takes place in the context of the larger landscape by taking an “all-lands approach.” (77 FR 21173, April 9, 2012; 2012 Planning Rule).

The FEIS analyzes the cumulative effects of various resources and socio-economic data such as timber, watersheds, demographics, and economics. The cumulative effects analysis is done over an 18-county wide area encompassing the boundaries of the plan area, and beyond. Throughout the various resource areas, such as old growth networks and species, the FEIS supports analysis over a broader landscape, considering effects over a species larger range; not merely that of the forest boundary. The objector further claims that the current area of open and young forest is underestimated by not accounting for non-USFS land ownerships as well as gaps and permanent openings on USFS lands. While the Responsible Official did consider the broader ecological landscape and needs, the Nantahala and Pisgah National Forests are focused on managing, appropriately, the lands within their jurisdiction.

As an example of the purported failure by the Forest to take an all-lands approach, the objector asserts that, “the Planning Rules specifically contemplate instances where the National Forest may need to compensate for degraded conditions on the broader landscape or to mitigate the effects of external stressors to “contribute to maintaining a viable population of the species within its range.” 36 CFR 219.9(b) (2)(ii). Some of these species may include the North Carolina Northern Flying Squirrel, several federally listed bat species, and over two dozen salamander species.”

The Carolina Northern Flying Squirrel was listed as endangered in July of 1985 and there presently is no critical habitat designated for the species. In North Carolina the species is known for a handful of locations in high elevation that contain various hardwood species; this includes part of the forest plan area. In April of 2021, the North Carolina Natural Heritage Program identified 597 identified occurrences in North Carolina; 403 (68%) of these occurrences are from the plan area. The FEIS includes, “because most suitable habitat for Carolina Northern Flying Squirrels within North Carolina is on the Nantahala and Pisgah NF’s, maintain persistence of the species within today’s known occupied range where it overlaps the forests is critical to species persistence into the future.” (FEIS, p. 3-259). In addition to the main body of the FEIS, Appendix C contains additional data and information which summarizes key characteristics and indicators of ecosystems, and species groups within the ecological sustainability evaluation that include Carolina Northern Flying Squirrel, and others.



The Responsible Official demonstrated use and analysis of the lands surrounding the land management plan boundaries to ensure management is not based merely on an arbitrary forest boundary, but rather the ecology of the area. The Responsible Official repeatedly reviewed effects and demographics determinations over an 18-county wide area.

**Instruction(s):** None.

## **Issue 2: Failure to Provide for Ecological Integrity**

**Objector(s):** Cynthia Simonds; Southern Environmental Law Center et al. (SELC)

Objectors claim that the final plan fails to provide for the maintenance and restoration of ecological integrity. They contend that the NFMA and the 2012 Planning Rule require land management plans to commit to restoring ecological integrity. They allege that the final plan does not meet the requirements of NFMA, 16 U.S.C. § 1600 et seq., or the 2012 Planning Rule, 36 C.F.R. Part 219. The issues the objector brings forward were also raised in detail throughout the objector's prior comments and because the objector does not see their comments reflected in the final plan, they accuse the forest of not responding to their issues and believe the Forest has actually gone backwards between draft and final. While they consider that the final plan does a good job describing what ecological integrity should look like within the plan area, it fails to provide adequate and binding plan components to provide such integrity across the plan area. Further, they attest that the agency's analysis falls far short of showing that the forests' condition will improve toward the Natural Range of Variation in the future. Nor does it analyze the full range of impacts the plan allows. As a result, they do not think the Responsible Official has complied with NFMA, the 2012 Planning Rule, or the NEPA.

Another objector states that the final Plan does not have specific priorities for ecological restoration and a way to ensure these are included in future projects.

### **Remedy(s) proposed by Objectors**

- The Forests must adopt a land allocation (like the Partnership's) that emphasizes ecological restoration for species composition on a greater portion of the landscape. It must also commit to ensuring that half or more of its harvests are intended to address the "priority treatments" that can reliably meet both structural and compositional needs at the same time. While these changes would not address the NEPA errors, they would at least ensure some progress toward restoring reference conditions for the key ecosystem characteristics.
- Include Ecological Interest Areas in the plan. These are areas of high ecological value identified as potentially benefiting from restoration work; Include a list of specific priorities for ecological restoration and ensure that they are actually included in projects when opportunities are present.

## **REVIEW FINDINGS**



## Law, Regulation and Policy

36 CFR 219.1(c): The purpose of this part is to guide the collaborative and science-based development, amendment, and revision of land management plans that promote the ecological integrity of national forests and grasslands and other administrative units of the NFS. Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.

36 CFR 219.8(1): Ecosystem Integrity. The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account:

- (i) Interdependence of terrestrial and aquatic ecosystems in the plan area.
- (ii) Contributions of the plan area to ecological conditions within the broader landscape influenced by the plan area.
- (iii) Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area.
- (iv) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.
- (v) Wildland fire and opportunities to restore fire adapted ecosystems.
- (vi) Opportunities for landscape scale restoration.

36 CFR 219.8(3) Riparian areas.

- (i) The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account:
  - (A) Water temperature and chemical composition;
  - (B) Blockages (uncharacteristic and characteristic) of water courses;
  - (C) Deposits of sediment;
  - (D) Aquatic and terrestrial habitats;
  - (E) Ecological connectivity;
  - (F) Restoration needs; and
  - (G) Floodplain values and risk of flood loss.

## Project Record

Forest Plan: To ensure ecological sustainability and ecosystem integrity, the plan includes components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems



and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity. Key sections containing these plan components include:

Forest Plan, Chapter 2 physical resource sections that describe management direction for Air, Climate Change, Geological Resources, Soils and Water.

Forest Plan, Chapter 2, Aquatic Section: this plan section includes direction that support the health and resilience and ecological integrity of streams, rivers, ponds across the forest.

Forest Plan, Chapter 2, Streamside Zones Section: this plan section includes direction for the maintenance a restoration of ecological integrity, including plan components to maintain or restore structure, function, composition, and connectivity.

Forest Plan, Chapter 2, Terrestrial Ecosystems Section: this plan section includes direction that supports the health and resilience of the terrestrial ecosystems at the landscape, ecosystem, and habitat scales. This section includes plan components that address maintaining and restoring ecosystem structure, function, composition and connectivity. Plan direction considers the landscape scale (subsection: Forest Landscape Pattern and Connectivity), recognizing forested patches and corridors and restoration priorities. The ecosystem scale plan direction (subsection: Ecosystem Management) identifies key characteristics of each ecozone, including the dominant vegetation composition, vegetation structure, landscape position, relevant ecological processes and system drivers, and examples of associated wildlife species. This section also identifies the specific needs of habitat types (subsection: Wildlife Habitats Across Terrestrial Ecozones). Integrated ecosystem and wildlife habitat objectives address the needs of terrestrial ecosystems, along with integrated management approaches that emphasize specific priorities and tools for accomplishing these objectives.

Forest Plan, Chapter 2, Plant and Animal Diversity Section: this section includes plan includes plan components that address species groups, rare species and unique habitat needs.

Forest Plan Chapter 2 sections that describe primary management tools available in the Designated Old Growth Network; Forest Health: Insects and Diseases, and Non-Native Invasive Plant Species; Timber Management Practices; and Fire and Fuels.

Forest Plan, Chapter 3, Geographic Areas: Each of the Forests' 12 Geographic Areas contains goals for sustaining forest health that contribute to the plan's ecological integrity plan components.

Draft ROD, p. 25: The Requirements of the Planning Rule section explains how the plan has been prepared in compliance the 36 CFR 219, including by providing for ecological sustainability.

Draft ROD, p. 64: The Natural Range of Variation section explains how NRV was used in development of the plan.



FEIS, p. 2-5: “All action alternatives emphasize ecosystem restoration and maintenance to achieve healthy systems. Ecosystem restoration will not return ecosystems to a past historic state, because contemporary constraints and conditions have caused ecosystems to develop altered trajectories. Instead, restoration focuses on re-establishing key characteristics such as the composition, structure, pattern, and ecological function necessary to make ecosystems sustainable, adaptive, resilient, and productive under current and future conditions. Ecosystem maintenance occurs when a currently healthy system or a restored system are sustained in that resilient state. The plan is built on the assumption that ecosystems are most resilient when they have high ecological integrity, which is characterized by having composition, structure, function, and species’ population and community dynamics that occur within an appropriate range of variability. This framework assumes that the past range of variability serves as a reference for functional and sustainable systems that are complex and adaptive in the context of global change.”

FEIS, p. 3-101: “This analysis is built on the assumption that ecosystems are most resilient when they have high ecological integrity, which is characterized by having composition, diversity, and functional organization comparable to those of natural habitats within a region. An ecological system has integrity when its dominant characteristics (e.g., elements of composition, structure, function, and ecological processes) occur within their natural ranges of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influences.”

## **Response**

The 2012 Planning Rule establishes a framework by which land management plans are to provide for the ecological integrity of the plan area. This is done through the development of plan components. The Planning Rule defines ecological integrity as, “The quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence.” To meet this requirement for ecological integrity, the responsible official is to ensure that the plan contains plan components to maintain or restore ecological integrity of terrestrial or aquatic ecosystems and watersheds in the plan area (36 CFR 219.8). Shown above in the references, the Forest Plan contains plan components that address these requirements.

As documented in the FEIS, the Responsible Official outlined the analysis done for the various alternatives, stating that “This analysis is built on the assumption that ecosystems are most resilient when they have high ecological integrity, which is characterized by having composition, diversity, and functional organization comparable to those of natural habitats within a region. An ecological system has integrity when its dominant characteristics (e.g., elements of composition, structure, function, and ecological processes) occur within their natural ranges of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influences.” (FEIS, p. 3-101)



The Responsible Official has documented their assumptions in determining natural range of variation as well as how they can maintain or restore ecological integrity.

**Instruction(s):** None.

### **Issue 3: Public Engagement**

**Objector(s):** Forest Keeper; William (Bill) Floyd; I Heart Pisgah; Friends of Big Ivy

The objectors believe that the Forest Service should include more youth and more diverse voices during the Forest Planning process both now and into the future.

An objector also alleges that the Forest Service deprived him from participating fully in the planning process, which is in violation of the public participation rights presumed by the National Forest Management Act. He asserts that the Forest Service has taken actions directed towards him, which serve to stall and/or to prevent him from obtaining access to otherwise unpublicized, but non-privileged institutional knowledge, agency expertise, documents and records pertaining to how the Forest Service has managed and how the Agency plans to manage the North Carolina headwaters of the Chattooga River. He also contends that the Forest Service has disregarded this duty to share information in an open and honest way without secrets, nor has the Forest Service assisted and cooperated with him in protecting the Chattooga River's resources, in accordance with 16 U.S.C. §1282(b)(1).

This objector believes that the Forest Service has engaged in a traceable pattern of behavior which serves to thwart him from exercising his information gathering rights and asserts that the Forest Service has worked overtime to prevent him from placing this critically relevant but otherwise undisclosed factual information into the administrative record. The objector concludes that the Forest Service has done so to prevent him from being able to compel this Agency to tell the truth to the public about the problems impacting the Chattooga while developing a plan for resolving them.

#### **Remedy(s) proposed by Objectors**

- Include more youth and diverse voices during planning.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

National Forest Management Act, Sec 6(d): The Secretary shall provide for public participation in the development, review, and revision of land management plans including, but not limited to, making the plans or revisions available to the public at convenient locations in the vicinity of the affected unit for a period of at least three months before final adoption, during which period the Secretary shall publicize and hold public meetings or comparable processes at locations that foster public participation in the review of such plans or revisions.



36 CFR 219.4(a) Providing Opportunities for Participation. The responsible official shall provide opportunities to the public for participating in the assessment process; developing a plan proposal, including the monitoring program; commenting on the proposal and the disclosure of its environmental impacts in accompanying National Environmental Policy Act (NEPA) documents; and reviewing the results of monitoring information. When developing opportunities for public participation, the responsible official shall take into account the discrete and diverse roles, jurisdictions, responsibilities, and skills of interested and affected parties; the accessibility of the process, opportunities, and information; and the cost, time, and available staffing. The responsible official should be proactive and use contemporary tools, such as the Internet, to engage the public, and should share information in an open way with interested parties. Subject to the notification requirements in § 219.16, the responsible official has the discretion to determine the scope, methods, forum, and timing of those opportunities. The Forest Service retains decision making authority and responsibility for all decisions throughout the process.

(1) Outreach. The responsible official shall engage the public - including Tribes and Alaska Native Corporations, other Federal agencies, State and local governments, individuals, and public and private organizations or entities - early and throughout the planning process as required by this part, using collaborative processes where feasible and appropriate. In providing opportunities for engagement, the responsible official shall encourage participation by:

- (i) Interested individuals and entities, including those interested at the local, regional, and national levels.
- (ii) Youth, low-income populations, and minority populations.
- (iii) Private landowners whose lands are in, adjacent to, or otherwise affected by, or whose actions may impact, future management actions in the plan area.
- (iv) Federal Agencies, States, counties, and local governments, including State fish and wildlife agencies, State foresters and other relevant State agencies. Where appropriate, the responsible official shall encourage States, counties, and other local governments to seek cooperating agency status in the NEPA process for development, amendment, or revision of a plan. The responsible official may participate in planning efforts of States, counties, local governments, and other Federal agencies, where practicable and appropriate.
- (v) Interested or affected federally recognized Indian Tribes or Alaska Native Corporations. Where appropriate, the responsible official shall encourage federally recognized Tribes to seek cooperating agency status in the NEPA process for development, amendment, or revision of a plan. The responsible official may participate in planning efforts of federally recognized Indian Tribes and Alaska Native Corporations, where practicable and appropriate.

36 CFR 219.16(a): When formal public notification is required. Public notification must be provided as follows:

- (1) To initiate the development of a proposed plan, plan amendment, or plan revision;
- (2) To invite comments on a proposed plan, plan amendment, or plan revision, and associated environmental analysis. For a new plan, plan amendment, or a plan revision for which a draft environmental impact statement (EIS) is prepared, the comment period is at least 90 days, except for an amendment that applies only to one project or activity. For an amendment that applies only to one project or activity for which a draft EIS is



prepared, the comment period is at least 45 days unless a different time period is required by law or regulation or authorized pursuant to 40 CFR 1506.10(d). For an amendment for which a draft EIS is not prepared, the comment period is at least 30 days;

(3) To begin the objection period for a plan, plan amendment, or plan revision before approval (§ 219.52);

(4) To approve a final plan, plan amendment, or plan revision; or

(5) To announce whenever a plan, plan amendment, or plan revision process initiated under the provisions of a previous planning regulation will be conformed to meet the provisions of this part (§ 219.17(b)(3)).

## **Project Record**

Draft ROD p. 12: “Pre-draft pieces of the Plan have been shared with the public at every stage: Assessment, Need for Change, pre-draft plan development, EIS alternative development, and during the formal comment period on the proposed plan and the draft EIS. In addition, the public has had an opportunity to provide input on specific plan processes, including, but not limited to the Wilderness inventory and evaluation process, the Wild and Scenic River evaluation process, the transition to the Scenery Management System, and the identification of Species of Conservation Concern.

Both traditional and emerging technologies were used to reach diverse audiences. The Forest Service hosted 49 face-to-face and virtual meetings at locations around the Forests. Upon request, the Forest Service participated in others’ meetings, including local governments, non-governmental organizations, and interest groups. Forest staff attended more than 120 meetings with collaborative groups and met with Federally Recognized Tribes 17 times. The Forest Service offered 17 programs to youth and reached out to local, State, and Federal agencies throughout the process, including 65 meetings in addition to emails and phone communications. The Forest Service also shared information via traditional print, television, and radio media, which were especially useful in reaching rural audiences with limited internet. The internet was utilized to broadcast updates to the forest listserv of approximately 12,000 subscribers and updates were posted to the forest website and Facebook page. The Forest Service used emerging technologies, such as interactive Story maps, Facebook Live, YouTube postings, and social media to share pre-draft content, as well as the formal draft Plan and EIS materials.

Collaborators regularly assisted the plan revision efforts by sharing Forest Service messages with their constituents and the public. Additionally, the Forest Service shifted to virtual outreach and collaboration formats with the onset of the coronavirus pandemic starting in 2020. To address rural communities with limited internet, open house conference calls were held, and all other internal and external collaboration utilized virtual platforms.

Through public involvement we learned that public values for the Nantahala and Pisgah NFs are as diverse as those who use and love these Forests. Values have been expressed to the Forest Service during plan development, through thousands of written comments and personal engagement through meetings and activities. Some of the values that the public has shared include: spiritual connections to nature and opportunities for renewal, providing food to families through hunting and fishing, access to special places, sustaining biodiversity, harvesting and



gathering locally grown forest products, preserving wild forest landscapes, providing jobs that support local industries, enhancing wildlife populations, providing opportunities for exercise and health, preserving history and historical events for society, trusting government land managers to steward the land for all Americans, working together toward shared goals, sustaining forest resources for our children and their children. These values are addressed in the revised Plan and the design of EIS alternatives.

More on public involvement milestones and the individuals, organizations, and local governments involved in forest plan development is outlined in the EIS, Appendix H.”

FEIS, Appendix H, p.1: “In this planning process, Forest leadership and the plan revision team invested in outreach, dialogue and relationships with partners, community stakeholders and non-traditional audiences to engage them early and often throughout the planning process. In building the Plan, EIS alternatives and the analysis, the Forest Service engaged with local citizens, resource professionals, state agencies, local governments, other Federal agencies, federally recognized Tribes, non-government organizations, researchers, the academic community, and youth. Additionally, there have been three active collaborative groups involved with the Nantahala-Pisgah plan revision process, representing diverse interests.”

FEIS, Appendix H, p. H-5: “Early in plan development, presentations were made to schools to share information with youth about the Forest and forest planning. Later in plan development, emphasis was shifted to share materials with educators, such as through the regional Envirothon competition, so educators could incorporate the forest planning process into their own curricula.” (Additionally, see accompanying chart on page H-5 regarding what schools and youth organizations, and approximate age class).

## **Response**

Objectors raised two different issues regarding the revision’s obligation and execution regarding public engagement. One of the objections asserts that the revision team should have done greater levels of engagement with the public, particularly with youth and other more diverse organizations. The project record documents an expansive effort to share with the public the revision effort underway, utilizing both digital and traditional technologies. Located in the Final Environmental Impact Statement, Appendix H, the revision team documented various forms of public engagement that took place during key plan development milestones. Examples of this engagement include engagement with youth in school and community center settings, as well as attending a multitude of events hosted by others in which revision team members offered updates. The revision team also participated in “nearly 90 meetings between 2012 and 2017. There were extensive additional phone, email, and other communications during those years.” FEIS, Appendix H, p. H-12.

Regarding the individual objector who alleged that the Forest Service deprived him from participating in the public planning process, this is not supported by the project record. The Forest Service provided extensive opportunities for individuals to be involved in the planning process. If any outstanding issues related to FOIA and the objector exist, they should be remedied as appropriate, conferring with forest/regional/WO FOIA analysts; this process takes



place outside of the land management planning process so no instructions for the plan or decision is necessary. As mentioned before, the forest documented in both the ROD, and FEIS Appendix H, an expansive and comprehensive effort to engage with the public and invited discussion and collaboration throughout the process.

**Instruction(s):** None.

#### **Issue 4: Existing Projects and Plan Consistency**

**Objector(s):** Southern Environmental Law Center et al.

The objector contests the notion that previously approved and ongoing projects and activities do not have to go through another project consistency check with the new plan and do not need to be made consistent with the new plan. The draft ROD (p. 82) explains that "[p]reviously approved and ongoing projects and activities are not required to meet the direction of the [revised] Plan and will remain consistent with the direction in the 1994 Forest Plan." The objector contends this does not comply with NFMA[...], stating that the agency has not complied with the first provision because its finding in the ROD turns on consistency "with the direction in the 1994 Forest Plan"—not the revised plan. The objector contends a project cannot be "deemed consistent" with the new plan based on an explicit finding that it is consistent with the old plan. The agency also explains that it need not assess consistency of previously approved projects because "pre-existing actions were considered part of the baseline in developing the revised plan and its effects"—the implication being that including projects in the baseline effectively built in a consistency finding. However, objectors assert a project cannot be deemed consistent with a new plan if it is in fact inconsistent. See *Cherokee Forest Voices v. U.S. Forest Serv.*, 182 F. Appendix 488, 495 (6th Cir. 2006). Rather, the objector asserts that previously approved projects and activities must demonstrate consistency with the new land management plan to proceed or follow the proceedings of 36 CFR 219.15.

Objector cites the Southside Project's final EA, which prescribes two-aged regeneration harvest for stand 41-53 for vegetation habitat improvement and for forest regeneration, sustainability and provision of early seral habitat; however, they note that under Alternative E, this stand is allocated to Special Interest Management Area, which only allows timber management to improve threatened, endangered or SCC habitat, restore or enhance historic fire regimes, reduce insect and disease hazards or provide for public safety. Objector believes that the agency must explain how the two-aged regeneration harvest in stand 41-53 is consistent with the revised plan or omit it from the Southside Project.

The objector continues, stating that the agency has appeared to incorporate new project decisions into the plan's baseline before the final plan decision has been made, citing the Buck Project. Here, the objectors state that Alternative E allocates all the stands in the Buck Project to Matrix, "allowing the Buck prescriptions to move forward—with surgical precision. The Forest Service has gerrymandered the Plan to protect incumbent projects without first listening to the public's input in the planning process under NEPA. The map below shows timber harvest units in the Buck Project in relation to management areas in Alternative E.[...]Compartment 108 was considered for the Backcountry or Special Interest Management Area in Alternative C. As shown



on the map, a portion of Compartment 108 was allocated to Special Interest Area in Alternative E, but all portions proposed for timber harvest were carefully and precisely drawn into Matrix. This is no mistake. The Buck Project's prescription for stand 108-20 obviously influenced management area boundaries in the revised plan. Similarly, stands in Compartment 104 were considered for the Ecological Interest Management Area in Alternative C but were ultimately allocated to Matrix in Alternative E. By using the Buck Project decision to dictate management area allocation in the revised plan, the agency violated NEPA's prohibition on taking action that prejudices the choice before it. See 40 C.F.R. § 1506.1(a) (2) (1978 and 2020). To remedy this error, the agency should disclose the role the Buck Project played in designing plan alternatives and abandon stand-level prescriptions inconsistent with management area limitations under Alternatives B-E.”

### **Remedy(s) proposed by Objectors**

- The agency should disclose the role the Buck Project played in designing plan alternatives and abandon stand-level prescriptions inconsistent with management area limitations under Alternatives B-E.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

National Forest Management Act - 16 USC 1604(i) - Resource plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans. Those resource plans and permits, contracts, and other such instruments currently in existence shall be revised as soon as practicable to be made consistent with such plans. When land management plans are revised, resource plans and permits, contracts, and other instruments, when necessary, shall be revised as soon as practicable. Any revision in present or future permits, contracts, and other instruments made pursuant to this section shall be subject to valid existing rights.

36 CFR 219.15(a) - Application to existing authorizations and approved projects or activities. Every decision document approving a plan, plan amendment, or plan revision must state whether authorizations of occupancy and use made before the decision document may proceed unchanged. If a plan decision document does not expressly allow such occupancy and use, the permit, contract, and other authorizing instrument for the use and occupancy must be made consistent with the plan, plan amendment, or plan revision as soon as practicable, as provided in paragraph (d) of this section, subject to valid existing rights.

### **Project Record**

Draft ROD, p. 82 under Project Consistency.

FEIS, p. 2-16: Alternative A, the No Action alternative, is the current forest plan, as amended in 1994. The current forest plan would continue to guide management of the Nantahala and Pisgah NFs under this alternative. A map of this alternative is available in Appendix I. This alternative



provides the baseline for the effects analysis. Management area direction would remain the same, and current recommendations for wilderness would remain in place. Where annual accomplishments have varied from forest plan assumptions, or where recent budgets have resulted in different activities than the levels planned for in 1994, the actual accomplishments are noted

FEIS, p. 3-1: “Because the forest plan does not authorize or mandate any site-specific projects or activities (including ground-disturbing actions), there are no direct effects. However, there may be implications, or long-term environmental consequences of managing the Nantahala and Pisgah NFs under this framework. Those environmental consequences are described in this chapter. All ongoing projects that are being conducted under the guidance of the current plan are analyzed as part of the indirect effects of each alternative. Cumulative effects consider the incremental impacts of the Forest Service in the context of the broader landscape of Western North Carolina. The consequences described in this chapter are based on predicted implementing activities and are meant to compare alternatives on a programmatic level, rather than provide exact measurements of effects.”

FEIS, p. 3-134: “The existing condition for the Ecological Sustainability Score is provided as a baseline for alternative comparison. While continued implementation of the current plan (alternative A) is considered in the analysis for Ecological Sustainability Scores, this analysis and narrative primarily focuses on the action alternatives because management of ecozones is not part of management framework for the current plan.”

## **Response**

The National Forest Management Act (NFMA) requires that “resource plans and permits, contracts, and other instruments for the use and occupancy of National Forest System lands shall be consistent with the land management plans... When land management plans are revised, resource plans and permits, contracts, and other instruments, when necessary, shall be revised as soon as practicable. Any revision in present or future permits, contracts, and other instruments made pursuant to this section shall be subject to valid existing rights.”

Through the promulgation of the current Forest Service regulations pertaining to land management planning, the agency addressed this topic at 36 CFR 219.15(a): “Every decision document approving a plan, plan amendment, or plan revision must state whether authorizations of occupancy and use made before the decision document may proceed unchanged. If a plan decision document does not expressly allow such occupancy and use, the permit, contract, and other authorizing instrument for the use and occupancy must be made consistent with the plan, plan amendment, or plan revision as soon as practicable, as provided in paragraph (d) of this section, subject to valid existing rights.”

During the development of the 2012 Planning Rule, the Agency addressed this topic and provided clarity in both the regulation and the preamble to the rule. “The agency has experienced difficulty in the past in determining how new plan components and content in a plan apply to projects and activities approved prior to the effective date of a plan amendment or revision. With respect to such projects and activities, the rule requires that: 1) the plan decision document must



expressly allow such projects to go forward or continue, thus deem them consistent, or 2) in the absence of such express provision, the authorizing instrument (permit, contract, and so forth) approve the use, occupancy, project, or activity must be adjusted as soon as practicable to be consistent with the plan, plan amendment, or plan revision, subject to valid existing rights.” (77 FR 21240-21241, April 9, 2012).

As required by 36 CFR 219.15, the Responsible Official documented express authorization for previously approved projects and activities stating whether these activities may continue unchanged in the draft Record of Decision, pp. 81-82 under the existing authorizations and project consistency section, which states that “Authorizations for occupancy and use made before this plan approval may proceed unchanged until time of reauthorization.” The Forests have met the obligations under NFMA and the Planning Rule in stipulating previously approved projects and activities may continue unchanged. In addition, the Forests utilized these existing projects as baseline cumulative effects to help guide and shape indirect effects of the forest plan as well as for plan design. These are existing and already approved projects developed according to NEPA procedures and are within the decision space of the Responsible Official. Readers can go to Chapter 2.5.1 of the FEIS which describes Alternative A, the no action alternative, for a better understanding of the baseline data used in this plan revision.

The objector cites a prior legal action (*Cherokee Forest Voices v. U.S. Forest Serv.*, 182 F. App'x 488, 495 (6th Cir. 2006)), in which the Forest Service determined that previously approved projects and activities were consistent with a newly revised plan, and that the Forest Service was in violation of both NFMA and the planning regulations applicable at that time (1982 regulations). The judge ultimately ruled the Forest Service had not properly applied their own regulations and determined that “a project cannot be deemed consistent with a new plan if it is in fact inconsistent.” This legal action was brought forward under the old 1982 planning regulations. Since that time, the Forest Service has promulgated new regulations (2012 Planning Rule at 36 CFR 219) that address this topic. The agency has satisfied the requirements of the NFMA and currently applicable regulations.

**Instruction(s):** None.

## **Issue 5: Administrative Changes to the Plan**

**Objector(s):** Greg Warren

The objector requests that the final Record of Decision should define plan components and clearly define how they may or may not be changed through administrative action as opposed to plan amendments. The objector contends that Standards, Objectives, and Desired Conditions should not be altered through an administrative change.

### **Remedy(s) proposed by Objectors**

- The Forests must do an amendment to change the plan.

## **REVIEW FINDINGS**



## Law, Regulation and Policy

National Forest Management Act, Sec. 6 (c): "(c) The Secretary shall begin to incorporate the standards and guidelines required by this section in plans for units of the National Forest System as soon as practicable after enactment of this subsection and shall attempt to complete such incorporation for all such units by no later than September 30, 1985."

36 CFR 219.7(e): Plan components. Plan components guide future project and activity decision making. The plan must indicate whether specific plan components apply to the entire plan area, to specific management areas or geographic areas, or to other areas as identified in the plan.

(1) Required plan components. Every plan must include the following plan components:

(i) Desired conditions. A desired condition is a description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed. Desired conditions must be described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

(ii) Objectives. An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

(iii) Standards. A standard is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(iv) Guidelines. A guideline is a constraint on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met. (§ 219.15(d)(3)). Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(v) Suitability of lands. Specific lands within a plan area will be identified as suitable for various multiple uses or activities based on the desired conditions applicable to those lands. The plan will also identify lands within the plan area as not suitable for uses that are not compatible with desired conditions for those lands. The suitability of lands need not be identified for every use or activity. Suitability identifications may be made after consideration of historic uses and of issues that have arisen in the planning process. Every plan must identify those lands that are not suitable for timber production (§ 219.11).

## Project Record

Forest Plan, p. 4: The Parts of the Forest Plan; "The forest plan must include plan components. Plan components (plan decisions) guide future project and activity decision-making and include desired conditions, objectives, standards, guidelines, suitability of lands, and goals. Plan components should (1) provide a strategic and practical framework for managing the Forests, (2) be applicable to the resources and issues of the Forests, and (3) reflect the Forests' distinctive



roles and contributions. As a whole, the set of plan components must provide for social, economic, and ecological sustainability and multiple uses.

There is an important distinction between plan components (desired conditions, objectives, standards, guidelines, goals, and suitability) and other language of the plan. Plan components in this document are indicated by a labeled coding system, explained below. A plan amendment is required to add, modify, or remove one or more plan components or to change how or where one or more components apply to all or part of the plan area (including management areas or geographic areas) (36 CFR 219.13(a)). Any substantive changes to plan components require a plan amendment with appropriate analysis as required under the National Environmental Policy Act (NEPA).

Other elements of the forest plan that are not plan components provide information and/or background material integral to the successful implementation of the forest plan. As conditions change, this information can be updated with administrative changes. Administrative changes can be used to make changes such as updates to data and maps, management approaches, and relevant background information; to fix typographical errors; or to update other required content of a plan (content that are not plan components). The public will be notified of all administrative changes to the forest plan.”

Forest Plan, pp. 4-7 defines each of the plan components and other required plan content, including Desired Conditions, Objectives, Standards, Guidelines, Suitability, Management Areas, Geographic Areas, Goals, etc.

Draft ROD, p. 82: Maintaining the Plan: “The revised plan is a dynamic document that can be changed with appropriate public involvement and environmental analysis. Through the life of the revised plan, amendments may be needed to incorporate new information, new policy and direction, or changing values and resource conditions. Amendments will keep the revised forest plan current, relevant, and responsive to agency and public concerns. Amendments are needed whenever any of the revised plan components should be changed due to any of the above conditions. The revised plan also can be amended for specific projects if it is determined that the best method of meeting project goals and objectives conflicts with existing plan direction. There will be opportunities for the public to be involved in any future changes to the revised plan. Any amendment to the revised plan will need to follow the plan amendment process outlined in 36 CFR 219.13. In some situations, an “administrative change” can be used to update/change the Plan (see also §219.13).

Administrative changes are generally limited to changes to parts of the plan that are not plan components, except those administrative changes can also include corrections of clerical errors to any part of the plan, and conformance of the plan to new statutory or regulatory requirements (§219.7(f)).”

FSH 1909.12, Ch. 21.1(2): Plan components... (f) May be used to carry out laws, regulations, or policies, but should not merely repeat existing direction from laws, regulations, or directives. (References to other sources are preferred.) ... (i) should not simply repeat Agency policies applicable to all National Forest System units.



## Response

The 2012 Planning Rule (36 CFR 219) requires the development of plan components to guide future management activities. These plan components are defined in the Planning Rule – 36 CFR 219.7(e). The revision team included these definitions within the Forest Plan itself (Forest Plan, p. 4), as well as provided short synopsis of how these plan components may be reflected within the Forest Plan. Located within the record of decision, the revision team speaks to how this plan will be maintained over the years – speaking to both amendments and administrative changes as viable solutions where appropriate, for maintaining and updating the plan as necessary, while incorporating the appropriate level of public involvement and environmental analysis. Draft ROD, p. 82.

While the Forests are not required to include the definitions of plan components in the Forest Plan or Record of Decision, these definitions were included, along with their regulatory citations indicating these definitions cannot be changed merely within the plan itself, but rather a change to regulation would be needed. Additionally, the Forest included in the draft Record of Decision how the plan may be maintained and updated from time to time. As stated below, plan amendments are the primary method of changing stated plan components, or where they apply, within a land management plan. Administrative changes to a land management plan are a legitimate and feasible option but are “generally limited to changes to parts of the plan that are not plan components,” (draft ROD, p. 82) except to provide clerical errors, or conformance to new statutes or regulation.

The revised plan is a dynamic document that can be changed with appropriate public involvement and environmental analysis. Through the life of the revised plan, amendments may be needed to incorporate new information, new policy and direction, or changing values and resource conditions. Amendments will keep the revised forest plan current, relevant, and responsive to agency and public concerns. Amendments are needed whenever any of the revised plan components should be changed due to any of the above conditions. The revised plan also can be amended for specific projects if it is determined that the best method of meeting project goals and objectives conflicts with existing plan direction. There will be opportunities for the public to be involved in any future changes to the revised plan. Any amendment to the revised plan will need to follow the plan amendment process outlined in 36 CFR 219.13. In some situations, an “administrative change” can be used to update/change the Plan (see also §219.13). Administrative changes are generally limited to changes to parts of the plan that are not plan components, except those administrative changes can also include corrections of clerical errors to any part of the plan, and conformance of the plan to new statutory or regulatory requirements (§219.7(f)).”

The objector has requested that the final Record of Decision state that glossary terms for plan components located in the Forest Plan not be changed through administrative change; rather a plan amendment would be required to change these terms. Plan components definitions are set by federal regulation and cannot be changed but for an amendment to federal regulation. Because of this, no statement would be necessary regarding the changing of definitions, as these are set by federal regulation. As for the changing of plan components in an approved plan, the Planning



Rule (36 CFR 219.13) outlines how the responsible official may change plan components, or where they apply, as well as other plan content through either a plan amendment, or an administrative change. The responsible official is to adhere to these policies in regulations should the need arise to make changes to an approved plan.

**Instruction(s):** None.

## **Issue 6: Sustainability and Integration of Social, Economic, and Cultural Considerations**

**Objector(s):** Greg Warren; Nantahala Pisgah Forest Partnership

The objector states that the set of plan components must integrate social, economic, cultural, and ecological considerations, giving an example that, “the desired condition for a sustainable landscape must be developed in the context of the desired multiple uses for the landscape. When providing for desired multiple uses for an area, the plan must at the same time ensure that the uses will be managed sustainably, while providing for ecological sustainability.”

Another objector contends that the Forest Plan fails to meet the requirements of the 2012 Planning Rule as it relates to providing social, economic, and ecological sustainability, and to provide for integrated, sustainable multiple uses.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

National Forest Management Act, Sec. 6(e)(1): provide for multiple use and sustained yield of the products and services obtained therefrom in accordance with the Multiple-Use, Sustained-Yield Act of 1960, and in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness; and timber, watershed, wildlife and fish, and wilderness; and

National Forest Management Act, Sec. 6(g)(3)(A): “ensure consideration of the economic and environmental aspects of various systems of renewable resource management, including the related systems of silviculture and protection of forest resources, to provide for outdoor recreation (including wilderness), range, timber, watershed, wildlife, and fish;”

36 CFR 219.1(c): Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.



36 CFR 219.8: A plan developed or revised under this part must provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area...

36 CFR 219.8(b): Social and economic sustainability. The plan must include plan components, including standards or guidelines, to guide the plan area's contribution to social and economic sustainability, taking into account:

- (1) Social, cultural, and economic conditions relevant to the area influenced by the plan;
- (2) Sustainable recreation; including recreation settings, opportunities, and access; and scenic character;
- (3) Multiple uses that contribute to local, regional, and national economies in a sustainable manner;
- (4) Ecosystem services;
- (5) Cultural and historic resources and uses; and
- (6) Opportunities to connect people with nature.

36 CFR 219.10: While meeting the requirements of §§ 219.8 and 219.9, a plan developed or revised under this part must provide for ecosystem services and multiple uses, including outdoor recreation, range, timber, watershed, wildlife, and fish, within Forest Service authority and the inherent capability of the plan area

FSH 1909.12, Ch. 23.2: Plans are required to have plan components to guide the plan area's contribution to social and economic sustainability (36 CFR 219.8(b)) and for integrated resource management to provide for ecosystem services and multiple uses in the plan area (36 CFR 219.10(a)). Plan components must be integrated to meet these requirements as well as requirements for ecological sustainability and species diversity as described in sections 22 and 23 of this Handbook. Under the Planning Rule, ecological, social, and economic systems are recognized as interdependent, without one being a priority over the other. These plan components apply to the plan area and are within the authority of the Forest Service, the inherent capability of the land, and the fiscal capability of the planning unit.

## **Project Record**

Draft ROD, pp. 25-26: "To ensure ecological sustainability and ecosystem integrity, the plan includes components to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity." The draft ROD cites key sections of the Forest Plan that contain these plan components which include:

- Forest Plan Chapter 2 physical resource sections that describe management direction for Air, Climate Change, and Geological Resources.
- Forest Plan Chapter 2 sections that describe management direction for Watersheds (including Priority Watersheds), Soils, Water, Aquatic Systems.
- Forest Plan Chapter 2 section on Streamside Zones that includes plan components to maintain or restore the ecological integrity of riparian areas in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity.



- Forest Plan Chapter 2 Terrestrial Ecosystems section that is designed to support the health and resilience of forests across the landscape. Plan direction considers the landscape scale (subsection: Forest Landscape Pattern and Connectivity), recognizing forested patches and corridors and restoration priorities. The ecosystem scale (subsection: Ecosystem Management) identifies key characteristics of each ecozone, including the dominant vegetation composition, vegetation structure, landscape position, relevant ecological processes and system drivers, and examples of associated wildlife species. The plan identifies the specific needs of habitat types (subsection Wildlife Habitats Across Terrestrial Ecozones). Integrated ecosystem and wildlife habitat objectives address the needs of terrestrial ecosystems, along with integrated management approaches that emphasize specific priorities and tools for accomplishing these objectives.
- Forest Plan Chapter 2, Plant and Animal Diversity section that addresses species groups, rare species, and unique habitat needs, providing plan direction needed for plants, animals, and unique habitats that is not covered at the broader scale.
- Forest Plan Chapter 2 sections that describe primary management tools available in the Designated Old Growth Network; Forest Health: Insects and Diseases, and Non-Native Invasive Plant Species; Timber Management Practices; and Fire and Fuels.
- Forest Plan Chapter 3, Geographic Area goals for sustaining healthy ecosystems in consideration of the all lands context.

The draft ROD, p. 26 also describes that the Forest Plan includes plan components to guide the plan area's contribution to social and economic sustainability, by:

- Recognizing that the social, cultural, and economic conditions on the forest are influenced by the broader landscape both at a forest level (Forest Plan, Chapter 1) and across 12 geographic areas (Forest Plan, Chapter 3);
- Including a forestwide section on Community Connections (Chapter 2) that outlines desired conditions, objectives and management approaches for contributing to local quality of life, sustainable economic development, ecosystem services, access, recreation, experiences in nature, career pathways, and providing opportunities to grow the next generation of conservation leaders; and
- Including forestwide plan direction on lands and special uses, transportation and access, recreation settings, developed and dispersed recreation, scenery, cultural resources, tribal resources, non-timber forest products, timber management practices, minerals and energy and conservation education and interpretation (Forest Plan, Chapter 2).

The Forest Plan provides for integrated resource management for multiple uses (36 CFR 219.10(a)) by including plan direction for aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses. The Forest Plan recognizes and identifies key relationships among various multiple uses. Where possible, plan components are integrated to recognize the interdependence of ecological resources and are based on the need for integrated consideration of ecological, social, and economic factors.



Chapter 2 of the Forest Plan contains forestwide direction on resource topics that span the entirety of the Forests, such as air quality, scenery, or recreation.

Chapter 3 of the Forest Plan provides direction for the Forest's distinct landscapes, recognizing how the multiple uses apply in a place-based context for 12 contiguous geographic areas.

Chapter 4 of the Forest Plan contains plan direction on managing Congressionally Designated Wilderness, Recommended Wilderness and Wilderness Study Areas, Designated and Eligible Wild and Scenic Rivers, Research Natural Areas, Experimental Forests, the Appalachian National Scenic Trail Corridor, National Scenic Byways, Heritage Corridors, Roan Mountain, and the Cradle of Forestry in America.

## **Response**

As described in the National Forest Management Act, and the 2012 Planning Rule, land management plans are to consider and provide for the social, economic, and ecological sustainability of the plan area. Through the development of plan components, land management plans provide direction – but do not compel or authorize action – for future management activities. “Under the Planning Rule, ecological, social, and economic systems are recognized as interdependent, without one being a priority over the other. These plan components apply to the plan area and are within the authority of the Forest Service, the inherent capability of the land, and the fiscal capability of the planning unit.” (FSH 1909.12, Ch. 23.2)

The Forest Plan provides various plan components for various resource areas with economic, social, and ecological sustainability in mind. The plan components provide direction for future management activity that will be assessed and determined in greater detail at a project level for both effects on the environment, and the efficiency of the plan.

Forest Plan pp. 50-53 and 69-73 describes how terrestrial ecosystems will be managed based on ecological restoration priorities and describes integrated ecosystem and wildlife habitat objectives and management approaches that document how the Forest considered the social, economic and ecologic sustainability of the Forests.

Another example of integration in plan components, is found in the Forest Plan, p. 115, “REC-DC-11 - Recreation activities across the Forests contribute to the sustainability of the social and economic values of local communities through jobs and income in the local economy, community stability or growth, and the quality of lifestyles in the area.”

**Instruction(s):** None.

## **Issue 7: Best Available Scientific Information**

**Objector(s):** Hugh and Janice Irwin



The objectors argue that the final forest plan fails to properly address comments submitted on the draft plan/draft EIS, as well as contending that the use of the Natural Range of Variation and spectrum modeling used in the analysis was flawed and not using best scientific information.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.3 - Role of Science in Planning: The responsible official shall use the best available scientific information to inform the planning process required by this subpart for assessment; developing, amending, or revising a plan; and monitoring. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered.

36 CFR 219.6(a)(3): Document the assessment in a report available to the public. The report should document information needs relevant to the topics of paragraph (b) of this section. Document in the report how the best available scientific information was used to inform the assessment (§ 219.3). Include the report in the planning record (§ 219.14).

36 CFR 219.14(a)(3): The documentation of how the best available scientific information was used to inform planning, the plan components, and other plan content, including the plan monitoring program (§ 219.3).

FSH 1909.12, Zero Code, 07.1: While the BASI informs the planning process, plan components, and other plan content, it does not dictate what the decisions must be. There may be competing scientific perspectives and uncertainty in the available science. Plan decisions also reflect other relevant factors such as budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the experience of land managers.

### **Project Record**

Draft ROD, p. 60 - Best Available Scientific Information: The Forests outlined how best available scientific information was utilized in the development of the Forest Plan, and final environmental impact statement. “Developing the land management plan, plan components, monitoring program, and Environmental Impact Statement was an iterative process using best available scientific information. An interdisciplinary team of resource specialists from the Forest Service, worked with specialists in their respective fields from the National Forest System, the USDA Southern Research Station, universities, other governments (tribal, federal, state and local), and non-governmental organizations such as but not limited to The Nature Conservancy provided expertise to identify and use scientific information that was accurate, reliable, and relevant to the Nantahala and Pisgah National Forests. This information includes material readily available through peer-reviewed sources (research institution publications and technical reports,



scientific journals, and online literature). It also includes information obtained from other sources, such as participation and attendance at scientific conferences, scientific knowledge from local experts, findings from ongoing research projects, workshops and collaborations, professional knowledge and experience, and information received during public participation periods.”

FEIS, p. 1-14: “The best available scientific information includes the publications and other sources listed in the Literature Cited section of this Draft Environmental Impact Statement. Best available science also includes information obtained from other sources, such as participation and attendance at scientific conferences, scientific knowledge from local experts, findings from ongoing research projects, workshops and collaborations, professional knowledge and experience, and information received during public participation periods.

Forest Plan, p. 3: Development of this revised plan was an iterative process utilizing best available scientific information, regional guidance, internal feedback, and collaboration with a wide variety of government agencies, federally recognized tribes, non-governmental organizations, and interested citizens.

## **Response**

In the development, revision, or amendment of land management plans, the responsible official is required to identify and use best available scientific information to inform the planning decision. The responsible official is also required to document how the best available scientific information was used to inform the planning decisions. FSH 1909.12, Zero Code, Ch. 07.12, provides greater detail as to how one may determine what is “best available scientific information;” it is noted that some information may conflict with others, and it is up to the responsible official to make this determination as to “best available science.”

Throughout the project record there are citations for various resource areas that speak to the scientific materials that serve as reference and baseline information. On p.60 of the draft Record of Decision there is reference to how the best available scientific information was used to inform the planning decision, as required by the 2012 Planning Rule.

The objectors contend that the Plan failed to utilize best available science as per the requirement of the 2012 Planning Rule. The Responsible Official disclosed the science utilized in this decision making, and why it is considered best available science. Though science may be ever evolving, it is reasonable for the responsible official to decide as to what is the best available science for the time that is being used to inform the planning decision, thus solidifying this science so that the remainder of the process may continue. The Responsible Official has met the requirement to disclose how the best available scientific information was used to inform the planning decision. Resource specialists will review in greater detail the scientific information utilized at a more project and resource specific level during implementation of the plan.

**Instruction(s):** None.



## **Issue 8: Revised Plan Needs to Add Additional Plan Components and Analysis**

**Objector(s):** Southern Environmental Law Center et al.

The objector provided a list of proposed remedies for the Forest Service to consider, including new or modified plan components and analysis for a range of topics which include timber harvest, old growth management, carbon and climate issues, vegetation modeling, management area allocation, protective measures for individual species, soil and water effects and the relationship between the revised plan and ongoing projects. This section of the objection did not provide rationale or supporting information for the proposed remedies, though many of them were addressed in detail elsewhere in the objection and are reviewed in this response document.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

The 2012 Planning Rule describes the required plan components (36 CFR 219.7(e)(1)) as well as substantive requirements for the plan related to sustainability (219.8), diversity of plant and animal communities (219.9), multiple use (219.10), and timber requirements (219.11).

#### **Project Record**

The FEIS includes responses to comments on similar issues (FEIS, Appendix A) and the analysis in Chapter 3 includes consideration of how the Forest Plan is expected to affect resources listed by the objector.

The Forest Plan includes objectives, standards, and guidelines related to all of the specific resources listed by the objector. See also the response to Planning Issue 5: Administrative Changes to the Plan for a description of required plan content.

The draft ROD describes how the Forest Plan meets Planning Rule requirements (p. 25-29) and how public involvement was considered in the planning process (p. 12).

#### **Response**

This objection is essentially a list of suggestions for a range of issues regarding the final revised plan and FEIS. The record clearly shows that the revised plan components meet the 2012 Planning Rule requirements and address issues related to those listed by the objector. The effects of plan implementation are considered in the FEIS and appendices provide additional information and context and explanation for specific issues, analyses, and development of plan components.

Note that most or all of the objector's proposed remedies are described in greater detail in other parts of the objector's letter, which are addressed elsewhere in this response document.

**Instruction(s):** None.



## Issue 9: Monitoring Program

**Objector(s):** Audubon North Carolina; Southern Environmental Law Center et al.; Chattooga Conservancy

The objectors remind the Forest Service that the 2012 Planning Rule requires monitoring plans that look for key ecosystem characteristics. The objectors also observe that the details of the plan monitoring program—including monitoring and analysis protocols, data collection schedules, responsible parties, and data management—will be part of a separate monitoring guide. In short, the objectors conclude that the monitoring plan must be designed to accurately inform the Forests about ecosystem health, species viability, and plan success and as currently written only commits to measure seral classes at the crude landscape level.

An objector continues to allege that the Forest Service is evading NFMA and NEPA requirements to disclose and allow comment on the monitoring guide. The objector writes, "but the Forest Service nevertheless asserts that the monitoring guide can be both separate from the Plan and exempt from the requirements that pertain to Plan-level analysis altogether. Plan at 286 ("A change to a monitoring guide or annual monitoring work plan is not a change to the plan monitoring program nor other administrative change of the plan and does not require public notification.") (Citing, FSH 1909.12, Ch. 32.4)."

Another objector writes that they would like to see the monitoring plan contain a greater connection to the plan components themselves. The objector points to the following plan components as examples:

MQ 2-1-T1. What is the trend in young forest conditions? How much young forest is present by ecozone? What amount of young forest is above 2500' and within NCWRC Wildlife Habitat Active Management Areas? What disturbances contributed toward the trend in young forest? Indicators: Acres, location and percent of young forest by ecozone geographic area, forest-wide, and regionally. Amount of measurable young forest by disturbance type. Note that this remedy might also include larger spatial scales as a new Tier 2 goal (MQ 2-1-T2) MQ 6-5-T2. What disturbances have occurred across the forests what proportion are natural disturbances? Indicators: Number, type and degree of disturbances and proportion of that are natural disturbances Evaluation of disturbances on: geophysical settings; ecozones and other landscape scales, species at risk, unique or special habitats, and recreational uses.

The objector reminds the Forest Service of the importance of the monitoring plan and raises concerns that the program will not be stood up in such a way that allows for effectiveness. The Forest Plan states that it will ensure monitoring of effectiveness and theories to allow for the plan to be updated as needed. The objector argues that "the Forest Service said the same regarding the previous Nantahala-Pisgah Forest Plan; however, recorded and intelligible monitoring data is scant or inadequate for the past nearly 30 years of the old plan's tenure. Indeed, some Forest Service managers and technicians have openly admitted that they lack sufficient resources to conduct a robust monitoring program."



The objector also states the importance of best available scientific information (BASI) within the monitoring program, saying, “the Forest Service also asserts that the Final Plan is based on the best available scientific information. Upon closer reading, it is apparent that this forest plan favors in-house "experts" while ignoring or discounting independent, external, compelling, expert and peer-reviewed scientific information. For an example, reference the climate change discussion in the narrative above. Another example particularly relevant to the Chattooga River watershed (acknowledged by the scientific community as the "salamander capital of the world") is the absence of scientifically sound protections for populations of the imperiled Green Salamander."

### **Remedy(s) proposed by Objectors**

- The Final Plan must deploy ample resources to conduct robust monitoring of the effects of management actions.
- Independent, expert and peer-reviewed scientific information, that does not serve commodity extraction agendas, must be incorporated and implemented in the Final Plan.
- Specific and best available scientific information regarding threatened, endangered and sensitive species, and robust, enforceable protections for their habitat must be incorporated into the Final Plan.
- The Nantahala-Pisgah National Forest should be managed according to the best available scientific information focused on the principles of conservation biology, which call for management that complements the natural processes of sustainability for all native habitats.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The 2012 Planning Rule establishes requirements for plan monitoring programs at 36 CFR 219.12 (with additional description at 219.5(a) (3)). Specific requirements include that a plan monitoring plan shall be developed and included in the plan (219.12(a) (1)), that the monitoring plan include questions and indicators based on plan components and designed to inform resource management (219.12(a)(2)), and that the monitoring program must include questions and indicators for a suite of eight key resource areas (219.12(a)(5)).

Beyond the requirements described in 219.12, the 2012 Planning Rule states that “...the responsible official has the discretion to set the scope and scale of the plan monitoring program, after considering: (i) Information needs identified through the planning process as most critical for informed management of resources on the plan area; and (ii) The financial and technical capabilities of the Agency.” (36 CFR 219.12(a) (4)).

FSH 1909.12, Chapter 30 provides additional information and guidance for developing plan monitoring programs. The FSH describes the objectives and policies for plan monitoring programs (Sects. 30.2, 30.3), the role of public involvement in identifying monitoring questions



(Sect. 31.2), and provides guidance for selecting monitoring questions and indicators (Sects. 32.11, 32.12).

## **Project Record**

Forest Plan, p. 3-4 describes the role of adaptive planning and monitoring in Forest Planning.

Forest Plan, pp. 286-300, describes the purpose of the monitoring program and lists the questions and indicators developed to address plan implementation and effectiveness across a range of resources.

FEIS, Appendix A, response to comments shows that the Forests considered many public comments regarding the monitoring program.

Draft ROD, pp. 29-30 describes the role of public participation in monitoring, including changes that addressed public comments and suggestions.

Draft ROD, p. 20 emphasizes the importance of the monitoring program and the value of continued public involvement, stating that “In this time of rapid change, as conditions shift and new information becomes available, opportunities to adapt the plan will arise. Alternative E’s monitoring program will allow us to regularly evaluate our actions, gauge our progress toward long-term goals, and modify our approach where needed. The monitoring guide, which will be developed after the forest plan has been finalized, will identify the tactical information needed to implement the monitoring program. Partners will be involved in monitoring guide development.”

Draft ROD, p. 30 describes the relationship between the plan monitoring program and the development of future plan monitoring guides: “Details of the plan monitoring program—including monitoring and analysis protocols, data collection schedules, responsible parties, and data management—will be part of a separate monitoring guide. Because data sources and frequency of updates are likely to change over the life of the plan, the specific monitoring process is more appropriately included in a monitoring guide, instead of in the plan itself. The guide may include management alerts that identify conditions or circumstances that should be investigated, along with corrective actions to be taken when needed. We currently work with other Federal, State, and local agencies and stakeholder groups to complete monitoring, and expect those partnerships to continue and increase in the future. The specific roles of partners in monitoring will be developed in more detail through the monitoring guide. Coordination on specific monitoring questions will be outlined for Tier 2 questions including partners that will contribute to the monitoring reports such as the Federally Recognized Tribes, U.S. Forest Service Southern Research Station, U.S. Geological Survey, the NC Wildlife Resources Commission, the NC Natural Heritage Program, the State Historic Preservation Office, and others.”

## **Response**

Monitoring is how the Forests would determine if plan components are being achieved. Within the constraints of this forest plan, management adapts to achieve the vision that the forest plan lays out. Decision-making is informed by feedback from monitoring that actively tests



assumptions, tracks relevant conditions over time, and measures management effectiveness (Forest Plan, p. 1). The 2012 Planning Rule requires a monitoring program (Forest Plan, p. 2). Forest planning is a continuous process that includes (1) assessment; (2) plan development, amendment, and revision; and (3) monitoring. As documented in the Forest Plan, “The intent of this forest planning framework is to create an integrated approach to the management of resources and uses, incorporate the landscape- scale context for management, allow the Forest Service to adapt to changing conditions and improve management based on monitoring and new information” (Forest Plan, p. 3).

The Forest Plan, p. 3 documents that “The planning framework creates a structure within which land managers and partners work together to understand what is happening on the land. It is intended to establish a flexible forest plan that allows the forest to adapt management to changing conditions and improve management based on new information and monitoring.” The Forest Plan, pp. 3-4, goes on to describe how monitoring occurs after plan revision and includes the following phases:

- a. Designing management activities proposed to implement the plan in a way that will yield specific information and support learning.
- b. Analyzing monitoring results using scientific methods that reduce uncertainty and improve understanding of system behavior. Well-designed monitoring programs and management activities contribute to better scientific analysis of these results. Monitoring and analysis also evaluate progress to achieving desired conditions and objectives of the plan and the assumptions used in developing the plan.
- c. Learning from the results of the analysis and sharing how the results either confirm or modify the existing assumptions or provide feedback on management effectiveness. Learning is proactively shared with land managers and the public.
- d. Adapting planning and management activities based on learning from the results of the analysis. This adaptation takes the form of modifying assumptions, models, data, and understanding of the system. This knowledge is then used to inform the planning process that leads to an adjustment of plans and projects.

The record clearly demonstrates a thoughtful approach to monitoring that included consideration of public comments and meets all requirements in 219.12. Neither the Planning Rule nor agency guidance require that the plan describe the specific “monitoring and analysis protocols, data collection schedules, responsible parties, and data management.” The intent to develop monitoring guides for identifying specific tasks and data collection methods demonstrates a continued commitment to meeting plan monitoring requirements, involving partners in monitoring efforts and assuring that the monitoring program is addressing plan implementation and effectiveness. The monitoring guides would serve to meet NFMA requirements for collaboratively collecting high-quality data and providing a biennial monitoring report; the details of accomplishing a monitoring program are not subject to NEPA.

The objectors claim that the Forest Plan’s monitoring program should provide specific details for completing monitoring tasks as well as allocate resources to complete those tasks. However, that is beyond the requirements of the 2012 Planning Rule and generally beyond the scope of land management plans.



Objectors also criticize the past monitoring data (or lack thereof) and suggest that neither the past nor the proposed monitoring program constitute the best available scientific information for some forest resources. That contention is addressed in other objection issue reviews related to best available scientific information.

**Instruction(s):** None.

## **Issue 10: Tiered Objectives**

**Objector(s):** Nantahala Pisgah Forest Partnership

The objector asserts that Tier 2 levels of management could be expedited by efficient management area allocation. They support the importance of adaptive management triggers in order to have collaborative support for Tier 2 levels of active management. Specifically, they state that there is a need for non-native invasive species (NNIS) control and road maintenance levels to balance out increased numbers in active management. They recommend an objective that all new harvest units and associated roads (including a 100-foot buffer) be monitored for new infestations of priority NNIS. Also, they thought it should be mandatory to monitor for and control the spread of NNIS, consistent with a Desired Condition to prevent spread. In addition, the objectors recommended that basic road maintenance levels are set such that the backlog is not increasing and provided explicit solutions for how to address the tensions between ground disturbing activities and the protection of soil and water to create a more sustainable network

The objectors also "recommended that the amount of Open Forest Woodland targeted silviculturally (in conjunction with prescribed fire), be increased considerably." They believe that the "Objective in the Final Plan regarding this work, even with partner assistance and resources (at Tier 2), does not come close to matching the need." And finally, they would like for their recommendation for an increased open forest woodland Objective to be considered, along with the list of priority treatments, which indicate the degree of canopy removal appropriate in different ecozones.

### **Remedy(s) proposed by Objectors**

- Linking objectives in the way proposed by the Partnership to ensure that no one interest benefits at the expense of another.
- Adopting a Management Area Allocation similar to the one advocated by the Partnership.
- Pursuing a timber harvest strategy that yields higher volume per acre in Tier 1 than Tier 2.
- The Partnership's recommendation for an increased open forest woodland Objective should be considered along with the list of priority treatments, which indicate the degree of canopy removal appropriate in different ecozones. The Partnership also continues to support a greater Open Forest Woodland Objective to meet the structural need. "Tier 1: Provide a minimum of 1,350 new acres/year that are in progress towards restored open woodland condition. Tier 2: provide a minimum of 3,100 new acres/year that are in progress towards restored open woodland condition."



## REVIEW FINDINGS

### Law, Regulation and Policy

The 2012 Planning Rule describes required plan components at 36 CFR 219.7(e)(1). The Planning Rule recognizes that the responsible official must ensure that plan components are within the “fiscal capability of the unit” (36 CFR 219.1(g)); specifically, plan objectives “should be based on reasonably foreseeable budgets” (36 CFR 219.7(e)(1)(ii)).

### Project Record

Forest Plan (p. 4) defines and describes required plan components, including objectives, standards and guidelines, specifically objectives, stating that “An objective is a concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Inclusion of objectives in the plan does not guarantee funding for these actions. Objectives should be based on reasonably foreseeable budgets (36 CFR 219.7(e)(1)(ii)). Objectives describe the focus of management in the plan area within the plan period; not every action that the Nantahala and Pisgah National Forests may take is included as an objective. Objectives are not intended to be a limit, and planned activities may be exceeded. Objectives that are defined as occurring “over the life of the plan” are referring to the first 15 years of plan implementation. Objectives are found throughout the plan under the heading “Objectives.”

This plan contains Tier 1 and Tier 2 objectives. Tier 1 objectives are 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. Any individual objective may proceed to Tier 2 when additional capacity and resources are available for that action. Effects both tiers of objectives were analyzed in the EIS.”

Forest Plan, pp. 4-7 defines each of the plan components and other required plan content, including Desired Conditions, Objectives (as noted above), Standards, Guidelines, Suitability, Management Areas, Geographic Areas, Goals, etc.

Forest Plan, p. 70 documents that the revised plan includes an objective related to open woodland creation (ECO-O-05) as well as related objectives for prescribed fire, young forest and tree thinning activities.

FEIS, p. 3-445 to 3-449 includes analysis for both Tier 1 and Tier 2 objectives for a range of forest resources. That analysis includes consideration of how vegetation management activities may affect other resources, including NNIS. Specifically, the FEIS recognizes that the increased vegetation management and prescribed fire in Tier 2 objectives may increase the risk of NNIS spread and susceptibility of sites to infestation (FEIS, p. 3-449).

The FEIS, p. 3-1 also clarifies the relationship between the revised plan and accompanying FEIS and future projects implementing the plan: “Before site-specific projects may be implemented, project- and activity-level planning, environmental analysis, and decisions must occur. For example, the draft revised plan contains direction to treat vegetation by mechanical means or



with fire to achieve desired conditions, however, a future site-specific analysis and decision must be made for each proposal that involves every future site-specific vegetation treatment. This EIS will provide information that may be incorporated by reference in future site-specific NEPA documents, but this EIS is not a decision document for future site-specific actions.”

## **Response**

The disclosure of effects in the FEIS assumes that implementing management activities to achieve desired conditions and meet objectives would follow applicable standards and guidelines. This is true for consideration of both Tier 1 and Tier 2 objectives. Additionally, the potential effects of activities would be analyzed and disclosed in future NEPA processes regardless of whether they are related to Tier 1 or Tier 2 plan objectives. For example, if a future project included Tier 2 vegetation management activities, it would still be required to follow plan standards to reduce potential adverse effects and would be subject to project-level analysis for effects on resources including roads and NNIS. Therefore, explicitly linking tiered objectives as suggested by the objector is not required to adequately evaluate the effects of activities implementing Tier 2 activities either in the FEIS or in future projects.

The Forest Plan recognizes the contribution of open forest woodlands to desired conditions and includes objectives to create and maintain those conditions. The specific annual objective for open forest woodland management may be less than the objector would prefer, but the responsible official determined that the objective was appropriate based on the need for that habitat type, potential resource tradeoffs and other management objectives while also recognizing the expected fiscal capability of the National Forests in North Carolina.

The plan objective for open forest woodlands is reasonable and there is no need to “link” Tier 2 objectives as suggested by the objector. The FEIS considers the expected effects of Tier 2 objectives, including adverse effects on forest resources, and any future activities implementing that level of activity would be subject to NEPA requirements and procedures for project-level effects analysis and decision making. The plan objective ECO-O-05 is reasonable and was determined to contribute to desired conditions and remain within forest capabilities.

**Instruction(s):** None.

## **Issue 11: Tiered Objectives and Adaptive Management**

**Objector(s):** Southern Environmental Law Center et al.

Objectors "have asked the Forest Service to adopt specific "triggers" corresponding to tensions between some Tier 2 objectives and other resource protection obligations." They state the "issue is very simple: Tier 2 is beyond the Forests' current capability." "If the Forests don't have the capacity to increase timber harvest levels without also keeping up with non-native invasive treatments and watershed improvements, they say are needed to offset adverse impacts, then they don't have the capacity to increase timber harvest levels. If the Forests don't have the funding to expand the road network without also reducing the maintenance backlog on the current, inadequately maintained road system, then they don't have funding to expand the road network."



They point out that "objectives are in direct tension with other resource protection obligations." They also feel "with ambitious goals for timber harvest," beyond the Forests "current capability, there is a high potential for goal interference between active management and other active needs for mitigation, including treatment of non-native invasive species, maintenance of roads to protect water quality, and watershed improvements."

Objectors agree that the Forest Service has analyzed the effects of both Tier 1 and Tier 2 objectives, but with many shortcomings. The example provided: "Forest Service has attempted an analysis of the effects of Tier 2 objectives on young forest habitat creation. However, the Forest Service has not analyzed the effects of meeting Tier 2 objectives without meeting the corresponding objectives mitigating harm to resources directly impacted by timber harvest". They point out that "there is no analysis of the effects of Tier 2 levels of timber harvest without Tier 2 levels of NNIS treatment. There is no analysis of road construction effects without offsetting levels of road decommissioning." Objectors have concerns that the "Forests have stated clearly that if they have the funding for any Tier 2 objective, they can implement it without worrying about whether other needs are met: Moving from Tier 1 to Tier 2 objectives for an individual resource is dependent on the additional capacity and resources that are contributing to the achievement of the objective. The final plan clarifies that any individual objective may proceed to Tier 2 when additional capacity and resources are available for that action." According to the objectors, this is inconsistent with the FEIS's assumptions. They assert that it is unlawful to leave essential mitigation needs behind but assume, for the sake of analysis, that they will be completed.

Objectors strongly feel that the Forest Service misunderstands adaptive management. An agency may always implement a decision, monitor its effects, and then change the decision as needed. They believe that is not adaptive management as the Agency has defined it. They claim that the Forests have identified an "adjustment" that may be made during implementation—moving to Tier 2. Objectors mention that "the Forests have not identified a monitoring strategy that would inform the responsible official that making the adjustment would remain within the bounds of the effects analyzed in the FEIS." Overall, they think that "by putting tiered objectives in the plan, the Forests are intentionally aiming beyond their fiscal capabilities and that there must be some boundary between the tiers." Otherwise, they allege, "the Forests don't have tiered objectives; they have unlawful, fiscally unconstrained objectives."

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.7(e)(1): The Planning Rule recognizes that the responsible official must ensure that plan components are within the "fiscal capability of the unit" (36 CFR 219.1(g)); specifically, plan objectives "should be based on reasonably foreseeable budgets" (219.7(e)(1)(ii)).

The 2012 Planning Rule also establishes requirements for plan monitoring programs at 36 CFR 219.12 (with additional description at 219.5(a)(3)). Specific requirements include that a plan monitoring plan shall be developed and included in the plan (219.12(a)(1)), that the monitoring plan include questions and indicators based on plan components and designed to inform resource



management (219.12(a)(2)), and that the monitoring program must include questions and indicators for a suite of eight key resource areas (219.12(a)(5)).

Beyond the requirements described in 219.12, the 2012 Planning Rule states that “...the responsible official has the discretion to set the scope and scale of the plan monitoring program, after considering: (i) Information needs identified through the planning process as most critical for informed management of resources on the plan area; and (ii) The financial and technical capabilities of the Agency.” (36 CFR 219.12(a) (4)).

## **Project Record**

See the Project Record citation for Issue 10: Tiered Objectives.

Forest Plan, p. 286-300 describes the purpose of the monitoring program and lists the questions and indicators developed to address plan implementation and effectiveness across a range of resources and includes numerous monitoring questions for both Tier 1 and Tier 2 objectives.

Draft ROD, p. 20 emphasizes the importance of the monitoring program and the value of continued public involvement, stating that “In this time of rapid change, as conditions shift and new information becomes available, opportunities to adapt the plan will arise. Alternative E’s monitoring program will allow us to regularly evaluate our actions, gauge our progress toward long-term goals, and modify our approach where needed. The monitoring guide, which will be developed after the forest plan has been finalized, will identify the tactical information needed to implement the monitoring program. Partners will be involved in the monitoring guide development.”

Draft ROD, p. 30 describes the relationship between the plan monitoring program and the development of future plan monitoring guides: “Details of the plan monitoring program—including monitoring and analysis protocols, data collection schedules, responsible parties, and data management—will be part of a separate monitoring guide. Because data sources and frequency of updates are likely to change over the life of the plan, the specific monitoring process is more appropriately included in a monitoring guide, instead of in the plan itself. The guide may include management alerts that identify conditions or circumstances that should be investigated, along with corrective actions to be taken when needed. We currently work with other Federal, State, and local agencies and stakeholder groups to complete monitoring, and expect those partnerships to continue and increase in the future. The specific roles of partners in monitoring will be developed in more detail through the monitoring guide. Coordination on specific monitoring questions will be outlined for Tier 2 questions including partners that will contribute to the monitoring reports such as the Federally Recognized Tribes, U.S. Forest Service Southern Research Station, U.S. Geological Survey, the NC Wildlife Resources Commission, the NC Natural Heritage Program, the State Historic Preservation Office, and others.”

## **Response**

The disclosure of effects in the EIS assumes that implementing management activities to achieve desired conditions and meet objectives would follow applicable standards and guidelines. This is



true for consideration of both Tier 1 and Tier 2 objectives. As such, achieving Tier 2 objectives would not result in effects outside the scope of the FEIS. Additionally, the potential effects of activities would be analyzed and disclosed in future NEPA processes regardless of whether they are related to Tier 1 or Tier 2 plan objectives. For example, if a future project included Tier 2 vegetation management activities, it would still be required to follow plan standards to reduce potential adverse effects and would be subject to project-level analysis for effects on resources including issues the objector mentions such as roads and NNIS. Therefore, establishing “triggers” for additional analysis or monitoring as suggested by the objector is not required to adequately evaluate the effects of activities implementing Tier 2 activities either in the FEIS or in future projects.

The record clearly demonstrates a thoughtful approach to monitoring that includes questions and indicators relevant to the objector’s concerns regarding the effects of activities achieving Tier 2 objectives.

This objection, and others like it, mistakenly suggest that activities achieving Tier 2 objectives are unconstrained, lack analysis or would not be appropriately implemented. Tier 2 objectives were analyzed in the FEIS and the project-level effects of implementing activities would be subject to future analysis and public involvement. Additionally, the plan monitoring program includes many questions and indicators related to the effects of implementing plan objectives, including Tier 2 objectives.

**Instruction(s):** None.

## **Issue 12: Prioritizing Tiered Objectives**

**Objector(s):** MountainTrue

The objector believes there is a need for more active restoration of forest ecosystems than can be accomplished during a single planning cycle, necessitating prioritization of management activities in the revised land management plan.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.7(e)(1) – Required Plan Components: The Planning Rule recognizes that the responsible official must ensure that plan components are within the “fiscal capability of the unit” (36 CFR 219.1(g)); specifically, plan objectives “should be based on reasonably foreseeable budgets” (219.7(e)(1)(ii)).

The 2012 Planning Rule also contains substantive requirements for the plan related to sustainability (219.8), diversity of plant and animal communities (219.9), multiple use (219.10), and timber requirements (219.11).

### **Project Record**



Forest Plan, p. 14 identifies active management and forest restoration as components of the need for change and as a key plan concept (p. 24).

The Forest Plan includes several components related to ecological restoration and active forest management, including desired conditions for restoration (p. 51) and a range of integrated ecosystem and wildlife habitat objectives and management approaches (pp. 69-73).

## **Response**

Although restoration and active forest management are identified as key plan concepts and are addressed in the Forest Plan with a suite of desired conditions and objectives, there are many other important considerations in plan development and implementation. The objectors suggest that active management should be prioritized over other plan objectives, but the purpose of a plan is to provide a strategic, long-term approach to management to fulfill “stewardship responsibilities to best meet the current and future needs of the American people” (Forest Plan, p. 1). By further prioritizing certain activities (i.e., active management and restoration), other important resources and forest values may not meet plan desired conditions.

The plan activities, particularly objectives, must be within the expected financial capability of the Forests. That applies across all objectives or expected annual programs of work. Although additional, external capacity may allow working toward Tier 2 objectives, the Responsible Official determined that the Tier 1 objectives across the entire range of forest activities was within the expected capability and would contribute to achieving desired conditions described in the plan.

During the objection resolution process, the Forest indicated that they would like to make a voluntary clarification to the Plan to explain what management approaches are. Management Approaches are optional plan content that the Plan uses extensively to describe the principal strategies and program priorities the forest intends to employ to carry out projects and activities developed under the plan. The management approaches communicate priorities and focus among objectives and the likely management emphasis.

## **Instruction(s):**

**Voluntary clarification:** The Forest will make a voluntary clarification to the Forest Plan to explain what management approaches are and how they are used in the plan to describe the principal strategies and program priorities the forest intends to employ to carry out projects and activities developed under the plan.

## **Issue 13: Management Areas**

**Objector(s):** Nantahala Pisgah Forest Partnership; MountainTrue; Sierra Club (David Reid); Friends of Big Ivy; Southern Environmental Law Center et al.



The objectors assert that the plan fails to protect over 101,000 acres which are of most importance for conservation and recreation needs. Objectors further purport that the analysis and modeling which was used for Wilderness Inventoried Areas, Natural Heritage Areas, Mountain Treasures, the I Heart Pisgah Priority Conservation Area, and inventoried old growth, are flawed and contain methodological errors.

Another objector asserts that improvements are needed to the plan in general; management areas to be more inclusive or protective areas such as wilderness inventory areas currently in matrix. The objector writes, "improvements include adjustments to MA allocations more protective of Wilderness Inventory Areas currently in Matrix or Interface, weaknesses in the wilderness evaluation process, advocacy for areas included in wilderness recommendations in Alternative B or D, but not brought forward into Alternative E, strengthening for how the Plan deals with climate change."

One objector concludes that the first step in maintain full biodiversity of the forest is to manage natural heritage areas in a way which emphasizes special qualities. The objector provides an example: "For instance, if a site is significant in part for a good quality yellow pine forest, that site should be burned regularly to maintain that community. Another site may be significant for an old-growth Northern Hardwoods Forest, forest herbs, and salamanders. Managing this site for large diameter trees and large woody debris would emphasize its special characteristics."

Objectors allege that the agency refused to "consider an alternative allocating all WIAs to MAs where timber production is unsuitable, and they believe this "violates NEPA's requirement to consider a reasonable range of alternatives.". It is also stated that the public is left with one option "management of these areas consistent with timber production." Objectors are concerned that "this takes a valuable resource for eastern forests—undeveloped and unroaded areas—and fails to consider the effects of suitable management and road construction on that resource."

Another issue the objectors raise is that the agency refused to consider different management areas allocations for areas under different alternatives. For example, "Alternatives B-E appear to place more than 1,500 acres of the Joyce Kilmer-Slickrock Extension 1 WIA into Matrix" which has unique attributes. They feel that the allocation of this pristine area to Matrix would affect those characteristics and another MA designation would affect them differently—"but the agency never considers, analyzes, or discloses how or how much, because the Forest Service allocates the bulk of this area to Matrix in every alternative."

One objector (the partnership) provided numerous comments on the draft plan as to the allocation of various management areas. This objector contends that the selected alternative (Alternative E) varies greatly from that of the recommended allocations they had provided.

### **Remedy(s) proposed by Objectors**

- The Partnership specifically recommended some places be in management areas not suitable for timber production because we also support commercial utilization of lands in the suitable base. We support suitable lands having rotational harvest. For that reason, we support the Forest Service's Desired Condition that "Locally, young forest patch size will



frequently exceed average natural disturbance gap size to provide for habitat diversity and benefit wildlife, and to facilitate restoration operations and financial considerations" (Forest Plan pg. 214). In addition, the Partnership recommendations include the importance of "Good allocations [that] tailor the management direction for different areas to guide the development of good projects, in which recommended work is likely to make it into a final decision and be implemented in an efficient manner" (Comments pg. 25-29). To address this, it is critical that the management area allocations reflect the Partnership's consensus approach.[...]

- Adopting a Management Area Allocation similar to the one advocated by the Partnership.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.4(a): "The responsible official shall provide opportunities to the public for participating in the assessment process; developing a plan proposal, including the monitoring program; commenting on the proposal and the disclosure of its environmental impacts in accompanying National Environmental Policy Act (NEPA) documents; and reviewing the results of monitoring information."

36 CFR 219.7(d): "Every plan must have management areas or geographic areas or both. The plan may identify designated or recommended designated areas as management areas or geographic areas."

The Council on Environmental Quality (CEQ) regulations (in effect prior to 2020) require that EISs consider a reasonable range of alternatives and evaluate the effects of the alternatives in sufficient detail to allow meaningful comparison (40 CFR 1502.1 and 1502.14).

40 CFR 1502.14 requires agencies to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives that were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."

Forest Service NEPA regulations at 36 CFR 220.5(e) state that "The EIS shall document the examination of reasonable alternatives to the proposed action. An alternative should meet the purpose and need, and address one or more significant issues related to the proposed action. Since an alternative may be developed to address more than one significant issue, no specific number of alternatives is required or prescribed."

### **Project Record**

The FEIS describes a range of alternatives (Chapter 2, pp. 2-1 through 2-28) including how they were developed, their key characteristics and how they compare to each other with respect to land allocations and management direction. This description includes detailed comparisons of Management Area allocation among alternatives (pp. 2-6 through 2-10 and associated maps).



FEIS Chapter 2, pp. 2-28 to 2-32 includes a discussion of ten alternatives that were considered but not analyzed in detail and the reasons that these alternatives were not developed in detail, including the alternative proposed from the Nantahala-Pisgah Forest Partnership.

Analysis of the effects of the alternatives on a range of resources is in Chapter 3 of the FEIS; that analysis includes effects on Wilderness and other designations that would not allow active management. The description of Alternative E (the selected alternative) provides rationale relevant for this objection: “Alternative E is intended to strike a balance between the public desire to actively manage and restore the forest for resiliency and biological diversity, to provide for semi-primitive non-motorized recreation settings without many of the restrictions of wilderness designation, and to preserve as recommended wilderness those areas which possess the highest degree of undeveloped and natural characteristics, opportunities for solitude or primitive and unconfined recreation, or other features of value. Alternative E is based on careful considerations of the public comments and the tradeoffs between managing the areas as recommended wilderness and managing them as other land allocations” (FEIS p. 3-501).

The description of how the alternatives differ with respect to old growth is also described, stating that “between the draft plan and the final revised plan, an alternative was added that considered a different size and configuration for the designated old growth network. More than 54,000 acres of additions were added to the designated network to strategically enhance the network’s resiliency and ecological diversity. Patches were selected with consideration of ecozone representation, moisture and elevation gradient contributions, patch size, and contribution to an efficient network. The alternative was built in consideration of the latest scientific literature, academic input, and information provided by commenters and the NC Natural Heritage Program regarding inventoried locations of existing old growth patches. The resulting network includes 291 separate patches totaling 265,385 acres that represent approximately 25% of the Nantahala and Pisgah NFs (Table 129). For detailed information on the process used to modify the network, see EIS Appendix B” (FEIS p. 3-397).

Appendix A of the FEIS documents the comments received on the DEIS and Draft Plan, including many related to land allocation and the specific locations described in this objection. The responses include rationale for plan allocations and, in many cases, describe how public comments were incorporated into the Plan.

## **Response**

The FEIS documented the development and evaluation of a reasonable range of alternatives in which public comments were considered to refine alternatives between the DEIS and FEIS. The management area allocations in the selected alternative are clearly described in Chapter 2 of the FEIS and the effects of all alternatives are considered for a range of resources in Chapter 3 of the FEIS. In particular, the description of how Wilderness, old growth issues and public concerns were addressed in Alternative E demonstrates that the Responsible Official considered public comments and carefully reviewed the alternatives with respect to areas recognized for existing ecological integrity rather than timber harvest activities. This objection contends that the Responsible Official did not consider a sufficient range of alternatives because their preferred land allocations were not analyzed in detail in a separate alternative. Chapter 2 of the FEIS (p. 2-



31) specifically explains why the Nantahala-Pisgah Forest Partnership's alternative was not included as an alternative analyzed in detailed study. There is abundant evidence in the record that a reasonable range of alternatives were considered and that the Forests incorporated public comments into alternative development.

Many of the specific areas described in this objection issue are also addressed elsewhere, particularly in the reviews for objections related to timber suitability, special interest areas and Wilderness.

**Instruction(s):** None.

## NEPA

### Issue 1: Purpose and Need and Alternatives

**Objector(s):** Kim Porter; Nantahala Pisgah Forest Partnership; Center for Biological Diversity

The objectors believe that the Forest Plan and plan components miss the mark with respect to the stated purpose and need by ultimately selecting alternatives and plan components that are outside the comfort zone of partnership members and affiliates. As one objector adds, "the majority of the public supports permanently protecting areas for the Nantahala and Pisgah National Forests". They go on to say, "the agency's approach fails to meet the purpose and need of the Plan, as well as stated Desired Conditions and Objectives, to the extent and with the efficiency of the Partnership proposed solutions (Final Plan pg. 1-2). Our Partnership members and affiliates stretched well beyond their comfort zone, and farther than they may have otherwise been able to in order to balance all stakeholder needs to the fullest extent possible."

"The purpose and need statement is based on false assumptions, contradictory information, and unsupported conclusions. By falsely assuming that regeneration harvests are necessary to create young forests, and that without these harvests the Forests will continue to deviate from the NRV, the Forest Service has defined the need and purpose of this project so narrowly that only alternatives calling for more regeneration harvests are considered. Consequently, the Forest Service has failed to examine less environmentally damaging alternatives that may otherwise address the concerns raised by the Forest Service about the Forests' deviation from the NRV."

The objectors allege that the purpose and need for this land management plan revision was inappropriately narrow because it didn't allow a wide range of alternatives and limits alternatives that would maintain natural range of variation without regeneration harvest. Objectors are also concerned that the Forest Plan and plan components miss the mark with respect to the stated purpose and need.

## REVIEW FINDINGS

### Law, Regulation and Policy



40 CFR 1502.13: “The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.”

40 CFR 1501.2(C): “Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources as provided by section 102(2)(E) of the Act.”

40 CFR 1502.24 establishes a scientific integrity requirement for Environmental Impact Statements: “Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. . .”

40 CFR 1502.22: “When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

(b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:

A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, “reasonably foreseeable” includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. . .”

40 CFR 1502.14 specify that agencies shall: “Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated; (2) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits; (3) Include reasonable alternatives not within the jurisdiction of the lead agency; (4) Include the alternative of no action; (5) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference; (6) Include appropriate mitigation measures not already included in the proposed action or alternatives.”

36 CFR 220.5(e): “The EIS shall document the examination of reasonable alternatives to the proposed action. An alternative should meet the purpose and need and address one or more significant issues related to the proposed action. Since an alternative may be developed to



address more than one significant issue, no specific number of alternatives is required or prescribed.”

The 2012 Planning Rule at 36 CFR 219.3 and the associated directives in the Land Management Planning Forest Service Handbook (FSH 1909.12, zero code, Section 07.11b) require the use of best available scientific information (BASI) to inform the planning process, including documenting how BASI was used to inform the process. Data and methodology used to inform plan assessment, component development, and the monitoring program must be accurate, reliable, and relevant.

36 CFR 219.8 directs the Forest Service to provide for ecological, social, and economic sustainability within Forest Service authority and consistent with the inherent capability of the plan area. The land management plan must include “plan components to maintain or restore ecological integrity” and account for system drivers including disturbance regimes and stressors such as climate change.

“Hard Look” Doctrine - The need to take a “hard look” at the environmental consequences of a proposed action includes the following elements to be followed in any NEPA analysis:

- Demonstrate the reliability and soundness of methodologies and data.
- Account for uncertainty, explain assumptions and address opposing views.
- Rigorously explore and objectively evaluate all reasonable alternatives, design features and mitigation measures.
- Reach a conclusion. Provide support for the conclusion.
- Be clear and methodical in your writing and analysis.
- In summary, under NEPA, an agency must take a “hard look” at the impacts of a proposed action and must ensure the scientific integrity of its analyses.

## **Project Record**

FEIS, pp. 1-5 to 1-8, Purpose and Need for Action: Ecosystems: Restore habitat components such as tree species composition and canopy structure in a variety of ecosystems, including young and old growth forest; Wildlife Habitat: Increase the amount of young forest across the landscape.

FEIS, Appendix D, p. D-14: Vegetation Modeling Section: Determining Frequency of natural disturbances: “The final timeframe is the long-term future, from 50 to 200 years from present. There are many uncertainties in the long-term future due to climate change.”

FEIS, Appendix D, p. D-14: “NRV (also called Historic Range of Variability (HRV)) HRV describes the variation in physical and biological conditions exhibited by ecosystems as a consequence of climatic fluctuations and disturbance regimes. An HRV assessment is useful for understanding past ecological processes and the resulting biological diversity under those conditions (2012 Planning Rule FEIS, p. 88). As such, the 2012 Planning Rule uses NRV as a reference for assessing ecological integrity. NRV provides insight into the temporal dynamics of an ecosystem and provides context for assessing ecological integrity. (Plan Directive, p. 18.)”



FEIS, Appendix D, p. D-19: Vegetation Modeling Section: Analysis of the Future: developed estimates for future natural disturbance over 5 decades.

FEIS, Appendix D, p. D-23: Citation to FSH 1909.12 Land Management Planning Handbook, Chapter 60 Forest Vegetation Resource Management, requires timber harvest prescriptions to be made available for all lands that were identified as suitable for timber production.

FSH 1909.12 Chapter 60, Sec. 64.31 states: “The responsible official shall determine the appropriate method to use for determining the sustained yield limit.”

FEIS, p. 3-123: “Under Tier 1 objectives, average per decade acreages of young forests do not meet desired conditions in Alternative E. Average amount of young forests are lower than the other action alternatives in first few planning periods but are higher in the later plan periods. This is due to lower regeneration upper limits of approximately 10,000 acres per decade in early planning periods to allow prescribed fire to contribute to young forest creation. The output of young forests from prescribed fire in Alternative E is approximately 2-3 percent in the first planning periods, which is lower than the expected value described above. Therefore, most of the prescribed fire does not create young [forest], but instead, is devoted to woodland creation.”

## Response

In response to the objector’s contention that the Forest Service has defined the purpose and need too narrowly in constraining the range of alternatives to consider only more regeneration harvests, the Forest Plan and the FEIS clearly define the purpose and need for the maintenance and restoration of ecological integrity to be accomplished through multiple resource objectives (Forest Plan pp. 50-53 and FEIS, pp.1-5 to 1-8). The Forests’ 2014 Notice of Intent and Need for Change states the purpose and need for revising the Nantahala and Pisgah’s current forest plan is due to “the forest plan is over 25 years old, (and) since the forest plan was approved in 1987, there have been changes in economic, social, and ecological conditions, new policies and priorities, and new information based on monitoring and scientific research” (2014 NOI, p. 4). The 2014 Need for Change is summarized in the FEIS (p.1-5 through 1-8), including the identified needs to change the existing plan. One of these areas identified, among other areas of the existing forest plan to be changed, aims to achieve the following in the revised plan: “Restore habitat components such as tree species composition and canopy structure in a variety of ecosystems, including young and old growth forest” (FEIS, p.1-5). The fully developed description of the Need for Change is available in the project record (2014 NOI).

The need for change was used to develop the four action alternatives that were analyzed in detail. A factor common to all proposed action alternatives is to “emphasize ecosystem restoration and maintenance to achieve healthy systems” and that all action alternatives include maintenance of ecosystems which “occurs when a currently health system or a restored system are sustained in that resilient state” (FEIS, p. 2-5). What varied among the action alternatives was the size and configuration of Matrix, Ecological Interest Area, and Backcountry Management Areas. In terms of vegetation patterns, the opportunity for creating young forest is least restricted where Matrix is the largest (FEIS, p. 2-9). Alternative E, which is the preferred alternative that incorporates public comments between draft and final, responded to Issue 1-Vegetation Patterns and Wildlife



Habitats, by emphasizing habitat shortages in young forest, old growth forest, and open forest conditions: “Increases the pace and scale of young forest habitat creation. Objectives would double annual young forest timber harvest practices under Tier 1 (from 650 to 1,200)” and “Adds an emphasis on using fire and mechanical harvest to restore open forest conditions in tiered objectives” (FEIS, p. 2-21). In addition to analyzing alternatives in detail, the FEIS described alternatives eliminated from detailed study and provided rationale for why they were excluded (FEIS, pp. 2-28 - 2-32).

One of the alternatives not considered in detail was an “Alternative in which all active management is in a defined Ecological Restoration MA” (FEIS, p. 2-29). This proposed alternative was proposed to meet ecological restoration needs while “minimizing the focus on forest age class distribution” (Nantahala and Pisgah Forest Partnership 2017). The FEIS explained that due to the Assessment findings that forest structure is severely departed and the inability to manage for the “diversity of age class habitats that many forest species depend on” by minimizing consideration of forest structure at the landscape level, this alternative would not meet the stated purpose and need of the plan. Allocation of a portion of the forest to an Ecological Interest Area MA (EIAs) does consider the intent of this proposed alternative in that these EIAs “focus on compositional restoration while still meeting forest health, habitat, and forest product goals” (FEIS, p. 2-29). As stated in the Forest Plan, the standard TIM-S-1 states that timber production will not be the primary purpose for projects and activities and shall complement ecological restoration (Forest Plan, p. 91). Timber production will complement the desired conditions and objectives for ecological restoration across all alternatives.

As stated in the FEIS, diversity of forest age is important because it generally equates to greater diversity in forest structure (FEIS, p. 3-117). Alternative E identifies 459,175 acres as suitable for timber production (Forest Plan Appendix B) and clarifies that the identification of lands as suited for timber production does not mean that timber production is the primary purpose of management for those lands.

The Forest Plan outlines how young forest creation will be accomplished with management approaches and Integrated Ecosystem and Wildlife Habitat objectives (Forest Plan, p.18 and pp. 69-72). In compliance with the 2012 Planning Rule (36 CFR 219.8(a)) “...to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area”, the plan was built on the assumption that “ecosystems are most resilient when they have high ecological integrity...an ecological system has integrity when its dominant characteristics...occur within their natural ranges of variation” (FEIS, p. 2-5). Using existing conditions evaluated during the assessment stage for young forests, old growth, and woodlands, the Forest’s 2014 Need for Change summarized the need to revise the forest plan to achieve restoration of wildlife diversity through creation of young forests using silvicultural practices. Regeneration harvests were identified as one of the management strategies, along with prescribed fire, to meet this need to restore the NRV in these underrepresented ecozones (Forest Plan, p. 70). The Forest Plan Tier 1 vegetation management objective, ECO-O-02, is to ‘Increase new young forest conditions by using silvicultural practices on between 650 to 1,200 acres annually’ (Forest Plan, p. 70). The associated management approach outlines that timber harvest will account for approximately 80% or more of young forest creation with the remainder accomplished with prescribed fire.



As stated in the draft ROD, the Forests considered other methods than NRV in the analysis: “Rather than rely exclusively on the Natural Range of Variation which may not be attainable in modern times, the EIS analysis considered other methods of ensuring ecological integrity when establishing a designated old growth network. In particular, the EIS analysis considered representativeness of ecozones, moisture classes, elevation gradients, and habitat rare species; and redundancy of patch sizes across forest wide geographic distribution when establishing a designated old growth network that would provide for the development of old growth characteristics over time” (draft ROD, p.66). The draft ROD recognizes the differences in opinion on scheduled regeneration harvests to create young forests, as this was a driver for one of the key issues that drove alternative development, the Vegetation Patterns and Wildlife Habitats issue. Each of the action alternatives analyzed effects from varying management activities to sustain resilient forest conditions: “There are differences of opinion about the use of scheduled regeneration treatments to meet desired conditions. Some believe that harvesting trees to create young forest is a necessary method for sustaining resilient forest conditions. Others would prefer that regeneration is only used to improve species composition, rather than being used to regenerate young forest of the same forest type. As a result, there are differences of opinion about the acceptable management activities that can occur on lands suitable for timber production and what types of management activities can occur on lands not suitable for timber production” (draft ROD, p.13).

The FEIS accurately analyzes a 'reasonable range of alternatives' in terms of the proposed management areas (modeling assumptions) and proposed objectives (modeling constraints) that were used as inputs into the modeling by alternative (Appendix D, pp. D-32 through D-43). Natural disturbances were included in the analysis. Historic patterns of disturbances formed much of basis for that analysis. In Alternative E, disturbance patterns were adjusted for several climate scenarios in order to sense how changes in disturbances could affect management goals as cited in the revised plan (draft ROD p. 61).

The Forests identified that natural disturbance contributes to young forest seral states (FEIS Appendix D, p. D-21). Through modeling the Forests identified wildfires, landslides, and storms will contribute to young forest creation depending on the severity, frequency, and spatial extent of natural disturbances (FEIS Appendix D, p. D-17). Although, several fires were eliminated from the Eastern Escarpment Geographic Area, within the vegetation loss and gain calculation using Lidar, there is not enough information stating which fires and what intensity were eliminated from the calculation. Appendix D, p. D-17 states: “34 fires resulted 10 percent of a burned area would result in high severity, by removing “several” fires from escarpment, approx. 3 to 5 percent of burned area would be high severity”. The Landsat and Sentinel 2 data did differentiate between high, moderate, and low severity wildfires.

The Responsible official has appropriately met obligations under NEPA (40 CFR 1500-1508). As displayed in the FEIS on pp. 2-16 to 2-27 and the draft ROD on pp. 46-54, the Responsible Official considered a broad and a reasonable range of alternatives in his decision making (40 CFR 1502.1 and 1502.14; 36 CFR 220.5(e)). Further, in direct response to public input, the Forests ensured the themes of the alternatives didn't polarize public interests during alternative development by building upon shared values (FEIS, p. 2-1).



**Instruction(s):** None.

## **Issue 2: NEPA Efficiency**

**Objector(s):** Graham County

The objector feels that many of the processes used across the US Forest Service land management plans are cumbersome and flawed; example includes the continuous data collection that could be streamlined. The objector maintains that the NEPA process should be completed in 12 months or less.

### **Remedy(s) proposed by Objectors**

- The data gathered during the years of plan revision should be used to make decisions that will make projects move more quickly.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.1(c): The revised plan will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.

36 CFR 219.4 requires the responsible official to engage the public – including Tribes and Alaska Native Corporations, other Federal agencies, State and local governments, individuals, and public and private organizations or entities – early and throughout the planning process, using collaborative processes where feasible and appropriate.

36 CFR 219.16 requires formal public notifications at specific milestones in plan development, amendment, and revision. This section of the Planning Rule specifies certain parties whom the responsible official must engage, and requirements for tribal consultation and coordination with other planning efforts.

40 CFR 1501.8 includes provisions for state, local, and tribal governments to provide special expertise for the environmental analysis as a cooperating agency.

### **Project Record**

Forest Plan, pp. 4-8: The purpose of this land management plan is to guide future projects, practices and uses, to assure sustainable multiple-use management on the Nantahala and Pisgah NFs over the next 15 years. A land management plan establishes goals, desired conditions,



objectives, standards, guidelines, and land suitability to assure coordination of multiple uses (e.g., outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness) and sustained yield of products and services.

Draft ROD, p. 12: “Pre-draft pieces of the Plan have been shared with the public at every stage: Assessment, Need for Change, pre-draft plan development, EIS alternative development, and during the formal comment period on the proposed plan and the draft EIS. In addition, the public has had an opportunity to provide input on specific plan processes, including, but not limited to the Wilderness inventory and evaluation process, the Wild and Scenic River evaluation process, the transition to the Scenery Management System, and the identification of Species of Conservation Concern. The Forest Service hosted 49 face-to-face and virtual meetings at locations around the Forests. Upon request, the Forest Service participated in others’ meetings, including local governments, non-governmental organizations, and interest groups. Forest staff attended more than 120 meetings with collaborative groups and met with Federally Recognized Tribes 17 times. The Forest Service offered 17 programs to youth and reached out to local, State, and Federal agencies throughout the process, including 65 meetings in addition to emails and phone communications.”

Draft ROD, p. 16: “The revised land management plan does not authorize projects or activities, commit the Forest Service to take action, or dictate internal operations (such as personnel matters, law enforcement, budget, or organizational changes). Rather, plans establish overall desired conditions and objectives that the individual national forest strives to meet draft. Forest plans also establish limitations on what actions would be authorized and what conditions would be met during project level decision-making. Management direction will be implemented through site-specific activities that must be consistent with the land management plan (36 CFR 219.15). Project-level environmental analysis will still need to be completed for specific proposals to implement the direction in the forest plan.”

Draft ROD, p. 76: “The revised land management plan is a programmatic level planning effort that does not directly authorize any ground disturbing activities or projects. Future ground disturbing activities and projects will be consistent with the revised land management plan and subject to additional site-specific public involvement, environmental analysis, and pre-decisional review processes in compliance with the Act and CEQ’s NEPA regulations.”

## **Response**

The Forest Service has taken steps to improve the NEPA processes through the Environmental Analysis and Decision Making (EADM) initiative that began in 2017. The Forest Service’s goal for environmental analysis and decision-making processes is to be efficient, effective and make high-quality land management decisions.

The Nantahala and Pisgah National Forests strove to develop a plan that is reflective of diverse interest and communities and that can be successfully implemented with sustained public involvement (draft ROD, p. 8). The 2012 Planning Rule puts emphasis on public collaboration throughout the forest plan’s planning process. Public collaboration and engagement take time to organize, coordinate, present, and discuss. Additionally, the Planning Rule requires formal public



notifications at specific milestones in plan development, amendment, and revision (36 CFR 219.16). This section of the Planning Rule specifies certain parties whom the responsible official must engage, and requirements for tribal consultation and coordination with other planning efforts.

Throughout this planning process, Forest leadership and the plan revision team invested in outreach, dialogue, and relationships with partners, community stakeholders, and non-traditional audiences to engage them early and often throughout the planning process (draft ROD, p. 8). Pre-draft pieces of the plan have been shared with the public at every stage as noted above. The Forests hosted nearly 50 meetings, participated in meetings held by others and met with Federally Recognized Tribes. In addition, the Forests engaged extensively with youth reached out to local, State, and Federal agencies throughout the process, including 65 meetings in addition to emails and phone communications (draft ROD, p. 12).

Additionally, the responsible official met the obligation with public input in conformance with NEPA regulations (40 CFR 1503) and effectively adapted to constraints established by the COVID-19 epidemic in order to meet obligations for public collaboration and input. The comment period opened on February 14, 2020, and concluded on June 29, 2020. The 90-day comment period was extended 45 days due to impacts of COVID-19 on the public engagement process.

As noted above, future ground disturbing activities and projects will be consistent with the revised land management plan and subject to additional site-specific public involvement, environmental analysis, and pre-decisional administrative review processes in compliance with the Act and CEQ's NEPA regulations (draft ROD, p. 76). While the Nantahala and Pisgah planning process began before the 2020 Council of Environmental Quality (CEQ) regulations were published, project level analysis conducted after the adoption of the 2020 CEQ regulations will conform to the timely decision-making process with established time limits and page restrictions for the environmental analyses.

The standards and guidelines established in the plan provide direction for the desired conditions of the forest. In achieving desired conditions, project level analysis will include the standards and guidelines as a mean "...to avoid or mitigate undesirable effects" (Forest Plan, p. 5). These plan components will focus project level analysis by providing management direction and constraints for proposed activities within site specific areas that will undergo environmental analysis in conformance with National Environmental Policy Act.

The Responsible Official met his obligations under 2012 Planning Rule (36 CFR 219.4 and 36 CFR 219.16)) by engaging with State and Local Governments, Indian Tribes, other Federal Agencies, and the public (draft ROD p. 8-12). He also met his obligation to involve the public, in accordance with NEPA regulations (40 CFR 1503) and the Forests effectively adapted to constraints established by the COVID-19 epidemic in order to meet their obligations for public collaboration and input.

The Responsible Official strove to develop a plan that is reflective of diverse interest and communities and that can be successfully implemented with sustained public involvement (draft



ROD, p. 8), and followed the Environmental Analysis and Decision Making (EADM) framework to be efficient, effective, and develop high-quality land management decisions to accomplish more work on the ground and be more responsive to the public the Forests serve.

**Instruction(s):** None

### **Issue 3: Alternative E Fails to Address Concerns of the Public**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah' Nantahala Pisgah Forest Partnership

The objectors contend that the selected alternative, alternative E, ultimately fails to address key concerns identified by the public such as concerns over too much timber harvest, not enough protection for special areas, and not enough plan components for the protection of wildlife habitat. The objectors remind the Forest Service that over 92% of the almost 22,000 public comments received urged the Agency to strengthen protections and increase protected areas. Relatedly, another objector believes that the collaboratively developed comments submitted as an alternative were not considered in detail. Their suggested remedy is to incorporate their comments/solutions into the final selected alternative.

#### **Remedy(s) proposed by Objectors**

Alternative E must include the following remedies:

- Protect all 101,000 acres of the most important conservation areas, including the I Heart Pisgah Key Conservation Areas and Mountain Treasures.
- Protect all remaining old-growth forests.
- Prohibit logging on steep slopes.
- Prohibit logging in the Appalachian Trail viewshed and other major trail corridors.
- Prohibit logging within 100 feet of all waterways, including ephemeral streams.
- Protect ALL of Craggy as a National Scenic Area.
- Fully evaluate climate and carbon storage benefits of intact, mature forests in all management decisions.
- Include full and robust protections for ephemeral streams.
- Protect all of the State Natural Heritage Areas.
- Include species-specific plans and robust, enforceable protections for their habitat.
- Fix the model inputs to accurately reflect old growth forests and natural disturbance.
- Include more youth and diverse voices in forest decision making for the next 30 years. Include more youth and diverse voices in forest decision making.
- Protect the six PARCAs—Priority Amphibian and Reptile Conservation Areas—on the Pisgah-Nantahala National Forest as a starting point for safeguarding herpetological and rare species diversity.
- Adopt an accurate and consistent all-lands approach that considers the plan "in the context of the broader landscape" as required by the 2012 Planning Rule.

### **REVIEW FINDINGS**



## **Law, Regulation and Policy**

The National Forest Management Act (NFMA) requires the development, maintenance, amendment, and revision of land management plans for each unit of the National Forest System. These land management plans help create a dynamic management system, so an interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences will be applied to all future actions on the unit. Under the Act, the Forest Service is to ensure coordination of the multiple uses and sustained yield of products and services of the National Forest System.

40 CFR 1503.1 - Inviting comments. (a) After preparing a draft environmental impact statement and before preparing a final environmental impact statement the agency shall: Obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce environmental standards.

40 CFR 1503.4 – Response to Comments. (a) An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to: Modify alternatives including the proposed action; Develop and evaluate alternatives not previously given serious consideration by the agency; Supplement, improve, or modify its analyses; Make factual corrections.

40 CFR 1502.14 specifies that agencies shall: (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits. (c) Include reasonable alternatives not within the jurisdiction of the lead agency. (d) Include the alternative of no action. (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference. (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

## **Project Record**

FEIS Appendix A, Response to Comment, pp. 175-179.

Draft ROD, pp. 46-59.

FEIS, p. 2-13 to 2-14 - Alternative E increases the size of the designated old growth network by more than 54,000 acres, up to about 265,000 acres.

FEIS, pp. 2-16 to 2-22 - Section 2.5, How Action Alternatives Respond to the Issues



FEIS, pp. 2-28 to 2-32, Alternatives Considered but Eliminated From Detailed Study, specifically, FEIS p. 2-30: “The Forest Service recognizes the public interest in protection of this area and included a range of alternatives that respond to the desire for wilderness recommendation and resource protection in the Craggy Mountains area. Following the comment period, elements of the National Scenic Area proposal were folded into Alternative E which recommends an expanded area for wilderness and allocates much of the remaining area as a Forest Scenic Area within the Special Interest Area Management Area.”

FEIS, p. 2-29 to 2-30: Alternative E which recommends an expanded area for wilderness and allocates much of the remaining area as a Forest Scenic Area within the Special Interest Area Management Area. The variation in the management area allocation in the range of alternatives adequately addresses the diverse public interests and values in the Craggy Mountains, Big Ivy, Snowball Mountain, and Shope Creek areas by recognizing their ecological diversity, scenic values, and recreational uses.

## **Response**

The Forests developed the response to comments in accordance with NEPA regulations (40 CFR Part 1503). Appendix A documented how comments were addressed and how Alternative E was modified to address some of those comments (FEIS, Appendix A, p. 6). The purpose and need were used to develop the four action alternatives that were analyzed in detail. A factor common to all proposed action alternatives is to “emphasize ecosystem restoration and maintenance to achieve healthy systems” and that all action alternatives include maintenance of ecosystems which “occurs when a currently health system or a restored system are sustained in that resilient state” (FEIS, p. 2-5). What varied among the action alternatives was the size and configuration of Matrix, Ecological Interest Area, and Backcountry Management Areas. In addition to analyzing alternatives in detail, the FEIS described alternatives eliminated from detailed study and provided rationale for why they were excluded (FEIS, pp. 2-28 to 2-32). However, no specific number of alternatives is required or prescribed.

Issues related to the extent and location of wilderness and special designations have been addressed in the draft ROD (p. 14) and the FEIS Appendix A: Response to Comments (pp. 166-168 and pp. 178-179). Specifically, the Forests addressed the comment regarding North Carolina Mountain Treasures, responding that “North Carolina Mountain Treasures” are not a Forest Service recognized land allocation; this is a term coined by the Wilderness Society in non-governmental organization reports. The plan’s management area allocation varies by alternative.

The FEIS includes an updated section in Chapter 2 that explains how management area allocation decisions were made for Matrix, Ecological Interest Area and Backcountry in the action alternatives. The FEIS documents how Alternative C is responsive to the objector’s concern as it allocates the fewest areas to management areas suitable for timber production. The effect of the alternatives’ different land allocations is the subject of the resource analyses contained in Chapter 3 of the EIS.” In addition, the FEIS, p. 2-31, documented consideration of an alternative that was provided by the Nantahala-Pisgah Forest Partnership that included all priority conservation areas, including “North Caroling Mountain Treasures.” This alternative was



not considered in detailed study because some elements of the alternative were outside of the scope of the plan revision or were inconsistent with how the Forests manage multiple resources.

The Forests did recognize the public interest in protecting wilderness and other areas in the FEIS. Alternative E was developed in response to those comments from draft to the final plan. The modification of Alternative E included wilderness recommendation of 49,098 acres, increasing the old growth network, and allocating additional areas within the Special Interest Area Management Area as a Forest Scenic Area. As a result, the Forest Plan recommends approximately 49,000 acres for wilderness, an increase in 34,000 acres compared to the current plan. The Forest Plan calls for doubling the amount of land in Special Interest Areas that focus on places that have unique ecological, cultural or scenic value. The Forest Plan recognizes nearly 119,000 acres, an increase of more than 68,000 acres from the current plan. The plan identifies eight newly eligible Wild and Scenic Rivers. Compared to the current plan, the designated old growth network expanded an additional 54,000 acres to 265,000 acres with Alternative E. Note that most of the proposed remedies listed here are described in greater detail in other parts of this objection response.

The Responsible Official appropriately met the obligations under NEPA (40 CFR 1500-1508) for the following reasons: in direct response to public input, the Forests ensured the themes of the alternatives did not polarize public interests during alternative development by building upon shared values (FEIS, p. 2-1); and as displayed in the FEIS, pp. 2-16 through 227 and the draft ROD, pp. 46-54, he considered a broad and a reasonable range of alternatives in his decision making (40 CFR 1502.1 and 1502.14; 36 CFR 220.5(e)).

See also the response to Aquatic Species Issue 2: Salamanders and Amphibians for a response to the request to consider PARCAs. See the sections on Special Interest and Designated Areas, Wild and Scenic Rivers, Wilderness, State Natural Heritage Areas, National Scenic Trail, Climate Change, Hydrology and Soils, Aquatic Species, Ecological Integrity, Old Growth, Ecozones, and Timber for additional information regarding the objector's concerns.

**Instruction(s):** None.

## **Issue 4: Response to and Consideration of Comments**

**Objector(s):** William (Bill) Floyd; Clay County; Carolina Mountain Club; American Whitewater

The objectors do not believe the Forest Service responded to their comments, asserting that the Forest Service is required to by NEPA. Relatedly, another objector asserts that their comments/objections provided at public meetings and in a meeting with the Forest Supervisor, Clay County Manager and the Clay County Commissioners on 4/27/17, were not documented in the project record.

Objector contends that during the draft plan/draft EIS phase of the planning process, the objector had submitted comments along with data exhibits cataloging various scientific studies that the objector had requested be made part of the administrative record so as to help shape the final



plan. The objector states that the Forest Service has failed to demonstrate how any of these studies and resources were used throughout the planning process, including documents related to Soils, Water Resources, Aquatic Systems and/or Wild and Scenic Rivers located within the Nantahala and Pisgah National Forests. "These studies and documents should have been understood to be highly relevant for deciding how to manage these elements associated with the North Carolina headwaters of the Chattooga River," says the objector.

### **Remedy(s) proposed by Objectors**

- Objectors asked that the project record be reviewed to ensure their comments are documented and addressed.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

40 CFR 1502.9(b): "Final environmental impact statements shall respond to comments as required in Part 1503 of this chapter. The agency shall discuss at appropriate points in the final statement any responsible opposing view which was not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised."

40 CFR 1503.4(a): "An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to: (1) Modify alternatives including the proposed action. (2) Develop and evaluate alternatives not previously given serious consideration by the agency. (3) Supplement, improve, or modify its analyses. (4) Make factual corrections. (5) Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response."

40 CFR 1501.7(a)(3) requires the Forest to: "(3) Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere."

40 CFR 1501.7(a)(2): Determine the scope (§1508.25) and the significant issues to be analyzed in depth in the environmental impact statement.

40 CFR 1501.7(a)(3): Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere. . ."



The National Forest Management Act of 1976 (16 U.S.C. 1600 et seq.) amended the Forest and Rangeland Renewable Resources Planning Act of 1974. Specific direction for land management planning is provided at 16 U.S.C. 1604.

36 CFR 219.4(a)(1) - The responsible official shall encourage public participation by: (i) Interested individuals and entities, including those interested at the local, regional, and national levels; (ii) Youth, low-income populations, and minority populations; (iii) Private landowners whose lands are in, adjacent to, or otherwise affected by, or whose actions may impact, future management actions in plan area; (iv) Federal agencies, States, counties, and local governments. Where appropriate, the responsible official shall encourage States, counties, and other local governments to seek cooperating agency status; (v) Interested or affected federally recognized Indian Tribes or Alaska Native Corporations.

FSH 1909.12, Chapter 40 provides guidance on public participation during the land management planning process.

### **Project Record**

Project Record, Correspondence including: Clay County Outreach Meeting Notes (2017); Clay County Access Letter (2017); Clay County Resolution Amendment (2016); and Floyd Emails and Public Comments.

FEIS Appendix A, Response to Comments, pp. 154-166.

FEIS, Alternatives Considered but Eliminated from Detailed Study, pp.2-30 to 2-31.

FEIS Appendix H, Public and Government Involvement, in its entirety.

Draft ROD, pp. 12-13 - Public Involvement

### **Response**

As described in the Planning Issue 3: Public Engagement, the draft ROD (p. 12) and FEIS Appendix H documented the Forests expansive and comprehensive effort to engage with the public and invited discussion and collaboration throughout the process. The Forests engaged with partners, community stakeholders, and non-traditional audiences with a goal to “...to engage them early and often throughout the planning process” (FEIS Appendix H, p. 1). This extensive amount of public engagement has been incorporated into the Forest Plan and FEIS.

The project record has been reviewed to ensure that comments from objector Clay County are saved in the project record, including the 4/27/17 meeting with the Forest Supervisor, Clay County Manager, and the Clay County Commissioners. The Forests addressed the Clay County Board of Commissioners resolution adopted on July 3, 2014, for areas that Clay County wished to exclude as recommended wilderness in the FEIS Appendix A, Response to Comments (pp. 167-168) and in the FEIS Alternatives Considered but Eliminated from Further Study (p. 2-30). Clay County raised concerns about the recommended wilderness areas near Boteler Peak, Cherry



Cove, Chunky Gal, and the Tusquitee Bald. Alternative C only recommends portions of existing study areas which is most responsive to the issues raised by Clay County (FEIS, p. 2-8).

The scientific studies and resources that objectors American Whitewater and the Nantahala-Pisgah Forest Partnership provided were used throughout the planning process to help inform plan direction, along with the issues that drove the range of alternatives, including the issues of Special Designations and Recreation. In response to the contentions raised by objector American Whitewater regarding the Chattooga Wild and Scenic River, the Responsible Official determined that this was not an issue that was moved forward in this forest plan revision process and was not analyzed due to being outside of the scope of the analysis. The rationale for why this issue and alternative was considered but eliminated from detailed study is clearly summarized in the FEIS, p. 1-14 and p. 2-30. See also the response to Wild and Scenic Rivers Issue 5: Chattooga River for a detailed explanation on management of the Chattooga River.

In response to objector's contentions about the need to incorporate all the exhibits provided in the objection, the objection record includes the submitted exhibits. The Forests have exercised its responsibility to the objector in being responsive to requests under the Freedom of Information Act (FOIA) for non-privileged and un-published documents. The Forests have communicated to the objector that many of the suggested records provided are not relevant to the plan decision, such as the Chattooga Wild and Scenic River management issue that was eliminated from further study. After multiple FOIA requests over several years starting in 2014, the Regional FOIA Coordinator notified the objector that there would be a fee for future requests; any potential outstanding issues related to FOIA will be remedied outside of this land management plan revision process.

**Instruction(s):** None.

## **Issue 5: Effects Analysis and Hard Look**

**Objector(s):** Greg Warren

The objector contends that both the planning and NEPA process are deficient. He reminds the Forest Service of their obligations to have a robust public engagement process and to provide best available science with common methodologies that can lead to a reasoned decision. The objector does not think the Forest hit the mark as evidenced by the objector's allegations violating NEPA by not taking a hard look at the alternatives and analyzing the issues provided by the public, providing an adequate environmental effects and cumulative effects analysis, and not providing standards, guidelines and desired conditions that are unique to each management area.

The objector centers his concerns around his perception that the "FEIS failed to map ROS class allocations for each alternative, not allowing for a reasoned decision. NEPA requires that the responsible official make a reasoned decision, which must be dependent on clear methodologies and scientific information. To informed decision-making and informed public participation the plan direction must follow accepted methodology and scientific processes, use common definitions, and use plain writing to establish and present the Plan direction. The Council on Environmental Quality (CEQ) issued guidance in 2014 on effective use of programmatic



National Environmental Policy Act (NEPA) reviews. CEQ states that NEPA requires Federal agencies to consider the effects of a proposed action and any reasonable alternatives on the human environment. Those effects include, among others, impacts on social, cultural, economic, and natural resources.”

The objector is especially concerned that the “forest plan geographic bounded areas include a National Forest as a whole, Geographic Areas, Management Areas, and the extent of designated areas such as the area within a Wild and Scenic River established boundary (16 U.S.C. § 1274(b)) and a selected right-of-way (or defined National Trail Management Corridor) for National Scenic and Historic Trails (16 U.S.C. § 1246(a)(2)).” He contends that “Each agency zoned area should have unique desired conditions and standards and guidelines that constrain use so that desired conditions are not degraded.”

### **Remedy(s) proposed by Objectors**

- Objector suggests that a supplemental EIS be prepared to address the deficiencies found.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

40 CFR 1502.14 specifies that agencies shall: (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits. (c) Include reasonable alternatives not within the jurisdiction of the lead agency. (d) Include the alternative of no action. (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference. (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

40 CFR 1502.22: “When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, “reasonably foreseeable” includes impacts which have catastrophic consequences, even if their



probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. . .”

40 CFR §1502.24 establish a scientific integrity requirement for Environmental Impact Statements: “Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. . .”

36 CFR 219.3 and the associated directives in the Land Management Planning Forest Service Handbook (FSH 1909.12, zero code, Section 07.11b) require the use of best available scientific information (BASI) to inform the planning process, including documenting how BASI was used to inform the process. Data and methodology used to inform plan assessment, component development, and the monitoring program must be accurate, reliable, and relevant.

See NEPA Issue 1: Purpose and Need and Alternatives for a description of the Hard Look doctrine.

Draft ROD, p. 76: “The revised land management plan is a programmatic level planning effort that does not directly authorize any ground disturbing activities or projects. Future ground disturbing activities and projects will be consistent with the revised land management plan and subject to additional site-specific public involvement, environmental analysis, and pre-decisional review processes in compliance with the Act and CEQ’s NEPA regulations.”

## **Project Record**

FEIS, pp, 3-445 through 3-471 - Section 3.4.4 describes the affected environment as it relates to recreation on the forest including a summary of recreation visitor uses and trends associated with varied recreation opportunities provided on the forest. The FEIS also includes the environmental consequences of the plan direction as it relates to providing for sustainable recreation in compliance with the 2012 Planning Rule regulations.

Public Engagement – See Planning Issue 3: Public Engagement, NEPA Issue 3: Alternative E Fails to Address Concerns of the Public, and NEPA Issue 4: Response to and Consideration of Comments.

Best Available Scientific Information – See Planning Issue 7: Best Available Scientific Information.

Alternatives Considered – See NEPA Issue 1: Purpose and Need and Alternatives and NEPA Issue 3: Alternative E Fails to Address Concerns of the Public.

Forest Plan, pp.113-117, Recreation Settings.

## **Response**



The Responsible Official developed plan components for sustainable recreation using the recreation opportunity spectrum consistent with regulations and current policy. The FEIS describes the potential impacts to the recreation experience based on the proposed increased pace and scale of ecological restoration on the forest (FEIS, pp. 3-468 through 3-469). Potential timber harvest effects to semi-primitive motorized settings, including the scope and scale, will be addressed during project-level environmental analysis. This project level NEPA analysis is required to implement Forest Plan direction (FEIS, p. 1-8). The analysis of the sustainable recreation plan components is sufficient to support the finding in the draft ROD that the plan provides “integrated resource management to provide for ecosystem services and multiple use [including outdoor recreation] and sustainable recreation; including recreation settings, opportunities, and access; and scenic character.” (36 CFR 219.10 (b)(1)(i)).

The objector’s primary concerns about the NEPA sufficiency of the final EIS are related to contentions about plan components that may allow management actions that the objector considers incompatible with semi-primitive settings (both motorized and non-motorized). However, as addressed in the responses to Recreation Issue 1: Recreating in Wilderness and Recreation Issue 2: Sustainable Recreation, as well as this response, the Responsible Official appropriately used the recreation opportunity spectrum framework to identify desired conditions for a variety of recreation settings. The FEIS describes the range of recreation settings provided across alternatives, as well as the effects of management actions, such as timber harvest and prescribed fire that may have the greatest impact to the recreation experience.

The programmatic review conducted in the FEIS for the Forest Plan addresses analyses of ‘broad actions’ as stipulated in the 2014 CEQ guidance and CEQ regulations (40 CFR Parts 1500 to 1507). The level of detail described in the FEIS is sufficient to inform the programmatic decision of adopting the final land management plan.

**Instruction(s):** None.

## **ADMINISTRATIVE REVIEW PROCESS**

### **Issue 1: Eligibility and New Information**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah

Objectors contend that Alternative E and the new Scenic Management Areas constitute new information in the FEIS. Because of this new information, objectors believe that those who have not submitted previous comments should be eligible to object. Objectors state that the Forest Service confirmed that Alternative E was new information at the Buncombe County Commissioners Briefing on February 15.

#### **Remedy(s) proposed by Objectors**

- Objectors suggested remedy is to allow all objectors who submitted objections based on new information to be eligible to object.



## **REVIEW FINDINGS**

### **Law, Regulation and/or Policy**

36 CFR 219.53 states that “Objections must be based on previously submitted substantive formal comments attributed to the objector unless the objection concerns an issue that arose after the opportunities for formal comment.” The Forest Service has the discretion to determine what constitutes “an issue that arose after the opportunities for formal comment.”

36 CFR 219.55(a): “The reviewing officer shall set aside and not review an objection when one or more of the following applies: ... (3) The individual or entity did not submit substantive formal comments (36 CFR 219.53) during opportunities for public comment on the proposed decision (36 CFR 219.16(a)(1) and (a)(2)).”

40 CFR 1503.4(a) allow modifications to be made in a FEIS based on response to public comments received on the Draft EIS. The Forest Service may respond to comments in the FEIS by: “(1) Modifying alternatives including the proposed action; (2) Developing and evaluating alternatives not previously given serious consideration by the agency; (3) Supplementing, improving, or modifying its analyses; (4) Making factual corrections; and (5) Explaining why the comments do not warrant further agency response, recognizing that agencies are not required to respond to each comment.”

### **Project Record**

Project Record, Notice of Opportunity to Object - Legal Notice – “Only those individuals and entities who have submitted substantive formal comments related to the Nantahala and Pisgah National Forests plan revision during the opportunities provided for public comment during the planning process will be eligible to file an objection, unless the objection concerns an issue that arose after the opportunities for formal comment (36 CFR 219.53(a)).”

Project Record, Letter/email correspondence about Notice of Opportunity to Object – “Next, individuals, governments, or organizations that have previously submitted comments have an opportunity to object to the plan, and the Forest Service will work to resolve the objections prior to signing a final decision, which is anticipated in mid-2022.”

Project Record, Ineligible Objector Notification Letter, pp 1-2: “When the Forests initiated the objection-filing period on January 21, 2022, our newspaper notices and other communications explained that individuals or entities would be eligible to object if they previously submitted substantive comments during the opportunities for formal public comment. We reviewed our planning record and determined that you did not comment during these opportunities for formal public comment and therefore are not eligible to object. If you have evidence that you have provided previous public comment, please email us at [objections-southern-regional-office@fs.fed.us](mailto:objections-southern-regional-office@fs.fed.us), and my team will strive to address your potential eligibility.”

“The goal of the public engagement process that the Forests and the Region have conducted over the past nine years was to listen to diverse public interests and incorporate them as much as



possible into the planning process, so that substantive issues and concerns could be identified and addressed prior to the objection process. Many objectors who had not previously commented claimed eligibility based on the inclusion of new information (specifically the inclusion of a new alternative and a new Forest Scenic Area in the final EIS). I have determined this assertion is not in accordance with Forest Service planning rule regulations at 36 CFR 219, which state that “Objections must be based on previously submitted substantive formal comments attributed to the objector unless the objection concerns an issue that arose after the opportunities for formal comment (emphasis added).” The two issues purported to be new information were raised and addressed throughout the planning process. Alternative E was developed in response to public comments received on the Draft EIS and Final EIS, as allowable per the Council on Environmental Quality (CEQ) regulations, and it does not include any new issues that were not previously raised. The Forest Scenic Area issue is also not new; it was included in all the alternatives that were available for review during the draft EIS comment period.”

Project Website Revised Forest Plan – “The forest plan establishes a vision for how the Nantahala and Pisgah National Forests will be managed for the next 20 years, and establishes the strategic framework for achieving that vision. Changes between the draft and revised forest plans are highlighted in grey.”

Specifically noted changes between Draft EIS and Final EIS: FEIS, pp. 2-2, 2-10 through 2-15, 2-21, 2-31, 3-21, 3-109, 3-115, 3-191, 3-232, 3-233, 3-391 through 3-393, 3-460, 3-518, 3-527 and 3-528.

Forest Plan – all grey highlights throughout the document.

Identifying Issues – DEIS, pp. 12-14 and FEIS, pp. 1-12 through 1-14, which documents that the issues did not change between draft and final EIS.

NPNFs Readers Guide Rollout, dated 01/06/2022 (Project Record), p. 12: Who can object? Individuals and entities that submitted substantive formal comments during earlier comment periods are eligible to file an objection. The objection must be based on the same concerns raised in earlier comments unless it concerns an issue that arose after the last formal comment period.

## **Response**

It is extremely common for there to be changes made between drafts of the plan and EIS and their final issuance, often as a result of public comment received on the drafts. Consequently, applying a definition of “new information” or “new issues” too broadly could result in the exception provision being applicable for nearly every project proposal. The CEQ regulations at 40 CFR 1503.4(a) clearly allow modifications to be made in a final EIS based on comments received on the draft EIS.

The objectors’ assertion that the FEIS contains new information that allows them to object even though they have not previously submitted substantive formal comments is not valid because there were no new issues raised between the draft EIS and final EIS as noted above, and the development of Alternative E, as allowed by CEQ, did not result in any new issues. Further, the



Forest Scenic Area was previously analyzed in the draft EIS (DEIS, pp, 443-457 and FEIS, pp. 3-476 through 3-490).

While the FEIS and draft ROD included an additional alternative (Alternative E, which was the selected alternative in the draft ROD) that was not analyzed in the draft EIS, Alternative E does not contain new issues as noted above and the effects analysis for Alternative E is not outside the range of alternatives analyzed in the draft EIS.

Alternative E was developed in response to public comments on the draft EIS and increases the emphasis on prescribed fire, using fire and mechanical harvest to restore open forest conditions, and nonnative invasive species treatments in tiered objectives. It also establishes an old growth network that is larger than any other alternatives; addresses the challenge of trail management by working collaboratively with partners; recommends more acres and areas for wilderness compared to Alternatives A and C, but less than Alternatives B and D; and recommends areas with the strongest wilderness characteristics.

The Forest Scenic Area within the Craggy Wilderness Study Area is not a new issue because it was included in Alternatives A through D of the Draft EIS and was expanded to include additional acreage under Alternative E, directly in response to public comments on the draft EIS and Forest Plan.

The Objection Reviewing Officer has the sole discretion to determine objector eligibility. The Objection Reviewing Officer for the Southern Region, Richard Lint, Deputy Regional Forester, as delegated by Ken Arney, Regional Forester, made the decision that these objectors were not considered eligible and set aside the objections from formal review.

**Instruction(s):** None.

## **SOCIAL AND ECONOMICS AND ENVIRONMENTAL JUSTICE**

### **Issue 1: Community Impacts and Environmental Justice**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; City of Asheville

Objectors assert that the final plan fails to include adequate environmental justice analysis and considerations because it: 1) excludes Black and Hispanic communities from environmental justice considerations; 2) does not account for the climate, air, and water quality impacts of quadrupling timber harvest for communities in the region who have already been affected by air and water pollution; and 3) does not address environmental justice issues raised by Black communities during public meetings.

#### **Remedy(s) proposed by Objectors**

- The Nantahala-Pisgah Forest Plan should not quadruple logging and weaken protections for the most popular national forest in the country. It should include stronger, enforceable standards and guidelines and more protected areas.



- Include all of Craggy/Big Ivy in the Forest Scenic Area; study and recommend the Craggy National Scenic Area
- Include more youth and diverse voices in forest decision making.

## REVIEW FINDINGS

### Law, Regulation and Policy

Executive Order 12898 (Feb. 11, 1994; “Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations”) requires the Forest Service “to the greatest extent practicable and permitted by law, to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies, and activities on minority populations and low-income populations.”

Departmental Regulation 5600-002 provides direction to USDA agencies for complying with EO 12898. It states: “Environmental justice means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on, are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment.”

According to DR 5600-002 (p. 5), E.O. 12898 requires that in complying with NEPA agencies shall:

- Analyze the environmental effects of proposed Federal actions, including human health, economic, and social effects on minority and low-income populations.
- Whenever feasible, identify mitigation measures that reduce significant and adverse environmental effects of proposed Federal actions on minority and low-income populations.
- Provide opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of meetings, crucial documents, and notices; and
- When reviewing NEPA documents, ensure that the agency preparing NEPA analyses and documentation has appropriately analyzed environmental effects on minority and low-income populations, including human health, social, and economic effects.

CEQ (1997) provides additional guidance for all federal agencies on compliance with environmental justice requirements. Additionally, the technical guide by Grinspoon et al. (2014) provides guidance specific to the Forest Service. In its direction on environmental justice in NEPA, the CEQ (1997) defines a minority population as:

- A readily identifiable group of people living in geographic proximity with a population that is 50 percent minority. The population with a 50 percent minority may be made up of one minority or a number of different minority groups; together the sum is 50 percent.
- A minority population may be an identifiable group that has a meaningfully greater minority population than the adjacent geographic areas or may also be a geographically dispersed/transient set of individuals such as migrant workers or Native Americans.



36 CFR 219.4(a) Providing Opportunities for Participation; (1) Outreach: the “responsible official shall engage the public—including Tribes and Alaska Native Corporations, . . . governments, individuals, and public and private organizations or entities—early and throughout the planning process as required by this part, using collaborative processes where feasible and appropriate. In providing opportunities for engagement, the responsible official shall encourage participation by: . . . (ii) Youth, low-income populations, and minority populations. . . (v) Interested or affected federally recognized Indian Tribes or Alaska Native Corporations...”

36 CFR 219.4 Requirements for Public Participation states that such participation shall include opportunities to participate in the assessment process; in the development of a plan proposal, including a monitoring program; and in determination of the environmental impacts associated with the NEPA process and the resulting environmental impact statement. It also states that the responsible official should use contemporary tools such as the Internet to engage the public and should share information in an open way with interested parties.

36 CFR 219.6(b)(6) Social, Cultural, and Economic Conditions states that an assessment must be completed for the development of a new plan or for a plan revision. The assessment should include the identification of demographic information for the planning area, including identification of minority, low-income, and tribal populations, as well as age demographics, for the planning area.

36 CFR 219.7(c)(1) requires that potential impacts of the forest land and resource management plan, or a revised plan, be assessed through an EIS in accordance with NEPA.

40 CFR 1502.23 Methodology and scientific accuracy - Agencies shall ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents. Agencies shall make use of reliable existing data and resources. Agencies may make use of any reliable data sources, such as remotely gathered information or statistical models. They shall identify any methodologies used and shall make explicit reference to the scientific and other sources relied upon for conclusions in the statement. Agencies may place discussion of methodology in an appendix. Agencies are not required to undertake new scientific and technical research to inform their analyses. Nothing in this section is intended to prohibit agencies from compliance with the requirements of other statutes pertaining to scientific and technical research.

## **Project Record**

Plan Assessment (2014) - The “Social, Cultural, and Economic Conditions” section of the Assessment describes the demographics of the 18 counties that contain the Nantahala and Pisgah National Forests in western NC (p. 86). The “Introduction” section includes a table of the overall racial composition of the 18-county area. It also briefly mentions that the area has a lower per capita income than the state and nation (p. 4).

FEIS, p. 3-594: “During the scoping process for forest plan revision, environmental justice concerns that were raised include the use of national forests for traditional cultural practices and subsistence. The Nantahala and Pisgah National Forests provide local residents with food, water,



and forest products used for home heating and construction; and have enabled generations of local residents to subsist on low incomes through subsistence fishing, hunting, gathering, and bartering.”

FEIS, pp. 3-594 through 3-598 contains an analysis of the of the proportion of low-income people and the racial and ethnic composition of 18 counties in Western North Carolina that are adjacent to, or in the immediate vicinity of, the Nantahala and Pisgah NFs. The analysis, which was conducted based on 2015 data from the U.S. Census Bureau, identified 4 counties (Graham, Jackson, Swain, and Watauga) as environmental justice populations, due to the proportion of low-income and/or minority people. These four counties have poverty rates that are at least 5% higher than the North Carolina average, and three of these counties have a meaningfully higher proportion of American Indian/Native Hawaiian people than the state average.

FEIS, pp. 3-597 to 3-598 - Effects common to all alternatives. “Although, there are identified environmental justice populations in the analysis area, there were no disproportionate negative environmental or health effects to minority or low-income populations anticipated from any alternative. Public involvement during plan revision was inclusive and provided ample opportunity for issues of environmental justice to be raised. Under all alternatives, continued management of the Nantahala and Pisgah NF’s ecosystems will contribute to healthy plant, fish, and wildlife populations, contributing to the resilience of forest-dependent communities” and “Following this management plan, implementing decisions and authorizing on-the-ground activities would require appropriate site-specific NEPA review in order to proceed. This would include additional evaluation to identify the location of potential environmental justice populations relative to the location of future actions and analysis to determine whether there would be disproportionately high and adverse human health or environmental effects to environmental justice populations.”

FEIS section 3.2.1 Air and section 3.2.5 Water Resources – Chapter 3 of the FEIS describes the existing physical, biological, social, and economic environments of the Nantahala and Pisgah NFs followed by the environmental consequences of implementing the plan alternatives. Section 3.2.1 and 3.2.5 describe air and water resources, respectively. Because the forest plan does not authorize or mandate any site-specific projects or activities (including ground-disturbing actions), there are no direct effects. However, there may be implications, or long-term environmental consequences of managing the Nantahala and Pisgah NFs under this framework. Those environmental consequences are described in this chapter... Cumulative effects consider the incremental impacts of the Forest Service in the context of the broader landscape of Western North Carolina. The consequences described in this chapter are based on predicted implementing activities and are meant to compare alternatives on a programmatic level, rather than provide exact measurements of effects. (FEIS, p. 3-1).

FEIS Appendix H: Public and Government Involvement.

Draft Record of Decision (pp. 73-74) contains a summary of the environmental justice analysis from the FEIS.

Forest Plan, pp. 14-17 - Public Involvement in Plan Development.



## Response

In response to the assertion that Black and Hispanic communities were excluded from environmental justice (EJ) considerations in the Forest Plan, these groups were included as minority racial/ethnic categories in the EJ analysis contained in the FEIS.

The EJ analysis in the FEIS was conducted at the county-level; any counties containing minority or low-income populations 5% larger than those populations across the state of North Carolina were considered EJ populations. CEQ (1997) defines a minority population as “a meaningfully greater minority population than the adjacent geographic areas,” but it is left to the analyst to determine the appropriate reference geography. CEQ (1997) and Grinspoon et al. (2015) also leave the appropriate scale for EJ analysis to the best judgement and discretion of the analyst. Given the scale of forest plans, county-level analysis that compares the demographics of counties that contain the national forest to the overall demographics of the state is generally the standard for EJ analysis in forest planning. As documented in the FEIS, pp. 3-594 through 3-598, there were 4 counties identified as EJ populations based on percentages of low-income or American Indian/Native Hawaiian individuals that were at least 5% higher than the state percentage.

Consistent with 40 CFR 1502.23, the methods used in the environmental justice analysis are described in the FEIS. Black and Hispanic populations in the City of Asheville were specifically noted by objectors as environmental justice populations. Buncombe County, which contains the City of Asheville, is not considered an EJ population under the analysis approach used in the FEIS, as the percentage of Hispanic or Black individuals in Buncombe County is lower than the percentage of Hispanic or Black individuals in the state of North Carolina.

The objectors assert that the Forest Plan did not account for the impacts of quadrupling timber harvest for communities already affected by air and water pollution. The FEIS addresses the effects of timber harvest and related activities, including cumulative effects, on air quality (pp. 3-1 to 3-9) and water quality (pp. 3-68 to 3-76) under the proposed alternatives. The Forest Plan contains desired conditions (AIR-DC-02, AIR-DC-03, and AIR-DC-04) that guide forest activities to address air pollution and achieve air quality conditions that protect human health and enable ecosystem recovery. The FEIS also concludes that timber harvest rarely has long-term adverse impacts on water quality, and that the Forest Plan (Alternative E) is expected to result in overall improvements to trends in water quality due to increasing alignment of timber project planning and implementation with forestry best management practices. Additionally, specific watersheds would be improved through watershed restoration work.

The Forest Plan provides overall direction for forest management, but it does not authorize specific actions. Any proposed timber harvests will be considered individually under the requirements of NEPA before being implemented on the forest. As stated in the draft ROD, p. 76, “The revised land management plan is a programmatic level planning effort that does not directly authorize any ground disturbing activities or projects. Future ground disturbing activities and projects will be consistent with the revised land management plan and subject to additional site-specific public involvement, environmental analysis, and predecisional review processes in compliance with the Act and CEQ’s NEPA regulations.”



Public involvement in project-level NEPA process would identify potential environmental justice communities and potential environmental justice issues in the affected geographic area, including relevant considerations for analysis of cumulative impacts.

The objectors assert that environmental justice issues raised by Black communities during public meetings were not addressed in the Forest Plan, however the objection does not provide specifics of concerns that were not addressed.

The FEIS contains a summary of the potential EJ issues raised during scoping for the plan revision; it describes concerns related to cultural practices and subsistence. The plan components in the Non-Timber Forest Products section of the Forest Plan address these issues. EJ issues related to subsistence harvest and use of National Forest System land for cultural practices are also addressed in the plan components in the Tribal Resources section and the Lands and Special Uses section.

In response to input from the public, plan content was expanded to emphasize the importance of ensuring that forest activities engage and serve diverse communities, including historically underserved populations. Under the Community Connections theme (Forest Plan, pp. 27-28), the following plan components were added in response to public input:

- Desired Conditions (COM-DC-09): All people and communities served by the Forest are engaged, including historically underserved populations. Diversity of visitors, volunteers, and partners continues to grow through existing and new relationships; and citizen involvement becomes more representative of the local community and nation's demographics and interests.
- Management Approaches: Engage with partners to emphasize expanding the diversity of forest visitors, volunteers, and partners, and increase public land employment pathways across all demographics.

Overall, the EJ analysis and considerations included in the FEIS satisfy requirements for the fair treatment and meaningful involvement of all people, particularly minority and low-income people, in forest planning.

The objectors request the inclusion of more youth and diverse voices in forest decision making. The 2012 Planning Rule requires the responsible official to provide opportunities for the public to participate in the assessment process; in the development of a plan proposal, including a monitoring program; and in determination of the environmental impacts associated with the NEPA process and the resulting EIS. Related to EJ, the 2012 Planning Rule states that the responsible official should specifically encourage participation by youth, low-income populations, minority populations, and Tribal communities and should use contemporary tools to provide broad access to information about the planning process. As stated in the Forest Plan, p. 15, "Forest leadership and the plan revision team invested in outreach, dialogue, and relationships with partners, community stakeholders, and non-traditional audiences to engage them early and often throughout the planning process. In building the plan, EIS alternatives, and the analysis, the Forest Service consulted with local citizens, resource professionals, state



agencies, local governments, other Federal agencies, federally recognized tribes, non-government organizations, researchers, the academic community, and youth.”

The Forest Plan, p. 15, also states that “public participants had opportunities to engage in the planning process through public meetings, workshops, open houses, email, and postal mail. Emerging technologies such as social media and virtual meeting platforms were also utilized to respond to the need for virtual outreach during the COVID-19 pandemic. Outreach and collaboration efforts were designed to be inclusive and provide diverse participants with opportunities to learn about forest resources, provide input on plan components, and review and refine plan content.”

Opportunities for public participation also occurred prior to plan revision and during assessment, development of the need for change and plan content, and through comment on the draft EIS, and included face-to-face and virtual meetings, print, television, and radio media; listservs; social media; and open-house conference calls.

Outreach specific to youth included presentations to schools and participation in community events. Appendix H of the FEIS contains a detailed account of public involvement in the planning process. The Forest Plan contains forest-wide plan components related to Public Involvement (p. 25) and Community Connections (p. 27) that will continue the extensive public involvement in the plan implementation process by directing the Forests to meaningfully engage diverse people in forest stewardship as visitors, volunteers, partners, and employees.

For a response to the assertion that the plan is quadrupling timber harvest, see Timber Issue 6: Allowable Sale Quantity and Projected Timber Sale Quantity.

**Instruction(s):** None.

## **SPECIAL INTEREST AND DESIGNATED AREAS**

### **Issue 1: Craggy/Big Ivy Mountain Forest Scenic Area**

**Objector(s):** Cynthia Simonds; Friends of Big Ivy; Forest Keeper; I Heart Craggy Coalition; Alicia Hulse; Buncombe County Board of Commissioners; I Heart Pisgah; City of Asheville; I Heart Pisgah; Southern Environmental Law Center et al; Hugh and Janice Irwin

Objectors assert that the Forest Service failed to adequately analyze 4,000 acres of the Craggy/Big Ivy section of Pisgah National Forest, allocated these acres to Matrix, and offered no explanation for placing it in a management area that allows timber production to occur. The objectors note that there was overwhelming support for protection for the entire Craggy/Big Ivy area, including support from local governments, interest groups, and other members of the public, and that the area is important for recreation, tourism, conservation of biodiversity and natural heritage, and provision of drinking water for surrounding communities.

Objectors specifically believe that the analysis failed to consider: the importance of the Ivy River headwaters; 1,500 acres of old growth forest in the Snowball and North Fork sections of Big Ivy;



habitat for federally listed species and species of conservation concern; North Carolina Natural Heritage Areas within or adjacent to Craggy; scenic values and recreational settings on Snowball and Big Butt Trails; Little Snowball Fire Tower Heritage site; and the importance of Shope Creek and Ox Creek for recreation and water supplies.

### **Remedy(s) proposed by Objectors**

- Include the entire Craggy and Big Ivy area in the Forest Scenic Area designation.
- Specifically, the Forest Service must amend its plans to include 5,000 acres of Snowball Mountain, North Fork, Shope Creek, and Ox Creek in its Forest Scenic Area.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The responsible official has discretion to identify management areas and associated plan content consistent with both planning and other regulatory requirements (e.g., 2001 Roadless Area Conservation Rule).

FSH 1909.12, 13.4 Assessing Recreation Settings, Opportunities and Access, and Scenic Character.

FSM 2380 - The Forest Service directives clarify that the objective of visual management is to manage all National Forest System lands to attain the highest possible visual quality commensurate with other appropriate public uses, costs, and benefits.

Scenery Management System Handbook

36 CFR 294.1(a) - Areas which should be managed principally for recreation use substantially in their natural condition and on which, in the discretion of the officer making the classification, certain other uses may or may not be permitted may be approved and classified by the Chief of the Forest Service or by such officers as he may designate if the particular area is less than 100,000 acres. Areas of 100,000 acres or more will be approved and classified by the Secretary of Agriculture.

### **Project Record**

Draft ROD, pp. 56-57 acknowledges the thousands of public comments concerning the proposed acres in the Craggy Mountains and Big Ivy areas (p. 56-57) to include the entire 16,000-acre area for designation. The Forest Service adjusted the management area allocation in Alternative E based on comments received addressing the diverse interests and values in the area.

FEIS, pp. 2-29 to 2-30 documents consideration of an alternative that proposed specific management for the greater Craggy Mountains area, including a National Scenic Area recommendation for a 16,000-acre area of the Black Mountain Geographic Area including the



Craggy Mountains, Coxcombe Mountain, Snowball Mountain, Shope Creek and Ox Creek areas, and includes the rationale for why this alternative was not considered in detailed study.

FEIS, p. 3-490 documents the use of the most current USFS policy for scenery management which only applies to National Forest System Lands. The Forests contain five administratively designated Forest Scenic Areas: Looking Glass Rock, Glen Falls, John Rock, Whitewater Falls, and Craggy Mountain. Under all action alternatives, these areas are managed as Special Interest Areas to protect and emphasize their special characteristics, where all proposed management activities must meet High Scenic Integrity Objectives (SIO). These areas are recognized as Scenic Attractiveness Class A landscapes (FEIS, p. 3-476). Alternative E expands the Craggy Mountain Forest Scenic Area to 11,501 total acres from 1,840 acres in response to comments and to reflect that the Scenic Area is larger than the Craggy Mountain Wilderness Study Area alone (FEIS, p. 3-488).

FEIS, p. 3-478 documents that during the land management planning process, “a visual resource inventory was used to identify areas of scenic value and guide management area allocations. Management area boundaries are typically mapped to include the foreground distance zone from travel-ways, use areas, and waterbodies, but they also include prominent ridgelines visible in the middleground from key observation points and travel routes. These management areas offer protection to scenic corridors such as the Blue Ridge Parkway, Forest Heritage Scenic Byway, Mountain Waters Scenic Byway, state scenic byways, highly traveled NC and US highways, and some segments of national recreation trails and national historic trails.”

FEIS, p. 3-482 documents that “Forestwide direction in all action alternatives includes desired conditions which ensure many opportunities for viewing high quality scenery, rural/cultural sightseeing, and nature-based tourism (SC-DC-01); that scenic resources compliment recreation settings and experiences (SC-DC-02); and that high quality scenery is emphasized where viewed from popular recreation destinations while retaining the distinctive scenic character and sense of place associated with the Nantahala and Pisgah National Forests as well as the Southern Appalachian region (SC-DC-03). The geographic area descriptions and forestwide desired conditions describe Scenic Character and SIO identified as desired conditions in each management area.”

FEIS, pp. 3-483 to 3-484 documents that Standard SC-S-04 in the action alternatives states that “Management activities visible in the foreground (FG) and middleground (MG) from the Appalachian National Scenic Trail, National Historic Trails, National Recreation Trails, Blue Ridge Parkway, and National Scenic Byways must meet or exceed a Moderate Scenic Integrity Objective, regardless of management area or Scenic Class.”

FEIS Appendix A, Response to Comments, pp. 166-167: In the response to comments in Appendix A, the Forests responded that Alternative E recommends an expanded wilderness area designation and included an area that will be designated as a Forest Scenic Area within the Special Interest Management Area, which maintains the current scenic character, and still allows for motorized access on National Forest System roads as well as providing recreation opportunities and authorities to manage recreation-based damage to trails, improving the recreation experience.



FEIS Appendix E, pp. 31-32: The Wilderness Evaluation Process identifies existing recreation opportunities/uses in the area, apparent naturalness, and how opportunities for solitude would potentially be impacted by roads, wildlife fields, and mountain bike trails, thus resulting in portions of the area being inconsistent with managing for wilderness characteristics. The evaluation and analysis concluded that developed features used for access and recreation would preclude portions of the area from consideration as recommended wilderness due to these inconsistencies and potential management conflicts.

FEIS, Appendix G, Coordination with Other Public Planning Efforts, p. G-1: “The 2012 Planning Rule requires a review of planning and land use policies of federally recognized Indian Tribes (43 U.S.C. 1712(b)), other Federal agencies, and State and local governments, where relevant to the plan area. The purpose of this review is to foster greater recognition and discussion of issues that have cross-boundary effects, look for common objectives and solutions, and find opportunities to integrate management across landscapes. The review of these documents considered the following:

- (i) The objectives of federally recognized Indian Tribes, other Federal agencies, and State and local governments, as expressed in their plans and policies.
- (ii) The compatibility and interrelated impacts of these plans and policies.
- (iii) Opportunities for the plan to address the impacts identified or contribute to joint objectives; and
- (iv) Opportunities to resolve or reduce conflicts, within the context of developing the plan’s desired conditions or objectives.

In 2018, the Forest Service asked governments to share their strategic plans and guidance documents with the planning team, offering an opportunity to listen to their concerns and requesting a copy of their land management plans. The process for attaining relevant plans included a letter to over 60 county and local municipality government offices, along with an additional ninety emails to all county commissioners in the planning region. The Forest Service also visited government websites and conducted web searches to acquire available plans. Of the 18 counties in the planning area, eight responded with a link and three were without a current land management plan. When county plans were not available, local municipality and regional plans were referenced in order to shed light on county interests. In addition, the five relevant state-authorized, Regional Councils of Government (COG) plans were reviewed. Three of the five COGs include numerous counties within the forest plan area and were, therefore, contacted and asked to provide their regional plans and a list of the municipalities or towns they recommended for review in this process. Some additional towns were added to this review based on their request or proximity to national forest lands to provide a representation of municipality interests across the planning area. Plans for state parks, state forests, state wildlife commission game lands and National Park Service units in the planning area, including the North Carolina's Forest Resources Assessment, 2010, and the State Wildlife Action Plan (see Table 1) were also reviewed. Coordination with Native American Tribes is covered in Tribal Resources and Cultural Resources sections of the draft Environmental Impact Statement.”

FEIS Appendix G, p. G-42: This appendix documents consideration of Land of Sky Regional Council’s (which includes Buncombe County) planning policy efforts which include:



- Policy #1: Support watershed protection efforts that preserve the integrity of the region's critical watersheds. Goal Supported: Water is clean and plentiful.
- Policy #2: Discourage development of prime agricultural land and forestry land. Goal(s) Supported related to national forest lands: Farming and forestry remain key elements of the economy, and more products are produced locally from locally-sourced materials.
- Policy #6: Preserve the viewsheds of the Appalachian Trail, the Blue Ridge Parkway and other viewsheds of regional significance. Goal(s) Supported: Scenic beauty is maintained as the region develops, and tourism remains a key element of the economy.
- Policy #8: Limit the fragmentation of prime habitat and ecological corridors. Goal(s) Supported: Plant and animal habitats are connected and healthy, and low impact development techniques reduce the impacts of growth on the environment.

FEIS Appendix I: Maps in this appendix show that the Craggy area has a different management area configuration in each of the 5 fully analyzed alternatives in order to respond to a range of comments on this area.

Forest Plan, p. 225-226:

- SIA-DC-03: The desired recreation settings in these areas include semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural. Interpretive information is available to develop understanding of the importance of protecting the plant and animal communities of the area. Open roads provide motorized access to the forest but to a lesser extent than in the Matrix and Interface management areas.
- SIA-DC-04: Desired scenic character is natural evolving to natural-appearing for semi-primitive recreation settings; and rural forested, pastoral, or cultural/historic for roaded natural and rural settings.
- SIA-DC-05: Forest Scenic Areas (Looking Glass Rock, John Rock, Big Ivy/Craggy Mountain, Whitewater Falls and Glen Falls) are managed to maintain or enhance the scenic character of the areas.
- SIA-DC-06: Proposed actions are designed to meet or exceed the following desired SIOs on lands inventoried as the corresponding scenic classes: SC1-High SIO, SC2 & SC3-Moderate SIO, SC4 through SC7-Low SIO.
- Forest Plan, pp. 214 - 215 – Where Matrix occurs within the Craggy/Big Ivy area (at Coxcomb and Snowball Mountain), scenery desired conditions provide a level of protection for scenic integrity:
- MAT-DC-13: Desired scenic character is natural-appearing or pastoral in semi-primitive motorized recreation setting, and rural forested, pastoral, or cultural/historic in roaded natural or rural settings.
- MAT-DC-14: Proposed actions are designed to meet or exceed the following desired SIOs on lands inventoried as the corresponding scenic classes: SC1-High SIO, SC2-Moderate SIO, SC3 through SC7-Low SIO.

Forest Plan, p. 127: Additionally, Forestwide Plan components have the following scenery desired condition:

SC-DC-09: Management activities visible in the foreground (FG) or middleground (MG) from the Appalachian National Scenic Trail, National Historic Trails, National



Recreation Trails, Blue Ridge Parkway, or National Scenic Byways meet or exceed a Moderate SIO, regardless of scenic class or management area in which the activity is proposed. In some cases, a more restrictive SIO applies if specified in management area direction.

This desired condition requires that any proposed action within Matrix, or any other management area, meet or exceed a Modification SIO where visible from the Blue Ridge Parkway. Therefore, scenic values of all Nantahala and Pisgah National Forest lands within the Blue Ridge Parkway viewshed are protected to the same degree as those of the Appalachian National Scenic Trail or National Scenic Byways.

**Project Record:** The project record contains documentation of the scenery analysis process and how the public was included in the conversation and that their comments were considered (Scenery in Forest Plan Revision, August 2014).

## **Response**

As documented in the Project Record section above, the Responsible Official developed different alternatives to address the special characteristics of the Craggy Mountain area in the draft FEIS and in response to comments, the Forests expanded the Craggy Mountain/Big Ivy Forest Scenic Area in Alternative E of the FEIS. As documented throughout Appendix G, the Forests considered other public planning efforts and input from other governments while developing the plan. As documented in the response to comments, the Forests developed Alternative E which expanded the acreage of the Craggy Forest Scenic Area.

As documented in the FEIS, p. 3-476, “Under all action alternatives, portions of this area were analyzed as Special Interest Area to protect and emphasize their special characteristics, where all proposed management activities must meet High SIO for Scenic Class 1 and Moderate SIO for Scenic Classes 2 and 3 (Alternatives B, C, D and E). Even areas allocated to Matrix or Interface management areas in these Alternatives must meet a Moderate SIO where visible from the Blue Ridge Parkway in the Foreground or Middleground Distance Zones. These areas are recognized as Variety Class/Scenic Attractiveness Class A landscapes. Other Forest Scenic Area boundaries and acreages in the SIA management area are the same among Alternatives, but Craggy Mountain/Big Ivy Forest Scenic Area/SIA was expanded under Alternative E (see Alternative E effects below). These Forest Scenic Areas are not managed for timber production, but activities such as wildlife improvements, prescribed fire, trail construction, and road construction are allowed if they enhance the area’s unique qualities, foster public enjoyment of the area, and are compatible with other management objectives.”

The FEIS describes the potential impacts to the Special Interest Areas based on the increased pace and scale of ecological restoration on the Forests (FEIS, p. 3-476 through 3-490). The scope, scale, and effects of Matrix management actions will be addressed during project-level environmental analysis, which is required to implement the direction in the Forest Plan (FEIS, p. 1-8). Any further actions are subject to project-level NEPA analysis where key desired conditions and objectives will be reviewed and met. While the Responsible Official addressed the legal obligations of documenting the decision they made, the objectors identified a need to



address why specific areas were not included in the designation of Special Interest Areas. See the voluntary modification and clarifications below.

**Instruction(s):**

**Voluntary modification:** Review the area allocated to Big Ivy/Craggy Mountain SIA Forest Scenic Area allocation in light of the objections raised, and consider whether to add additional acreage as suggested by the objectors.

**Clarification:** Update the Final Record of Decision to more clearly state how the final management allocation for the Big Ivy/Craggy Mountain area was determined, including clarifying why some locations raised by objectors were not included in the SIA Forest Scenic Area designation.

**Clarification:** Include in the project record how areas in the Foreground and Middleground of the Blue Ridge Parkway are managed to protect their scenic character, citing the specific scenery plan components where relevant.

**Issue 2: Failure to Analyze an Alternative for Craggy NSA**

**Objector(s):** Friends of Big Ivy; Forest Keeper; City of Asheville; I Heart Pisgah; I Heart Craggy Coalition

Objectors assert that the Forest Service failed to study in detail the proposal for a Craggy National Scenic Area, as proposed by numerous entities. Further, objectors contend that the Forest Service failed to provide a reasonable analysis or explanation for this decision.

**Remedy(s) proposed by Objectors**

- Protect all of Craggy as a National Scenic Area.

**REVIEW FINDINGS****Law, Regulation and Policy**

The authority to designate National Scenic Areas is reserved to Congress (36 CFR 219.19 and FSM 2371).

The planning regulations require the responsible official to identify any potential need for additional designated areas during assessment (36 CFR 219.6(b)(15)) and indicates the responsible official shall determine whether to recommend any additional areas for designation during plan revision (36 CFR 219.7(c)(2)(vii)).

The term “designated area” refers to categories of area or feature established by, or pursuant to, statute, regulation, or policy. Once established, the designation continues until a subsequent



decision by the appropriate authority removes the designation. Changes in actual designations do not occur as part the plan decision (FSH 1909.12 section 24).

## **Project Record**

Assessment: The assessment report describes the potential need and opportunity for additional designated areas on pp. 192-193. The need for a Congressional National Scenic Area recommendation for Craggy was not identified by the public or Forest Service at that time.

Forest Plan, pp. 225 and 227: The current land management plan includes 1,840 acres of the Craggy Mountain area as a special interest area/Forest Scenic Area in Management Area 13. Based on comments provided on the draft EIS, the final Plan expands that management area allocation to 11,501 acres. The Special Interest Area Management Area plan direction includes a desired condition for the Big Ivy/Craggy Mountain Forest Scenic Area to be managed to maintain or enhance the scenic character of the area (SIA-DC-05).

Final EIS, p. 2-29: Chapter 2.7 Alternatives Considered but Eliminated from Detailed Study: “An alternative that proposed specific management for the greater Craggy Mountains area including a National Scenic Area recommendation for a 16,000-acre area of the Black Mountain Geographic Area including the Craggy Mountains, Coxcomb Mountain, Snowball Mountain, Shope Creek, and Ox Creek areas. Thousands of commenters wrote in support of a National Scenic Area recommendation in the Craggy Mountains/Big Ivy area of the Appalachian Ranger District with the purpose of ensuring protection and preservation of natural resources, scenic quality and recreation opportunities. The Forest Service recognizes the public interest in protection of this area and included a range of alternatives that respond to the desire for wilderness recommendation and resource protection in the Craggy Mountains area. Following the comment period, elements of the National Scenic Area proposal were folded into Alternative E which recommends an expanded area for wilderness and allocates much of the remaining area as a Forest Scenic Area within the Special Interest Area Management Area. The variation in the management area allocation in the range of alternatives adequately addresses the diverse public interests and values in the Craggy Mountains, Big Ivy, Snowball Mountain, and Shope Creek areas by recognizing their ecological diversity, scenic values, and recreational uses.”

FEIS, p. 3-488, Chapter 3.4 Social Environment, 3.4.5 Scenery, Effects that vary by action alternative. “Alternative E expands Craggy Mountain Forest Scenic Area from the original area designated in the current plan and identified in other action alternatives. The Forest Scenic Area was increased from 1,840 acres in other alternatives to 11,501 total acres in Alternative E and renamed to the Big Ivy/Craggy Mountains Forest Scenic Area to reflect that the landscape is larger than the Craggy Mountain alone. Since this Forest Scenic Area incorporates Special Interest Area acres, as well as Research Natural Area and Recommended Wilderness Area acres, the table above reflects 8,224 acres of Special Interest Area with a desired High SIO, 3,222 Recommended Wilderness with a desired Very High SIO, and a 55 acres Research Natural Area with a desired High SIO. In total these 11,501 acres in the Big Ivy/Craggy Mountain Forest Scenic Area will comprise most of the national forest lands visible from the Blue Ridge Parkway at Pinnacle Gap and Craggy Gardens.”



Draft ROD, p. 33: “Several campaigns and thousands of form letters were received that advocated for Craggy Mountains (the Big Ivy area) on the Appalachian Ranger District to be recommended for wilderness and a National Scenic Area. Each alternative analyzed a different area configuration for recommended wilderness in the Big Ivy area to be responsive to public comments and management considerations. My final decision recommends 3,222 acres for wilderness, which is an expansion of the existing designated Wilderness Study Area. The recommended wilderness, plus an additional 8,279 acres in the Big Ivy area that are visible from the Blue Ridge Parkway is designated as a Forest Scenic Area and allocated to a Special Interest Management Area. The Big Ivy/Craggy Mountains Forest Scenic Area designation will provide flexibility to manage for a diversity of recreation uses including mountain biking and motorized access along existing open forest service roads, while maintaining the scenic values of the area. More information about how the Forest Service responded to this set of comments can be found in FEIS Appendix A.”

FEIS Appendix A – Response to Comments, p. 166-167:

**Comment:** Several campaigns and form letters included comments advocating for the Big Ivy area of the Appalachian Ranger District to be recommended for wilderness and a National Scenic Area. Commenters pointed to the area’s rich biodiversity, old growth forests, clean waters, connectivity to other protected lands, scenic quality and visibility from the Blue Ridge Parkway and widespread public support for these national designations.

**Response:** All alternatives analyzed some portion of the Craggy Mountains (locally known as Big Ivy area) as recommended wilderness. Alternative C analyzed the smallest area with just the existing Wilderness Study Area being recommended, and Alternative B recommended the largest area representing a proposal received from multiple organizations, which was also supported by a 2016 Buncombe County resolution. Alternative D analyzed an area that was slightly larger than the existing Wilderness Study Area, with a buffer around NFS Roads 74, 5504 and 5555 to allow continued access to the Douglas Falls trailhead and maintenance of wildlife openings.

Following the comment period, elements of commenters’ proposal were folded into Alternative E. Alternative E recommends an area for wilderness designation that is slightly larger than the existing Wilderness Study Area and is consistent with agency determinations of wilderness characteristics and management of the area in an unimpaired condition with opportunities for solitude and primitive recreation.

Portions of the area that were surrounded by or adjacent to roads, were excluded from the area recommended for wilderness because of potential road impacts to solitude and undeveloped character. While multiple alternatives considered an area that would “cherry-stem” NFSR 74 out of the recommended wilderness with a 100-foot buffer along each side of the road, the ability to manage a maintenance level 3 road surrounded by wilderness would be challenging. Existing features along this 1.7-mile segment of NFSR 74 include 18 culverts ranging from 18 to 30 inches in diameter, one 60-inch diameter



culvert with concrete headwalls, a three-foot high by 500 foot-long concrete retaining wall, and a five-car trailhead parking lot. The Peach Orchard Creek watershed over which this road segment passes has a history of flash flooding, which resulted in severe road damage during the storms of 2004. Recommending lands within 100 feet of this road for wilderness designation could create management conflicts if future flooding or landslides caused road failure or debris flow onto recommended or designated wilderness. With consideration of road maintenance concerns and heavy use on an open road that accesses the popular Douglas Falls trailhead, the Alternative E recommended wilderness boundary excludes NFSR 74, 5504 and 5555, as well as lands in close proximity to these roads. Alternative E recommends an area which contains the greatest potential for providing a wilderness experience within the Craggy Mountains/Big Ivy area while also being responsive to the recreation and access needs in the area and maintaining the high-quality scenic values.

Alternative E also identifies a large portion of the Craggy Mountain area and part of the Snowball Mountain area as a Forest Scenic Area within the Special Interest Management Area; this will maintain or enhance the area's scenic character. Managing the area outside of recommended wilderness as a Forest Scenic Area will allow motorized access on system roads and mountain biking on system trails to continue, including the opportunity to reroute trails to a more sustainable location and provide an improved recreation experience.

South of the Craggy Wilderness Study area, the Shope Creek area will be managed as Interface MA and Scenic Byway MA in the foreground of the Blue Ridge Parkway. These MAs are consistent with the high level of recreation use that the area receives from both hikers and mountain bikers and will enable the Forest Service to focus on sustainable recreation and trail supply/demand needs in the area. These management areas will also allow continued vegetation management to address ecological needs. A portion of the Big Ivy area north of SR 197, and the western part of the Snowball Mountain area will be managed as Matrix and Interface MAs, allowing for vegetation management consistent with those MAs.

Overall, Alternative E responds to the Craggy Mountains proposal by recommending an expanded area for wilderness (3,222 acres), allocating 11,500 acres as a Special Interest Area/Forest Scenic Area, and recognizing the Shope Creek area for its proximity to the Blue Ridge Parkway and high recreation use. The areas north of SR 197 and a portion of the Snowball Mountain area will be allocated to Matrix and Interface MAs which would allow for continued vegetation management. Projects in this area, as in all of the forest, would require additional public involvement during proposal development. Overall, this allocation addresses the diverse public interests and values in the Craggy Mountains, Big Ivy, Snowball Mountain, and Shope Creek areas by recognizing their ecological diversity, scenic values, and recreational uses.

Recommendation of the Big Ivy area as a National Scenic Area was considered in an alternative but not analyzed in detail in Chapter 2 of the EIS.



## Response

As noted above, in the draft ROD, p. 33 the Responsible Official clearly recognized the interest in the Craggy Mountains/Big Ivy area on the Appalachian Ranger District and documented that the final decision recommends about 3,200 acres for wilderness, and that an additional roughly 8,300 acres in the Big Ivy area that are visible from the Blue Ridge Parkway is designated as a Forest Scenic Area and allocated to a Special Interest Management Area. He noted that this designation “will provide flexibility to manage for a diversity of recreation uses including mountain biking and motorized access along existing open forest service roads, while maintaining the scenic values of the area. The areas north of SR 197 and a portion of the Snowball Mountain area will be allocated to Matrix and Interface MAs which would allow for continued vegetation management. Projects in this area, as in all of the forest, would require additional public involvement during proposal development. This allocation addresses the diverse public interests and values in the Craggy Mountains, Big Ivy, Snowball Mountain, and Shope Creek areas by recognizing their ecological diversity, scenic values, and recreational uses.” Draft ROD, p. 33.

Overall, the Forest Plan responds to the Craggy Mountains National Scenic Area proposal by, recommending an expanded area for wilderness, allocating a portion of the area as a Special Interest Area/Forest Scenic Area, and recognizing the Shope Creek area for its proximity to the Blue Ridge Parkway and high recreation use by allocating it to Interface.

During the objection resolution meeting, objectors raised the belief that recommending or designating a new National Scenic Area would bring an increased budget to the Forest Service for managing these lands during the federal appropriations process. Increased budgets and funding are not automatically allocated for National Scenic Areas, nor do units with NSAs typically receive an increased base allocation to manage the areas. Instead, funds that are appropriated are usually diverted from existing budget allocations to cover any additional needs of managing these designated areas.

The Responsible Official was responsive to extensive public input on the diverse ecological, scenic, and recreational values of the Craggy Mountains/Big Ivy area and acted within his authority by expanding the acreage of the Big Ivy/Craggy Mountain Forest Scenic Area SIA. This decision does not preclude objectors from working with their elected representatives to carry a proposal for National Scenic Area designation to Congress.

**Instruction(s):** None.

## Issue 3: Panthertown Management Area Allocation

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Friends of Panthertown

Objectors assert that all of Panthertown Valley, Bonas Defeat, and Dismal Falls, as located within the Panthertown Backcountry Complex (“Panthertown”), should be allocated to the Special Interest Area Management Area; and that areas of Panthertown that are within Matrix should be in Backcountry. The objectors state, “while we appreciate that some parts (3,552 acres



or 38%) of Panthertown are being considered by the U.S. Forest Service to be managed as Special Interest Areas (Pages 225-226), we recognize that Panthertown Valley, where most visitors come to recreate, contains 6,311 acres, part of a larger 9,266 acres of public land comprising the full Panthertown Backcountry Complex.”

Objectors also state that “Recreation and conservation should be prioritized over increased timber harvests, with a focus on protecting its trails, clean water, scenic views, rare species, wild places, and old growth. The Plan should reflect that backcountry recreation is its primary use and that Panthertown will be managed primarily with that use in mind.”

### **Remedy(s) proposed by Objectors**

- All of Panthertown Valley, Bonas Defeat, and Dismal Falls, as located within the Panthertown Backcountry Complex (“Panthertown”), should be designated as Special Interest Areas.
- Areas in Panthertown defined in the Plan as Matrix management should instead be managed as Backcountry, while the core of Panthertown and its recreational corridors should remain strongly protected as Special Interest Areas.
- Management of Panthertown should restrict prescribed burning and timber harvesting within 50 feet of system trails, kept outside of popular recreational corridors, and away from Special Interest Areas, unless such activities be deemed absolutely necessary to maintain the outstanding ecological qualities of Panthertown and/or such activities are essential for the maintenance of public safety.
- The Plan should specify that vegetation and ecosystem management within the Panthertown Special Interest Areas should recognize recreation values and be solely for the purpose of restoring and enhancing the ecological integrity and values of the area.

## **REVIEW FINDINGS**

### **Project Record**

Draft ROD, pp. 34, 35 and 56 document that 4,395 acres of Panthertown Valley were inventoried for potential addition to wilderness and evaluated for wilderness characteristics. These acres were not recommended for wilderness but instead allocated to other management areas for multiple use management: 1,914 acres as Special Interest Area (SIA); 2,481 acres as Ecological Interest Area (EIA). According to the draft ROD, p. 56 “...EIAs are areas of the Forests where compositional restoration is the primary driver of management activities while other lands are identified in management areas where structural restoration can occur. This two-prong approach enables a focus on compositional restoration while still meeting forest health, habitat, and forest product goals. Furthermore, the value produced by meeting habitat and forest product goals would be available to reach a larger footprint of the landscape, expanding the reach of restoration activities. Across all alternatives, the plan is clear that timber production will not be the primary purpose for projects and activities and shall, instead, complement the ecological restoration desired conditions and objectives.”



FEIS, p. 2-7: "...the size and configuration of Matrix, Ecological Interest Area and Backcountry varied between action alternatives. Some commenters value the flexibility of the Matrix management area to address multiple uses and active management needs that may emerge over the life of the plan while others expressed concern, primarily over timber harvest treatments in this management area and requested a new management area which had more restrictions on timber activities, Ecological Interest Areas. Other comments requested that areas be recognized in Backcountry for their semi-primitive non-motorized character."

FEIS, Appendix A, Response to Comments, p. 144 and p. 150:

**Comment:** Commenters expressed support for the Backcountry MA and identified specific areas that should be allocated to this MA because of their relatively unroaded characteristics and primitive setting. Many commenters recommended that all areas that were included in the inventory and evaluation for wilderness that were not recommended for wilderness be included in the Backcountry MA.

**Response:** The EIS analyzes a range of alternatives to address management area allocations. Alternative C includes the greatest amount of Backcountry compared to the other alternatives and is responsive to public comments that would like to see more of the Nantahala and Pisgah NFs allocated to Backcountry management.

**Comment:** Highland Domes GA should mention maintaining and enhancing recreation in Panthertown Valley while noting the need to reduce user-created trails.

**Response:** The following goal has been added to the Highland Domes GA, "Work with recreation groups to maintain and enhance recreation opportunities in the Panthertown Valley while also reducing user-created trails."

FEIS, Appendix E – Wilderness Evaluation Process, p. E-189: Appendix E contains a summary of the Wilderness Evaluation for 4,395 acres of Panthertown Valley. The analysis describes the area and its surroundings, its geologic and hydrologic features, its current uses, particularly for recreation, and concludes that "Heavy recreational use and an extensive network of trails impact opportunities for solitude across this area. Past human modification is evident and there are maintained wildlife openings and a lookout tower. There are approximately ten miles of roads in the area used to access the adjacent transmission line by Progress Energy which impact the naturalness of the area. The area's size and relationship to adjacent private lands reduces the ability to practically manage its preservation in an unimpaired condition."

Forest Plan, pp. 174-176: Highland Domes Geographic Area: Bonas Defeat (542 acres), Dismal Falls (249 acres), and Panthertown Valley (2,761 acres) are managed as Special Interest Areas in the Highland Domes Geographic Area (for a total of 3,552 acres in the "Panthertown Backcountry Complex.")

Additionally, the Panthertown Area includes acres in Ecological Interest Area and Matrix, as shown in the plan maps.



The following goals contribute to identification of management priorities in the Highland Domes Geographic Area. These goals highlight key opportunities and values that will guide Forest Service management and reflect values the Forest Service has heard from the public. These goals are not inclusive of all activities that will occur within the geographic area and do not represent all the values that are present.

HD-GLS-03: Reduce woody plant encroachment and non-native invasive plants on Southern Appalachian bogs and swamp forest bog complexes, improving habitat for bog turtles, swamp pink, and other rare species in Panthertown Valley and Dulany Bog.

HD-GLS-07: Maintain and enhance unique tannic, sandy bottom stream habitat within Panthertown Creek, upper Chattooga River, and Savannah River watersheds to provide quality habitat for native aquatic species.

HD-GLS-14: Panthertown Valley: Emphasize management actions that support and sustain the unique scenery, recreation activities, and experiences for visitors engaged in sightseeing, hiking, horseback riding, mountain biking, fishing, and climbing:

- i. Emphasize management that restores and protects rare communities such as Southern Appalachian bog, swamp forest bog complexes, and at-risk species such as rock gnome lichen.
- ii. Enhance granitic dome plant communities through reduction of NNIS and reduce off-site white pine.
- iii. Reduce user created trails.

HD-GLS-20: Collaborate with non-government organizations, such as friends groups, trail societies, conservation organizations, recreation organizations, and the state to help manage important resources and social values throughout the geographic area to support the public's diverse use.

HD-GLS-25: Work with recreation groups to maintain and enhance recreation opportunities in the Panthertown Valley while also reducing user-created trails.

Forest Plan, pp. 223: "Ecological Interest Areas (EIAs) are places where active management is desired to improve ecological species composition. Generally, these locations have fewer roads than the Matrix management area and contain some concentrations of high-quality natural communities or high quality current old growth, but these areas are not as biologically exceptional as Special Interest Areas. EIAs benefit from a management style that is focused on restoring and improving the unique values present, including perpetuating or enhancing plant or animal species and communities that are of national, regional, or state significance. Top priorities in this management area would be to restore community composition by treating stands with uncharacteristic vegetation. The need for balancing successional age classes at the landscape scale would not drive stand-level prescriptions. Ecological restoration would result in a mix of forest habitats of various ages, sizes, and configurations. Timber harvest, prescribed fire, non-native invasive treatments, and road construction are tools for achieving desired conditions."



Forest Plan, p. 223: EIA-DC-02: The desired recreation settings are semi-primitive non-motorized, semi-primitive motorized, and roaded natural. Interpretive information is available to develop understanding of the importance of protecting the plant and animal communities of the area. Open roads provide motorized access to the forest but to a lesser extent than in the Matrix and Interface management areas.

Forest Plan, p. 223: EIA-S-01: These lands are classified as unsuitable for timber production.

Forest Plan, p. 223: EIA-S-02: Timber harvest is allowed only when it does not result in departure from the desired community composition. Even-aged and two-aged regeneration harvests shall only be used to restore species composition.

Forest Plan, p. 224: Management Approaches – “Within this management area, the following types of timber treatments could be expected: removal of offside species and regeneration to species that would be found in that ecozone; thinning to create woodland conditions and to remove encroaching mesic species; thinning and understory treatments to increase the species diversity of regeneration layers; use of group selection and variable retention systems to foster development of diverse species composition; harvest to accelerate development of late and old growth characteristics.”

## **Response**

The Responsible Official has discretion to identify management areas and associated plan content consistent with both planning and other regulatory requirements. In determining allocations, the IDT considered specialist knowledge, Forest Service data on recent activities, and data provided by collaborators. As stated in the FEIS Response to Comments “Alternatives were developed to be responsive to the diversity of opinions regarding management area allocations across the forest. Maps were a key point of focus at several public meetings during alternative development and information provided by the public and collaborative groups was used to inform management area lines in the range of alternatives” (FEIS, Appendix A p. 145).

The FEIS Appendix B and FEIS Chapter 2 describe how management area allocation varied between alternatives. The Forest Plan notes that Special Interest Areas are those most exceptional ecological communities that serve as core areas for conservation of the most significant and rare elements of biological diversity on the Forests. These areas are generally resilient and not in need of active restoration, although maintenance activities may be needed to maintain their integrity. The Backcountry areas is generally mapped to include large blocks of remote and unroaded lands inventoried primarily as Semi-Primitive Non-Motorized and has limitations on road building and timber harvest. Matrix is most flexible land allocation, serving as general forest.

The objectors assert that all of Panthertown Valley, Bonas Defeat, and Dismal Falls should be allocated to the Special Interest Area Management Area and that areas of Panthertown that are within Matrix should be in Backcountry. The Panthertown Area is allocated to multiple management areas in the final plan (FEIS Appendix I). A larger area for Backcountry was analyzed in Alternative A (FEIS Appendix I). Objectors identify that the northern portion of



Panthertown that was included in Backcountry in Alternative A should be allocated to Backcountry. In the final plan, this area was identified as Matrix because of the restoration needs that could require more active land management practices.

The objectors' concern that Panthertown be managed to prioritize recreation experiences and conservation are addressed through plan components specific to Special Interest Areas (SIA), Ecological Interest Areas, timber management, Backcountry, and the Highland Domes Geographic Area.

While some SIAs (including Panthertown) have high recreation values, SIAs are defined based on their ecological communities and contribution to biological diversity. Plan components specific to SIAs include desired conditions and standards for maintaining these ecological communities. These components already ensure that timber management and prescribed fire should be conducted only when needed to enhance the composition of ecological communities in these areas. Plan components for the Geographic Area containing Panthertown contain additional guidance specific to management of the area for recreation values, as noted above. These Geographic Areas were developed for the revised Forest Plan as a way of identifying goals and emphasizing priorities on distinct landscapes across the forest, and are defined by landscape or scenic character, types and concentration of recreation use, and sense of place. According to the FEIS, p. 3-456, "Each of the geographic areas identified in the forest plan have defined goals that highlight key recreation activities and settings that guide recreation management within geographic areas to provide a range of recreation experiences."

Objectors suggestion that "The Plan should specify that vegetation and ecosystem management within the Panthertown Special Interest Areas should recognize recreation values and be solely for the purpose of restoring and enhancing the ecological integrity and values of the area," was addressed through plan components for the Highland Domes Geographic Area as noted above, which specify that management should emphasize actions that support and sustain the unique scenery, recreation activities, and experiences for visitors engaged in sightseeing, hiking, horseback riding, mountain biking, fishing, and climbing.

Objectors request that "Management of Panthertown should restrict prescribed burning and timber harvesting within 50 feet of system trails, kept outside of popular recreational corridors, and away from Special Interest Areas, unless such activities be deemed absolutely necessary to maintain the outstanding ecological qualities of Panthertown and/or such activities are essential for the maintenance of public safety" is addressed through plan components for SIAs.

**Instruction(s):** None.

## **WILD AND SCENIC RIVERS**

### **Issue 1: Wild and Scenic River Recommendations**

**Objector(s):** Friends of Big Ivy; Friends of Panthertown; Forest Keeper; I Heart Pisgah; American Whitewater; Cynthia Simonds



Objectors are disappointed that the plan failed to protect more Wild and Scenic Rivers. They point out that "the plan recommends eight additional Wild and Scenic Rivers but denies 35 other qualified rivers without adequate explanation or justification." Additionally, they state that these "rivers are important economic engines that can help support rural economies and protect endangered aquatic species and species of conservation concern."

As one objector points out, "there's no stronger land protection classification in the U.S. than official Wilderness designation. For rivers, the equivalent designation is 'Wild and Scenic.'" They mention that the protections Wild and Scenic Rivers offers, allowing natural processes to take place on the landscape and protect the birds that depend on them is why they are advocating for Wild and Scenic designation of rivers listed below under remedies.

American Whitewater, Friends of Panthertown and other objectors state that there are experts who "have consistently documented that these rivers possess at a minimum rare, unique, or exemplary recreational values that justify their eligibility" and believe that these experts are superior to the opinions of Forest Service staff who they assert are less acquainted with the nature of and opportunities provided by these rivers.

Objectors believe the "NPNF wrongly found at least four streams ineligible for Wild and Scenic designation, because the NPNF erred in omitting sections of the North Fork of the French Broad River, the Tuckasegee River, Panthertown Creek, and Greenland Creek from the list of eligible streams in Table 15 in the Forest Plan. This was as a result of misapplied agency policy and in some instances on flawed information. They also highlight that there are "clear inconsistencies between the NPNF rationale and laws, regulations, and policies, rendering the ineligibility findings untenable and in violation of the National Environmental Policy Act (NEPA) and the Administrative Procedures Act (APA)".

Objectors also claim the forests "violated agency policy, the National Environmental Policy Act, and the Administrative Procedures Act in finding the Upper Tuckasegee River, Greenland Creek, and Panthertown Creek to be lacking an ORV" (Outstandingly Remarkable Values), "and thus ineligible." Reasons provided include that the NPNF wrongly determined that the Upper Tuckasegee River, Greenland Creek, and Panthertown Creek as individual streams and, as a system, lack even a single ORV.

Objectors go on to state that "Expert public comments support that these three streams have multiple river-related values that are regionally and nationally rare and that fit under scenic, recreation, geologic, fish and wildlife ORV categories" and that "These streams comprise one of the main attractions and elements of an extraordinary and unique valley, akin to a wild southern Appalachian Yosemite Valley, complete with towering cliffs, large waterfalls, rare habitats, rare species, and burgeoning water-based recreational opportunities. The NPNF acknowledges these values and dismisses them by saying there are other cliffs, other waterfalls, other bogs, other tannic waters, and other places to recreate. The NPNF analysis relies on a small amount of evidence to support its conclusions and this evidence is of inferior quality in comparison to that provided by commenters on the Draft Plan."



Objectors assert the "Plan excludes the outstanding streams which form the headwaters of the Tuckasegee River". They "were disappointed that the U.S. Forest Service did not find Panthertown Creek, and Greenland Creek eligible and believe they should have been, since the primary benefit of the "designation is to keep streams free-flowing and free of impoundments."

Objector assertions also include that the "The NPNF fails to appreciate the totality of these factors in the unique setting of the Panthertown Valley. As we pointed out in our Draft Plan comments, the NPNF fails to appreciate the uniqueness of this valley compared to the intensely developed and gated private ownership of the few reference valleys, and fails to appreciate that this is the only free-flowing part of the Tuckasegee River remaining, with the rest being dammed, diverted, or affected by heavily manipulated flows."

### **Remedy(s) proposed by Objectors**

- Objector's request that the following rivers should be included as Eligible Wild and Scenic Rivers: North Fork of the French Broad, Panthertown Creek, Greenland Creek, the East Fork of the Tuckasegee, the East and West Forks of Overflow Creek, and nine additional miles of Fires Creek. In addition, Big Laurel Creek and the West Fork of the Pigeon should be reclassified as "scenic" rather than "recreational" streams, and Overflow Creek, Thompson River, and Whitewater River should be reclassified as "wild" rather than "scenic." The objectors ask that the reviewing officer read our comments and others relating to Panthertown Valley and compare it to the scant analysis in the FEIS for the Land Management Plan.
- The objectors hope to have Panthertown Creek, Greenland Creek, and the East Fork of the Tuckasegee River (totaling 8.6 miles) reconsidered and found to be eligible for Wild and Scenic River designations to receive the maximum possible protections.
- The objectors state that the 2012 Planning Rule expressly requires the Forest Service to "use the best available scientific information to inform the planning process."

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

#### **National Wild and Scenic Rivers Act**

36 CFR 219.3 - The responsible official shall use the best available scientific information to inform the planning process required by this subpart.

FSH 1909.12, section 07 Use of Best Available Scientific Information:

"The Responsible Official shall identify and use the best available scientific information (BASI) to inform the planning process and document how BASI was determined to be accurate, reliable, and relevant to issues being considered..."

1. "Accurate. To be accurate, the scientific information must estimate, identify or describe the true condition of its subject matter..."



2. “Reliable. Reliability reflects how appropriately the scientific method has been applied and how consistently the resulting information is with establish scientific principles...”

3. “Relevant. The information must pertain to the issues under consideration at spatial and temporal scales appropriate to the plan area and to a land management plan...”

“...While the BASI informs the planning process, plan components, and other plan content, it does not dictate what the decisions must be. There may be competing scientific perspectives and uncertainty in the available science. Plan decisions also reflect other relevant factors such as budget, legal authorities, traditional ecological knowledge, agency policies, public input, and the experience of land managers.”

FSH 1909.12, Chapter 80 – Wild and Scenic Rivers, section 80.5 – Definitions:

**Eligible River.** A river segment that has been evaluated, and found to be free-flowing and, in combination with its adjacent land area, possesses one or more outstandingly remarkable values.

**Outstandingly Remarkable Value.** A scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar river-related value that is unique, rare, or exemplary feature and is significant when compared with similar values from other rivers at a regional or national scale.

**Region of Comparison.** The geographic area of consideration for each outstandingly remarkable value that will serve as the basis for meaningful comparative analysis.

FSH 1909.12, Chapter 80, 82.71 – Free-Flowing Conditions - To be eligible, a river must be “free-flowing,” as defined in the Wild and Scenic Rivers Act as follows:

“Free flowing” as applied to any river or section of a river means existing or flowing in a natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway. The existence, however, of low dams, diversion works, or other minor structures at the time any river is proposed for inclusion in the [National System] shall not automatically bar its consideration for such inclusion: Provided, that this shall not be construed to authorize, intend, or encourage future construction of such structures within components of the [National System]. (Section 16 (b)).

Further, the USDA-USDI Guidelines state: “[t]he fact that a river segment may flow between large impoundments will not necessarily preclude its designation. Such segments may qualify if conditions within the segment meet the eligibility criteria.”

FSH 1909.12, Chapter 80, 82.72 – Flows - There are no specific requirements for minimum flows or for temporal or spatial continuity of flows for an eligible segment. Flows are considered sufficient for eligibility if they sustain or complement the outstandingly remarkable values for which the river would be designated.



## Project Record

Forest Plan, pp, 253-268, Chapter 4: Wild and Scenic Rivers.

FEIS, pp. 3-517 through 3-525, Resources: Social Environment: Wild and Scenic Rivers.

FEIS, Appendix A, Response to Comments, pp. 155-156 - North Fork of the French Broad River, Panthertown Creek, Greenland Creek, East Fork of the Tuckasegee River, and East and West Forks of Overflow:

**Comment:** Commenters requested additional eligibility findings for six streams (North Fork of the French Broad River, Panthertown Creek, Greenland Creek and the East Fork of the Tuckasegee River, East and West Forks of Overflow and nine additional miles of Fires Creek). Commenters provided supporting rationale such as unique scenery and waterfalls, unique geology, high recreation use including whitewater paddling, pristine water quality, and unique biological values including rare wildlife. Requests were also made to revisit the evaluation of 12 segments recommended by NPNF Partnership and American Whitewater.

**Response:** To be eligible for designation, a river must be free-flowing and possess one or more outstandingly remarkable values. In order to be assessed as outstandingly remarkable, a river related value must be a unique, rare or exemplary feature that is significant at a comparative regional or national scale. North Fork of the French Broad River, Panthertown Creek, Greenland Creek, East Fork of the Tuckasegee River, and East and West Forks of Overflow were not found to possess those values. The unique qualities of these rivers including scenery, water quality, wildlife habitat, and recreation opportunities will continue to be provided for through forest wide management direction that protects natural resources. River evaluations are included in Appendix F of the EIS. Where comments provided new information on individual rivers and river segments, additional consideration was given as to whether ORVs exist on the river. Documentation of ORVs for all rivers evaluated in the plan revision are included in Appendix F and eligible rivers are listed in Chapter 3 of the EIS.

**Comment:** The Upper Nantahala River is not a comparable river for the North Fork of the French Broad. The Upper Nantahala is roadside for its entire length with significant associated visual impacts, whereas the North Fork flows through a roadless valley with few signs of mankind. The Upper Nantahala is dewatered by upstream hydroelectric dams, and runs less frequently and predictably at flows suitable for paddling than the free-flowing North Fork. These rivers are also 90 miles (2-hour drive) apart, making their relative recreational value quite different for people living in different locations.

**Response:** The region of comparison for the wild and scenic river evaluation includes the Southern Appalachian Region which covers over 37 million acres of mountain, foothills, and valleys stretching from Virginia and eastern West Virginia to northwestern South Carolina, northern Georgia, and northern Alabama. While the North Fork of the French



Broad is popular with paddlers, the upper Nantahala River provides a comparable floating experience and is also a source for regional and national competitive events. Additionally, the Nantahala River has a highly developed outfitter guide program and the supporting facilities that enable a more comprehensive recreation experience than the North Fork of the French Broad. Challenging whitewater runs can also be found across other creeks and rivers throughout the region of comparison, including the Tellico and Oconee Rivers in Tennessee and Wilsons Creek and the Chattooga River in North Carolina. Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR 156 designation, due to the presence of powerlines, remnants of logging activity and roads, unsightly campsites, and a lack of entry and exit locations. Boxcar Falls, while beautiful and remote, ranks 'average' on the waterfall scenery scale. Scenery along the river is considered typical for the Southern Appalachian Physiographic Province. Refer to Appendix F for additional discussion.

**Comment:** The Upper Tuckasegee was included in the Draft Eligibility Report as eligible, but then removed in the DEIS without explanation. We would like that decision to be reconsidered. The DEIS wrongly dismisses the Upper Tuckasegee from eligibility findings and inappropriately references dangerous conditions at the top of waterfalls as a rationale for ineligibility.

**Response:** The Upper Tuckasegee was originally identified as potentially eligible but later determined to not be free flowing due to controlled waters. The lower section is currently classified as "dewatered" with water flows which are regulated by a flood control dam. The reference to dangerous waterfall conditions has been removed from the final evaluation in Appendix F as that is not an appropriate description of recreational ORVs. In the absence of being free flowing and not possessing any ORVs, the Upper Tuckasegee was found to not be eligible as a WSR (Appendix F).

**Comment:** The DEIS wrongly dismisses, Panthertown Creek, and Greenland Creek from eligibility findings. These creeks are surrounded by granitic cliffs and massive domes and have waters that are uniquely accessible, clean, cold, and quiet, and views that are uniquely uninterrupted and wild. Additionally, the streams of Panthertown Valley are far more tannic than other streams on the Forest which creates rare water quality and scenery. People travel to see the falls and quiet sections of these streams, and are welcomed by the tea colored water of the far north, associated with wetlands and coniferous forests. We feel that the DEIS may have missed just how unique these tannic "blackwater" conditions are in the Southern Appalachians.

**Response:** Most of the streams within the Highlands/Cashiers area exhibit the tannic waters that we see in Panthertown Valley. Streams within the Highlands/Cashiers area tend to be low gradient streams with intermittent waterfalls or cascades. These streams naturally have a higher abundance of coarse sand substrate and can produce some of the best Brook Trout populations on the Nantahala NF. The tannic waters of Greenland Creek and Panthertown are not unique from other streams within the Highlands/Cashiers area. The evaluation of the Panthertown Creek and Greenland Creek found no ORVs that



are unique, rare, or exemplary features within the region of comparison and therefore were not found to be eligible WSRs (Appendix F).”

FEIS Appendix A, Response to Comments, pp. 157, Whitewater and Thompson Rivers:

**Comment:** The eligibility of Whitewater River should be upgraded from Scenic to Wild. Specifically, the section starting just below the private land tract above the Democrat Creek confluence and running to the SC state line should be upgraded to Wild, with the exception of a Scenic corridor around the Highway 281 crossing.

**Response:** The Whitewater River was evaluated by upper and lower segments. Due to its proximity to the NC281 highway, the original scenic classification for the lower segment is appropriate. A future suitability study could lead to a change in the segment's classification, as it will analyze conditions within a ¼ mile on either side of the river. Refer to Appendix F for additional documentation.

**Comment:** The eligibility of Thompson River should be upgraded from Scenic/Recreational to Wild/Scenic.

**Response:** Thompson River is classified as Scenic/Recreational because it is largely undeveloped but is close to development on adjacent private lands and Recreational due to proximity to NC 281. A future suitability study could lead to a change in the segment's classification, as it will analyze conditions within a ¼ mile on either side of the river. No other unique or outstandingly remarkable river-related values were identified during internal and public review. Refer to Appendix F for additional documentation.

FEIS, Appendix A, Response to Comments, pp. 158, Fires Creek:

**Comment:** An additional 6-8 miles of Fires Creek should be included in the eligibility recommendation, at minimum to just below the road crossing near Bristol Fields horse camp. It appears that what was included was the Delayed Harvest Trout Section for its fishing recreational value? However, other values such as solitude, whitewater paddling, outstanding resource waters, and biological diversity of freshwater aquatic species should also be taken into consideration.

**Response:** The eligible river segment of Fires Creek contains a parallel road as well as a bridge crossing. Additionally, the segment contains development near the river including a parking lot, restrooms, a developed camping area, and picnic area. Following additional internal review, the original eligibility classification for Fires Creek remains valid. Refer to Appendix F for additional discussion of ORVs.

FEIS, Appendix A, Response to Comments, pp. 158, Big Laurel Creek and West Fork Pigeon:

**Comment:** Big Laurel Creek and the West Fork of the Pigeon should be reclassified as “scenic” rather than “recreational streams” because they are not roadside, and visitors



quickly and completely leave road corridors and experience a scenic landscape. This is especially true of the West Fork Pigeon which lacks even a riparian trail.

**Response:** Upon revisiting the West Fork of the Pigeon River per commenter's request, the evaluation supports the segment's recreational classification, due to the segment's proximity to Hwy 215. The highway provides easy access to the river and several waterfalls. Additional classification adjustments could be considered in a suitability analysis.

Big Laurel Creek was not evaluated but assuming that the commenter means Flat Laurel Creek, this river is classified as Scenic and Recreational.

#### FEIS, Appendix F, Wild and Scenic River Evaluation:

Region of Comparison: "A broad and inclusive review of potential ORVs resulted in 54 rivers with the potential for eligibility. This detailed review identified nine newly eligible rivers as potential additions to the National System. The eight newly eligible rivers plus ten existing eligible rivers result in a total of 18 eligible rivers on the Nantahala and Pisgah NFs." (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-5).

Region of Comparison: "The Forest Planning Interdisciplinary Team has identified the region of comparison for the Nantahala and Pisgah National Forests as the Southern Appalachian Region (figure 1)." (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-6).

Eligibility: "From late October to mid-December 2015, we asked for input on these potentially eligible rivers. We also asked the public to provide information on any additional rivers with a potential outstandingly remarkable values as well as currently eligible rivers. Using the region of comparison, we then reviewed the identified potential outstandingly remarkable value(s) and determined whether they meet the criteria of being unique, rare, or exemplary feature and meets other criteria for being directly river-related (as described above) to be considered eligible for inclusion in the National Wild and Scenic Rivers System." (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-9).

FEIS, Appendix F, Wild and Scenic River Eligibility p. F-10 through F-14: "This template evaluation form was used and applied toward all river segments discussed in this Appendix. The full descriptions and questions for consideration that were included in the draft Appendix for each river segment have been omitted from the final version for clarity and brevity."

Free-flow: According to Section 16(b) of the Wild and Scenic River Act, free-flowing is defined as, "Existing or flowing in a natural condition without impoundment, diversion, straightening, rip rapping, or other modification of the waterway. The existence of low dams, diversion works or other minor structures does not automatically disqualify the segment for designation. A river segment below or between impoundments may also be considered." (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-10).



Scenery: “Do the landscape elements of landform, vegetation, water, color, and related factors result in notable or exemplary visual features or attractions? (When analyzing scenic values, additional factors—such as seasonal variations in vegetation, scale of cultural modifications, and the length of time negative intrusions are viewed—may be considered. Scenery and visual attractions may be highly diverse over the majority of the river or river segment. Outstandingly remarkable scenic features may occupy only a small portion of a river corridor.)” (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-11).

Recreation: “Are recreational opportunities high quality that attract or have the potential to attract visitors from throughout or beyond the region? (River-related opportunities could include, but are not limited to, sightseeing, interpretation, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. The river may provide settings for national or regional use or competitive events.)” (FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-11).

FEIS, Appendix F, Wild and Scenic River Eligibility, Fires Creek, p. F-19 through F-23.

River Segment Reviewed: Entire reach on Forest Service property in NC. – Andrews, Hayesville and Topton quads.

Fish: Fires Creek provides a range of high quality habitat for aquatic species. Although Fires Creek supports high aquatic diversity, it is lacking some species such as brook trout that are found in other streams throughout the Southern Appalachian region.

The lower elevations/lower reaches provide habitat for two aquatic species of conservation concern, hellbenders and Smoky Dace. These species have broad distribution and occur in multiple locations across the Southern Appalachians. However, the lower reaches of Fires Creek support one of the best populations of hellbenders within the species’ range including excellent hellbender habitat for all life stages---from nesting to larval to sub-adult to adulthood.

Fires Creek also supports an additional aquatic species of conservation concern, Hiwassee headwaters crayfish; however, it is limited in distribution within the Fires Creek.

Conclusion: Fish (aquatics) ORV for Hellbenders population and habitat. The eligible river segment is from the confluence of Bee Branch with Fires Creek downstream to the FS property line downstream of Fires Creek Picnic Area – 2.8 miles.

Recreation Classification Rationale: The eligible river segment contains a parallel road as well as a bridge crossing. Additionally, the segment contains development near the river including a parking lot, restrooms, a developed camping area, and picnic area.

FEIS, Appendix F, Wild and Scenic River Eligibility, Flat Laurel Creek, p. F-19 through F-23.



**Recreation:** Recreation activities include hiking and fishing. However, these opportunities are not considered unique, rare, or exemplary in a regional or national context, nor do they have the potential to provide recreational settings for national or regional usage or competitive events, and is not considered a destination location for these types of activities. Additionally, higher quality recreation experiences can be found on other rivers such as Chattooga River, Davidson River, Linville River, Nantahala River, Nolichucky River, and Wilson Creek.

**Fish:** The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

**Wildlife:** The area supports the flying squirrel; however, the population does not owe its existence to the river.

**Vegetative/Ecological Values:** Contains one of the best Rock Gnome lichen (endangered) populations in the region.

**Conclusion:** Vegetation ORV. 2 classifications for a total of 1.7 miles: Scenic classification from headwaters to eligible West Fork Pigeon River corridor (1.4 miles). Recreational classification from the corridor of eligible West Fork Pigeon River to the confluence with that river (0.3 miles).

**Classification Rationale:** The upper segment has moderate evidence of human modification with adjacent trails which follow historic railroad grades. The segment which overlaps the eligible West Fork Pigeon River corridor is adjacent to NC215 and warrants the same Recreational classification as that river.

FEIS, Appendix F, Wild and Scenic River Eligibility, West Fork of Pigeon River, p. F-38 through F-40.

**Scenery:** Ten scenic waterfalls and the “Garden of the Gods” qualifies this river as outstanding in terms of scenic value. Additionally, the river is bounded by both the Shining Rock Wilderness and Middle Prong Wilderness which provides scenic views from the river.

**Recreation:** This river does support a wide range of recreational opportunities. The Forest Heritage Scenic Byway (Hwy 215) provides easy access and dramatic views of the river. Several waterfalls can be accessed. Paddlers enjoy Class IV to V high water adventures featuring the scenic “Garden of the Gods”. Most of the area is hatchery supported for fishing and the area is recognized for one of the best Yellow Drake hatches. A popular swimming hole is located near Sunburst Campground and both developed and primitive camping experiences are found nearby. The river is not well known, but has the potential to become a featured destination.

**Fish:** The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.



**Wildlife:** The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

**Vegetative/Ecological Values:** The area contains one of the best Rock Gnome lichen (endangered) populations within the region of comparison.

**Conclusion:** Scenery, Recreation, Vegetation ORVs. From the confluence of Bubbling Branch to the confluence of Queen Creek (7.0 miles).

**Recreation Classification Rationale:** Recreation classification due to proximity to NC215 (7.0 miles).

FEIS, Appendix F, Wild and Scenic River Eligibility, Greenland Creek, p. F-89 through F-90.

**Recreation:** Recreation activities include camping, hiking, non-motorized boating, rock climbing, swimming, and fishing. However, these opportunities are not considered unique, rare, or exemplary in a regional or national context, nor do they consistently attract visitors from throughout or beyond the Southern Appalachian region of comparison. Additionally, Greenland Creek has very little potential to provide recreational settings for national or regional usage or competitive events, and is not considered a destination location for these types of activities.

FEIS, Appendix F, Wild and Scenic River Eligibility, Panthertown Creek, p. F-126 through F-128.

**Scenery:** The scenery is considered typical for the Southern Appalachian Physiographic Province and is not considered unique, rare, or exemplary in a regional or national context, nor is it considered a destination location. Additionally, higher quality scenery can be found on other rivers such as Chattooga River, Linville River, Nantahala River and associated Nantahala Gorge, and Whitewater River.

**Recreation:** The primary recreational opportunities associated with the river include fishing and some kayaking. However, these opportunities are not considered unique, rare, or exemplary in a regional or national context, nor do they consistently attract visitors from throughout or beyond the Southern Appalachian region of comparison. Additionally, higher quality paddling experiences can be found on other rivers such as Chattooga River, Davidson River, Linville River, Nantahala River, Nolichucky River, and Wilson Creek.

**Geology:** The geology is considered typical for the Southern Appalachian Physiographic Province and is not considered unique, rare, or exemplary in a regional or national context, nor is it considered a destination location. Additionally, higher quality granite domes can be found on other rivers such as Chattooga River, Linville River, Nantahala River and associated Nantahala Gorge, and Whitewater River.



Fish: The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison. Additionally, the area supports Southern brook trout species; however, they are not unique or rare in this area and the population and habitat are not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

Vegetation: Panthertown Bog is one of the largest and oldest bogs in the southern Appalachians; however, it lacks both animal and plant species diversity in comparison to the other Southern Appalachian bogs. Additionally, the Panthertown Bog does not have any federally listed species or regionally rare species, such as present at Dulany Bog, The Pink Beds, Eller Seep, or McClure's Bog.

## **Response**

See Issue 2: Wild and Scenic Rivers, French Broad for a response on the North Fork of the French Broad River; Issue 3: Wild and Scenic Rivers, Recommend Overflow Creek for a discussion on the Overflow Creek, East and West Forks of Overflow Creek, and Thompson and Whitewater Rivers; and Issue 4: Wild and Scenic Rivers, Upper Tuckasegee River for a response on the Tuckasegee River.

Section 2(b) of the Wild and Scenic Rivers Act provides for classification, designation and administration of eligible rivers, while policy states that regardless of classification, equal protection is provided to the river segments to protect and enhance the values for which they were deemed eligible (or designated).

Fires Creek, Big Laurel Creek and the West Fork of Pigeon River: As documented in the FEIS, Appendix A, Response to Comments, for Fires Creek, the eligible river segment contains a parallel road as well as a bridge crossing. Additionally, the segment contains development near the river including a parking lot, restrooms, a developed camping area, and picnic area. In addition, as noted in the response to comments, the Forests revisited the West Fork of Pigeon River and determined that the evaluation supports the segment's recreational classification, due to the segment's proximity to Hwy 215. The highway provides easy access to the river and several waterfalls. Additional classification adjustments could be considered in a suitability analysis.

Big Laurel Creek is classified as recreational; Flat Laurel Creek is classified as Scenic and Recreational. These were correctly evaluated and no additional information is needed.

Panthertown Creek and Greenland Creek: The Forests correctly referenced the criteria for the ORV's at hand in their response to comments on the issues that objectors raised. Both creeks should be reviewed using the insights gained from public input and objector assertions and compared to the data and information that was collected by the Forests. The Forests should detail how they performed their survey of these landscapes or other procedures to obtain the best available information in order to support the eligibility determinations.

## **Instruction(s):**



**Instruction:** Panthertown Creek and Greenland Creek: Review the eligibility findings for Panthertown Creek and Greenland Creek and whether the information raised by objectors constitutes the presence of outstandingly remarkable values in the region of comparison. Following the review, clearly explain how the decision was made regarding the river's eligibility and the information that was used to make that decision. If necessary, make updates to the current eligibility finding and the discussion of comparable rivers.

**Instruction:** Add information to the introduction of Appendix F to describe how information provided by the public was used in the evaluation of river segments.

## **Issue 2: North Fork of the French Broad River**

**Objector(s):** American Whitewater; Nantahala Pisgah Forest Partnership

Objector American Whitewater asserts that the Forests violates agency policy and the Administrative Procedures Act in finding the North Fork of the French Broad River ineligible for Wild and Scenic designation based on the following reasons:

Unightly Campsites Justification - The Forests erred in stating that: Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR designation, due to the presence of...unightly campsites.

Lack of Entry and Exit Locations Justification - The Forests erred in stating that: Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR designation, due to...a lack of entry and exit points. This statement is false and irrelevant.

Power Lines Justification - The Forests erred in stating: Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR designation, due to the presence of powerlines.

Logging Activity and Roads Justification – The Forests erred in stating that: Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR designation, due to the presence of...remnants of logging activity and roads.

Objectors Flawed Comparison with the Dewatered Upper Nantahala Justification - The objectors contend that the FEIS incorrectly claims that while the [North Fork of the French Broad] is popular with high water paddlers, the upper Nantahala River provides a comparable floating experience.

Flawed Comparison to other Rivers Justification - The objectors claim that the comparison to other rivers is flawed, particularly with regard to travel times to other rivers and paddling opportunities in the region of comparison, as evidence that the North Fork of the French Broad lacks an ORV or should not be found eligible.



Lacking an ORV Justification - Objectors also claim that the Forests appear to have wrongly analyzed the entire river and waived away obvious ORV findings based on poorly-informed and inferior information.

Objector Nantahala Pisgah Forest Partnership asserts that recreation ORVs are insufficiently recognized for the North Fork of the French Broad River.

### **Remedy(s) proposed by Objectors**

- Objector American Whitewater's suggested remedy is to move the starting point for the eligible reach to just downstream from the power line, where the world-class whitewater begins. They also suggested that the factual record more than supports a finding that paddling the North Fork of the French Broad is rare, unique, and exemplary on a regional and national scale.
- Objector Nantahala Pisgah Forest Partnership suggests revisiting the Wild and Scenic River analysis and standards.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Wild and Scenic Rivers Issue 1 for details on the applicable laws, regulations and policies including the National Wild and Scenic Rivers Act, 36 CFR 219.3, FSH 1909.12, section 07, and FSH 1909.12 Land Management Planning Handbook Chapter 80 – Wild and Scenic Rivers.

### **Project Record**

See Wild and Scenic Rivers Issue 1 for citations to the Forest Plan, Chapter 4 and FEIS, Chapter 3.

FEIS, Appendix A, Response to Comments, pp. 155-156:

**Comment:** Commenters requested additional eligibility findings for six streams (North Fork of the French Broad River, Panthertown Creek, Greenland Creek and the East Fork of the Tuckasegee River, East and West Forks of Overflow and nine additional miles of Fires Creek). Commenters provided supporting rationale such as unique scenery and waterfalls, unique geology, high recreation use including whitewater paddling, pristine water quality, and unique biological values including rare wildlife. Requests were also made to revisit the evaluation of 12 segments recommended by NPNF Partnership and American Whitewater.

**Response:** To be eligible for designation, a river must be free-flowing and possess one or more outstandingly remarkable values. In order to be assessed as outstandingly remarkable, a river related value must be a unique, rare or exemplary feature that is significant at a comparative regional or national scale. North Fork of the French Broad River, Panthertown Creek, Greenland Creek, East Fork of the Tuckasegee River, and East



and West Forks of Overflow were not found to possess those values. The unique qualities of these rivers including scenery, water quality, wildlife habitat, and recreation opportunities will continue to be provided for through forest wide management direction that protects natural resources. River evaluations are included in Appendix F of the EIS. Where comments provided new information on individual rivers and river segments, additional consideration was given as to whether ORVs exist on the river. Documentation of ORVs for all rivers evaluated in the plan revision are included in Appendix F and eligible rivers are listed in Chapter 3 of the EIS.

**Comment:** The Upper Nantahala River is not a comparable river for the North Fork of the French Broad. The Upper Nantahala is roadside for its entire length with significant associated visual impacts, whereas the North Fork flows through a roadless valley with few signs of mankind. The Upper Nantahala is dewatered by upstream hydroelectric dams, and runs less frequently and predictably at flows suitable for paddling than the free-flowing North Fork. These rivers are also 90 miles (2-hour drive) apart, making their relative recreational value quite different for people living in different locations.

**Response:** The region of comparison for the wild and scenic river evaluation includes the Southern Appalachian Region which covers over 37 million acres of mountain, foothills, and valleys stretching from Virginia and eastern West Virginia to northwestern South Carolina, northern Georgia, and northern Alabama. While the North Fork of the French Broad is popular with paddlers, the upper Nantahala River provides a comparable floating experience and is also a source for regional and national competitive events. Additionally, the Nantahala River has a highly developed outfitter guide program and the supporting facilities that enable a more comprehensive recreation experience than the North Fork of the French Broad. Challenging whitewater runs can also be found across other creeks and rivers throughout the region of comparison, including the Tellico and Oconee Rivers in Tennessee and Wilsons Creek and the Chattooga River in North Carolina. Additional internal review has determined that the North Fork of the French Broad is not eligible for WSR 156 designation, due to the presence of powerlines, remnants of logging activity and roads, unsightly campsites, and a lack of entry and exit locations. Boxcar Falls, while beautiful and remote, ranks 'average' on the waterfall scenery scale. Scenery along the river is considered typical for the Southern Appalachian Physiographic Province. Refer to Appendix F for additional discussion.

Appendix F, Wild and Scenic River Evaluation. Identifying and Evaluating Rivers That May Be Suitable for Inclusion in the National Wild and Scenic River System, pp. F-5 through F-9.

FEIS, Appendix F, Wild and Scenic River Evaluation - North Fork French Broad River, pp. F-120 through F-122:

Scenery along the river is considered typical for the Southern Appalachian Physiographic Province. The river is located near the Forest Heritage Scenic Byway; however, the water is rarely visible. Wilson Creek and Linville River have larger gorges and comparable scenery and waterfalls can be found on other rivers such as Linville Gorge, Wilson Creek, and Whitewater Falls.



**Recreation** - The primary recreational opportunities associated with the river include fishing and non-motorized boating (rafting and kayaking). Recreational fishing does occur on the river, but there are many other mountain creeks and rivers that offer similar recreational fishing opportunities. Additionally, these opportunities are not considered unique, rare, or exemplary in a regional or national context, nor do they consistently attract visitors from throughout or beyond the Southern Appalachian region of comparison. While the river is popular with high water paddlers, the upper Nantahala River provides a comparable floating experience and is also a source for regional and national competitive events. Additionally, the Nantahala River has a highly developed outfitter guide program and the supporting facilities that enable a more comprehensive recreation experience. Challenging whitewater runs can also be found across other creeks and rivers throughout the region of comparison, including the Tellico and Oconee Rivers in Tennessee and Wilsons Creek and the Chattooga River in North Carolina.

**Fish** - The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

**Wildlife** - The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

## **Response**

The North Fork French Broad River was not found eligible by the Responsible Official because of the lack of ORV's documented in the FEIS Appendix F, Wild and Scenic River Evaluation pp. F-120 through F-122. However, the response to comments includes discussion of characteristics that falls outside of the process outlined in the Forest Service Handbook and should be further reviewed for this river.

The Responsible Official addressed the comments from American Whitewater about the differences in recreational experience due to location and associated travel times for comparable rivers by referring back to the Region of Comparison. While it is important that these communities value those rivers, the Region of Comparison was not tailored for this group alone and the Forest addressed this sufficiently in the response to comments.

## **Instruction(s):**

**Instruction:** Review the eligibility finding for North Fork French Broad River and whether the information raised by objectors constitutes the presence of outstandingly remarkable values in the region of comparison. Following the review, clearly explain how the decision is made regarding the river's eligibility and the information used to make that decision. If necessary, make updates to the current eligibility finding and the discussion of comparable rivers. Ensure that the discussion in Appendix A regarding eligibility is limited to the process outlined in FSH 1909.12, Chapter 70 and that characteristics such as "the presence of powerlines, remnants of logging activity and roads, unsightly campsites, and a lack of entry and exit locations" are not used to make the decision about the presence of Outstandingly Remarkable Values.



**Instruction:** Add information to the introduction of Appendix F to describe how information provided by the public was used in the evaluation of river segments.

### **Issue 3: Recommend Overflow Creek, Thompson and Whitewater Rivers**

**Objector(s):** Chattooga Conservancy; Nantahala Pisgah Forest Partnership

Objector Chattooga Conservancy alleges that the "Final Plan fails to recommend Overflow Creek, and the East and West Forks of Overflow Creek, as qualified for Wild & Scenic River Designation" and "fails to recognize the Thompson and Whitewater Rivers' "Wild" outstandingly remarkable values" for the following reasons:

- The Final Plan disregarded Overflow Creek as eligible for wild & scenic river designation, based on the unfounded and flawed opinion that it supposedly was not scenic enough and "did not actually possess outstandingly remarkable values."
- The East and West Forks of Overflow were disregarded in error in the draft environmental impact statement for the Final Plan, because of the lack of outstandingly remarkable values were proffered by forest planners at this juncture of the plan revision process.
- The Whitewater and Thompson Rivers, though the Revised Forest Plan did recommend these rivers as candidates for as wild & scenic river designation, these outstanding rivers received a downgraded classification as "scenic" rather than "wild." In fact, these two rivers flow through some of the most remote and wild areas in the Blue Ridge Escarpment, and are deserving of "wild" eligibility management directives for nearly all of their linear miles.

Objector Nantahala Pisgah Forest Partnership asserts that recreation ORVs are insufficiently recognized for Overflow Creek.

#### **Remedy(s) proposed by Objectors**

- Recognize and recommend that Overflow Creek is eligible for wild & scenic river designation.
- Recognize and recommend that the East and West Forks of Overflow Creek are eligible for wild and scenic river designation.
- Recognize that both the Whitewater and Thompson Rivers merit being upgraded from "scenic" designations, and recommended as largely qualified for "wild" river designations.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**



See Wild and Scenic Rivers Issue 1 for details on the applicable laws, regulations and policies including the National Wild and Scenic Rivers Act, 36 CFR 219.3, FSH 1909.12, 07, and FSH 1909.12 Land Management Planning Handbook Chapter 80 – Wild and Scenic Rivers.

## **Project Record**

See Wild and Scenic Rivers Issue 1 for citations to the Forest Plan, Chapter 4 and FEIS, Chapter 3.

FEIS, Appendix A, Response to Comments, pp. 156 through 157.

**Comment:** Overflow and Whitewater should be classified as Wild because these streams have a wild remote character upon leaving the put in or trailhead. Whitewater River merits a Scenic classification from Silver Run Creek confluence to the private land tract, and a Wild classification starting just below private land tract (approx. 2,000 linear ft. above Democrat Creek confluence) to SC state line.

**Response:** Overflow Creek was evaluated as scenic due to some evidence of human activity. No unique or outstandingly remarkable river-related values related to recreational, geologic, wildlife or fish, vegetative/ecological, historic or other similar values were identified during internal and public review. Lower Whitewater River was evaluated as scenic for the entire segment due to its proximity to NC281 highway.

**Comment:** The eligibility of Overflow Creek should be upgraded from Scenic to Wild. The Forest Service should reevaluate the East and West Forks of Overflow Creek and recommend these creeks for WSR designation. The East & West Forks of Overflow form the headwaters of Overflow Creek, and are "outstanding resource waters" located in some of the wildest lands in the Chattooga River watershed; and, the East & West Forks of Overflow provide critical habitat for southern brook trout, a species that is in severe decline due to the effects of climate change, the impacts of Hemlock Woolly Adelgid, and outright habitat destruction/degradation.

**Response:** Overflow Creek was originally evaluated as scenic classification as opposed to wild classification due to evidence of human activity which would preclude the wild classification. Following additional review and evaluation of the river's outstandingly remarkable river-related values, it was determined that the previous determination of a Scenery ORV was incorrect and that there are no unique or outstandingly remarkable river-related values related to scenery, recreation, geology, wildlife or fish, vegetative/ecological, historic, or other similar values on Overflow Creek. While the river does possess scenic qualities, they are not outstandingly remarkable or unique compared to other rivers in the region of comparison. Final evaluation of the river is that it does not meet the requirements to be recommended as an eligible wild and scenic river. The evaluation of the East and West Forks of Overflow found no ORVs that are unique, rare, or exemplary features within the region of comparison.



**Comment:** The eligibility of Whitewater River should be upgraded from Scenic to Wild. Specifically, the section starting just below the private land tract above the Democrat Creek confluence and running to the SC state line should be upgraded to Wild, with the exception of a Scenic corridor around the Highway 281 crossing.

**Response:** The Whitewater River was evaluated by upper and lower segments. Due to its proximity to the NC281 highway, the original scenic classification for the lower segment is appropriate. A future suitability study could lead to a change in the segment's classification, as it will analyze conditions within a ¼ mile on either side of the river. Refer to Appendix F for additional documentation.

**Comment:** The eligibility of Thompson River should be upgraded from Scenic/Recreational to Wild/Scenic.

**Response:** Thompson River is classified as Scenic/Recreational because it is largely undeveloped but is close to development on adjacent private lands and Recreational due to proximity to NC 281. A future suitability study could lead to a change in the segment's classification, as it will analyze conditions within a ¼ mile on either side of the river. No other unique or outstandingly remarkable river-related values were identified during internal and public review. Refer to Appendix F for additional documentation.

#### Appendix F, Wild and Scenic River Evaluation – Overflow Creek, pp. F-123 through F-125.

Free-flow: Yes

Scenery: Per public comment, we revisited this segment's eligibility. Based on field review and specialists' input, it was determined that there are no ORVs in this one-mile segment.

Recreation: Recreation activities include dispersed camping, hiking, horseback riding, hunting, and fishing. The river section in North Carolina provides backcountry fishing; however, these recreational opportunities are not considered unique, rare, or exemplary in a regional or national context. Additionally, comparable hiking, fishing, and paddling experiences can be found on other rivers such as Chattooga River, Davidson River, Linville River, Nantahala River, Nolichucky River, and Wilson Creek

Conclusion: No ORVs exist for this segment. In the 2020 proposed Plan, this river was found eligible with a scenic classification. We revisited this segment's eligibility when public comments between draft and final requested that this segment be classified as wild. Based on field review and specialists' input, we determined there were no ORVs within this one-mile segment. Therefore, this segment is not eligible.

#### Appendix F, Wild and Scenic River Evaluation – East Fork Overflow Creek, pp. F-74 through F-75.

Free-flow: Yes



Scenery: No potential ORVs raised during internal and public review. This is a popular area with a scenic waterfall, Glen Falls. However, this waterfall is not considered remarkable within the Region of Comparison (ROC).

Fish: The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

Wildlife: The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

Appendix F, Wild and Scenic River Evaluation – West Fork Overflow Creek, pp. F-157 through F-158.

Free-flow: Yes

Wildlife: The area supports species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

Appendix F, Wild and Scenic River Evaluation – Thompson River, pp. F-35 through F-37.

If river is eligible, what is the classification?

Scenic, Recreational

Rationale: From the headwaters to FS property line west of SR1152 is classified as Scenic because it is largely undeveloped, but is close to development on adjacent private lands (0.4 miles). From FS property line west of NC281 to FS property line east of NC281 is classified as recreational due to proximity to NC281 (1.0 miles). From FS property line east of NC281 to the FS property line east of Long Spur Ridge is classified as Scenic due to a parallel FS road (2.3 miles).

Appendix F, Wild and Scenic River Evaluation – Whitewater River, pp. F-44 through F-45.

If river is eligible, what is the classification?

Scenic

Rationale: Scenic classification for the entire 3.6 mile segment (both the lower and upper segments reviewed) due to proximity to NC281 highway, Forest Service roads, adjacent private lands, and the Whitewater Falls developed recreation site, which is located within the ¼ mile river corridor.

## Response



The objector has requested eligibility for Overflow Creek along with its east and west forks. These segments were found to be ineligible for their lack of identified ORV's; however, additional rationale in the record regarding the main stem of the river would help substantiate the conclusions. See instruction below.

The east and west forks of Overflow Creek were not found to have any identified ORV's either; the Forests rationale and conclusion was sufficiently described. Lastly, the Forest correctly classified Thompson and Whitewater Rivers as scenic segments because of the proximity to development of private lands.

**Instruction(s):**

**Clarification:** Clarify statements in the evaluation by referencing the information from the field review and the specialist in the final evaluation of the main stem of Overflow Creek that scenery was not an ORV for this river.

**Issue 4: Upper Tuckasegee River**

**Objector(s):** American Whitewater; Friends of Panthertown; Nantahala Pisgah Forest Partnership

Objectors state that the "NPNF violated agency policy in finding the Upper Tuckasegee to be not free-flowing, and in turn ineligible," because the forests "splits the Tuckasegee River into two sections, and correctly finds the upper one to be free-flowing and the lower one not free-flowing." Objectors sought "additional analysis of the Outstandingly Remarkable Values (ORVs) for the Tuckasegee in our Draft Plan Comments to support an eligibility finding, and in response the NPNF stated that: The Upper Tuckasegee was originally identified as potentially eligible but later determined to not be free flowing due to controlled waters. The lower section is currently classified as "dewatered" with water flows which are regulated by a flood control dam."

The objectors assert that the section of the Upper Tuckasegee River that American Whitewater recommended for eligibility is entirely free-flowing. The section begins at the remote confluence of two undammed tributaries and flows through an equally remote and free-flowing gorge. The fact that downstream reaches are impounded and dewatered is immaterial to the upper reach's free flowing status and eligibility, as was correctly determined in Appendix F. The objectors believe that the overwhelmingly dammed status of the Tuckasegee River downstream makes this wild free flowing reach all the more rare and worthy of protection from future dams and diversions.

Objector Nantahala Pisgah Forest Partnership asserts that recreation ORVs are insufficiently recognized for the Tuckasegee River.

**Remedy(s) proposed by the Objectors**



- The evaluation process requires the agency to consider "If there is a segment of the river that is not free-flowing, should other segments be considered?" Based on this policy, the objectors believe that the Forests should have considered the upper, free-flowing segment of the river that was recommended for eligibility separately from the impounded and dewatered segment located miles downstream.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Wild and Scenic Rivers Issue 1 for details on the applicable laws, regulations and policies including the National Wild and Scenic Rivers Act, 36 CFR 219.3, FSH 1909.12, 07, and FSH 1909.12 Land Management Planning Handbook Chapter 80 – Wild and Scenic Rivers

### **Project Record**

See Wild and Scenic Rivers Issue 1 for citations to the Forest Plan, Chapter 4 and FEIS, Chapter 3.

Appendix F, Wild and Scenic River Evaluation – Tuckasegee River, pp. F-149 through F-151.

River Segment Reviewed: Entire reach on Forest Service property in NC. Big Ridge and Lake Toxaway quads. The river has been divided into two sections for evaluation: (1 – Upper Section): from the confluence of Greenland and Panthertown Creeks to the dam on Tanasee Lake. This section runs through some private land; and (2 – Lower Section) from the dam at Tanasee Lake to the confluence of Wolf Creek at the top of Bear Lake. This section runs through some Duke property at the Wolf Creek confluence.

Upper Section: From/To: The upper section starts at the confluence of Greenland and Panthertown Creeks to the dam on Tanasee Lake. (Big Ridge quad).

Lower Section: From/To: The lower section starts at the Dam at Tanasee Lake to the confluence of Wolf Creek at the top of Bear Lake. After the Tuckasegee River leaves Forest Service property and Panthertown Valley, the river travels in and out of private land, back onto Forest Service property through one Duke Power station (Tanasee Creek Lake). The next section runs from the Tanasee Dam, through the Bonas Defeat area and the confluence of Wolf Creek Lake before entering Bear Creek Lake. (Lake Toxaway quad).

## **ELIGIBILITY ANALYSIS**

Free-flow Discussion:

Upper Section – is free flowing.



Lower Section – The lower section is not free-flowing as it is currently classified as “dewatered” with water flows which are regulated by a flood control dam. No further evaluation for the lower section was performed, as it’s not free flowing.

Recreation Discussion: Upper section: The river is not a recreation destination compared to other rivers in the Region of Comparison.

Fish - The area supports rare species; however, their population abundance is not exemplary on the Nantahala and Pisgah NFs or at the region of comparison.

FEIS, Appendix A, Response to Comments, p. 155-156.

**Comment:** Commenters requested additional eligibility findings for six streams (North Fork of the French Broad River, Panthertown Creek, Greenland Creek and the East Fork of the Tuckasegee River, East and West Forks of Overflow and nine additional miles of Fires Creek). Commenters provided supporting rationale such as unique scenery and waterfalls, unique geology, high recreation use including whitewater paddling, pristine water quality, and unique biological values including rare wildlife. Requests were also made to revisit the evaluation of 12 segments recommended by NPNF Partnership and American Whitewater.

**Response:** To be eligible for designation, a river must be free-flowing and possess one or more outstandingly remarkable values. In order to be assessed as outstandingly remarkable, a river related value must be a unique, rare or exemplary feature that is significant at a comparative regional or national scale. North Fork of the French Broad River, Panthertown Creek, Greenland Creek, Tuckasegee River, and East and West Forks of Overflow were not found to possess those values. The unique qualities of these rivers including scenery, water quality, wildlife habitat, and recreation opportunities will continue to be provided for through forest wide management direction that protects natural resources. River evaluations are included in Appendix F of the EIS. Where comments provided new information on individual rivers and river segments, additional consideration was given as to whether ORVs exist on the river. Documentation of ORVs for all rivers evaluated in the plan revision are included in Appendix F and eligible rivers are listed in Chapter 3 of the EIS.

**Comment:** The upper Tuckasegee was included in the Draft Eligibility Report as eligible, but then removed in the DEIS without explanation. We would like that decision to be reconsidered. The DEIS wrongly dismisses the Upper Tuckasegee from eligibility findings and inappropriately references dangerous conditions at the top of waterfalls as a rationale for ineligibility.

**Response:** The upper Tuckasegee was originally identified as potentially eligible but later determined to not be free flowing due to controlled waters. The lower section is currently classified as “dewatered” with water flows which are regulated by a flood control dam. The reference to dangerous waterfall conditions has been removed from the final evaluation in Appendix F as that is not an appropriate description of recreational



ORVs. In the absence of being free flowing and not possessing any ORVs, the upper Tuckasegee was found to not be eligible as a WSR (Appendix F).

## **Response**

The Tuckasegee River was split into an upper and lower segment in the evaluation. The upper segment was found to be free-flowing while the lower section was not free-flowing, as “it is currently classified as “dewatered” with water flows that are regulated by a flood control dam.” FEIS, Appendix F, Wild and Scenic River Evaluation, p. F-149. In order for the upper section to be considered eligible, it will need an identified ORV in addition to its free-flowing status.

The Forests found the lower Tuckasegee ineligible for lack of free-flowing character. American Whitewater has requested the Forest review the free-flowing nature of the Tuckasegee and consider the unique recreational value of the waterfalls and tannic waters. The FEIS, Appendix A, p. 156 mistakenly referred to the “upper Tuckasegee” in their response to comments; the correct reference is to the lower Tuckasegee. This will be corrected in the final documentation.

If the upper Tuckasegee were to be considered eligible, first it would require an identified ORV. This is because the analysis of its free-flowing nature would need to take into account whether flows sustain or complement the outstandingly remarkable values for which the river would be designated (FSH 1909.12 Land Management Planning Handbook Chapter 80 – Wild and Scenic rivers, Section 82.7, Free-flow).

## **Instruction(s):**

**Instruction:** Review the eligibility findings for the upper Tuckasegee River and whether the information raised by objectors constitutes the presence of outstandingly remarkable values in the region of comparison. Following the review, clearly explain how the decision is made regarding the river’s eligibility and the information used to make that decision. If necessary, make updates to the current eligibility finding and the discussion of comparable rivers.

**Instruction:** Add information to the introduction of Appendix F to describe how information provided by the public was used in the evaluation of river segments.

**Instruction:** The FEIS, Appendix A, p. 156 will be corrected to reference the lower Tuckasegee River instead of the upper Tuckasegee River.

**Clarification:** Correct the inaccurate reference to the flood control dam on the Upper Tuckasegee to reflect that this is a hydroelectric dam.

## **Issue 5: Chattooga River**

**Objector(s):** William (Bill) Floyd; Richard Melvin; American Whitewater; Nantahala Pisgah Forest Partnership



Objector Floyd asserts that the "2022 LRMP fails to acknowledge the Forest Service's non-discretionary duty to manage and administer these headwaters by placing "primary emphasis" on "protecting" the quintessential "scientific feature", 16 U.S.C. §1281(a), which the agency described to Congress in 1971 as being an "outstandingly remarkable...value", 16 U.S.C. §1271), which was unique to the North Carolina headwaters of the Chattooga River."

Objector Floyd also states that: "Similar to the 2020 version of the LRMP, the 2022 LRMP incorporates specific direction for Designated Wild and Scenic Rivers by name. This section of the LRMP explicitly reveals the agency's intention to continue treating the recreational wish list of whitewater paddlers as sacrosanct rights instead of adhering to the law of the Fourth Circuit which plainly states: "floating is not a value of the Chattooga that must be protected and enhanced under §1281(a)." *American Whitewater et al, v. Tidwell*, 770 F. 3d 1108, 1118 (4th Cir. Ct. App. 2014).

The USFS has not made a single change in how it plans to provide Specific Direction for Designated Wild and Scenic Rivers by Name."

Objector Richard Melvin also believes that a special management area should be adopted for the Chattooga River, and that additional logging would impact old growth in the area, citing the Southside Project, which he asserts should be reconsidered.

In contrast, Objector American Whitewater asserts that the Forests are not correctly managing the Wild and Scenic Chattooga River. They state that the Nantahala and Pisgah National Forests Land Management Plan components WSR-S-31, WSR-S-32, and WSR-S-37 wrongly impose severe limits on paddling the Chattooga River. The objector believes that the paddling limits are within the scope of this forest plan, and should have been reconsidered in detail based on a decade of agency data collection (which constitutes the best available scientific information) and which they state shows that paddling the Chattooga River is sustainable recreation because use is low and no issues have stemmed from paddling, making paddling limits unnecessary.

They contend that:

- The Forests violated the NEPA and APA by wrongly eliminating Chattooga River management from its scope of consideration in 2014 based on a 2012 decision that the Forest Supervisor stated had not been fully implemented (including requisite monitoring), and that the Forest failed to re-integrate it after many years passed back in to the planning process. They point to three need statements for revising the plan that they believe support the need to revisit the Chattooga River. Objector also asserts that the Forests' claim that the first monitoring was conducted in 2017 and 2018 is "patently false" as is the Forests' claim that additional monitoring is needed with regard to paddling. The objector also states that the Forests' assertion that all of the recreational measures to manage recreation use from the 2012 decision is also false or misleading at best, in terms of paddling management, stating that every facet of paddling management has been in place for years.
- The Forests failed to analyze in detail a reasonable alternative that would have eased limits on padding in the upper Chattooga River, in violation of the NEPA and APA, claiming it was outside the scope of the revised Forest Plan. Objector notes that it is



within the scope and that no rationale was offered in the planning record that qualifies for removal of an alternative from detailed study.

- The Forests "wrongly claims" that excluding the Chattooga River management from review is supported by case law. Objector states that the Forests wrongly claims that a legal decision approving their 2012 decision allows the Forests to make the same decision again in 2022, regardless of significant new information, noting that in 2012, the court's opinion of the Forests conclusion has now been replaced by "vastly superior real data regarding actual paddling on the Upper Chattooga River, and there are no conflicts, no problems, and very little use." Objector notes that there are now 10 years of data that proves the Forests predictions back in 2012 were wrong.
- The Forests failed to consider 10 years of monitoring data, which violates the 2012 Planning Rule for consideration of best science. They state that management of the Chattooga River is based on "extremely limited 15-year-old data" from 2007-2012 rather than a complete dataset on paddling use that was collected from 2012-2022. They point out three assumptions from the Draft Plan they believe are flawed, which include the assumptions that 97-99% more paddlers would float the river on available days that actually float the river; that there would be conflicts between paddlers and other visitors (none have occurred); and that higher levels of recreation use occur in summer (it does not). They state that the 2012 amendment acknowledged that there was limited data and that monitoring should lead to updates, noting that they assisted a graduate student in supplementing the Agency monitoring report with additional analysis they cited in their comments on the Draft Plan that they state further supports changes needed to manage the river.
- The Forests failed to provide for sustainable recreation as required by the 2012 Planning Rule because paddling on the Chattooga River is "intensely monitored sustainable recreation and is not provided for by plan components, but rather is prohibited entirely or limited to levels far below the NPNF's sustainable visitation capacity limits."
- The Forests violated the NEPA and APA by reinstating severe limits on paddling the Chattooga River with no basis, when facts and public input support easing or eliminating paddling limits on the river. Objector cites the new monitoring data what shows over 97% less use than predicted and the lack of conflict or impacts as evidence that paddling limits are not needed. In addition, they cite to broad collaborative support for easing or eliminating paddling limits.
- Objectors state that "nowhere else in the entire Forest Service System is a river banned to boating below a certain flow, banned to boating seasonally to prevent conflicts, banned to boating to protect brook trout habitat (tributaries), banned to boating to block paddling through downstream private lands, or banned to hiking except on trails, let alone all of those limits plus more." The objector concludes with the statement that "in a decade of limited paddling use there have been no conflicts, no capacity concerns, no significant environmental impacts, and vastly lower use than predicted, so low that the Agency field monitoring process did not encounter a single paddler. In short, paddling was allowed and the sky did not fall. It was and remains a total non-issue on the river."

Objector Nantahala Pisgah Forest Partnership asserts that three Wild and Scenic River standards (31, 32, 37) impose overly severe limits on paddling on the Chattooga River.



**Remedy(s) proposed by Objectors**

- Objector Nantahala Pisgah Forest Partnership and American Whitewater's suggested remedies are to significantly ease or remove paddling limits from the Forest Plan by specifically removing seasonal and flow-based paddling limits, and removing the full paddling prohibition on tributaries and portions of the Chattooga River upstream of Green Creek that are on public lands with existing access; and to provide more explanation of the cross-country foot travel prohibition and an updated monitoring plan reflective of these changes.
- Objector Floyd requests full protection of the Chattooga River.
- Objector Melvin requests that no logging occur in the area to protect the river.

**REVIEW FINDINGS****Law, Regulation and Policy**

36 CFR 219.7: New Plan Development or Plan Revision, section (c)(2) In developing a proposed new plan or proposed plan revision, the responsible official shall:

- (i) Review relevant information from the assessment and monitoring to identify a preliminary need to change the existing plan and to inform the development of plan components and other plan content.
- (iv) Consider conditions, trends, and stressors (§ 219.6), with respect to the requirements for plan components of §§ 219.8 through 219.11.
- (x) Identify questions and indicators for the plan monitoring program (§ 219.12).

See Wild and Scenic Rivers Issue 1 for details on the applicable laws, regulations and policies including the National Wild and Scenic Rivers Act, 36 CFR 219.3, FSH 1909.12, 07, and FSH 1909.12 Land Management Planning Handbook Chapter 80 – Wild and Scenic Rivers

**Project Record**

Forest Plan Standards, pp. 264-265:

WSR-S-31- Floating on the Chattooga River is not allowed upstream of the Highway 28 Bridge, except non-commercial boating is allowed on approximately 17 miles of the 21-mile main stem on National Forest lands from the Green Creek Trail to the Lick Log Access Trail only from December 1 to April 30 by issuance of a self-registration boating permit consistent with 36 C.F.R. §261.77 and with the following conditions:

- Boating is permitted only on a day after the flows reach 350 cfs (cubic feet per second) or greater at the USGS Burrells Ford gauge.
- Boating is permitted during daylight hours (30 minutes before official sunrise to 30 minutes after official sunset) on that same day.
- Boaters must use tandem/single-capacity hard boats or tandem/single-capacity inflatable boats.



- Boaters must complete a permit and must use only the designated put-in or take-out areas identified in the permit.

The self-registration boating permit will:

1. Specify boater put-ins and take-outs and safety equipment for boaters. (Note: “Designated” or “system” is defined as “Planned, designed and maintained by the U.S. Forest Service.” “Designated put-in” is defined as “A river access point where boaters launch their craft.” “Designated take-out” is defined as “A river access point where boaters take their craft out of the river”).
2. Require that boating groups be limited to a maximum group size of six people and a minimum group size of two craft.

WSR-S-32 - Boating in the tributaries within the Wild and Scenic River corridor is prohibited.

WSR-S-33 - Commercial boating is prohibited.

WSR-S-34 - Above the Highway 28 Bridge, backcountry group sizes will be limited as follows: maximum 12 people per group on trails; six people per group at designated campsites, except at designated large group campsites; and four people per angling group.

WSR-S-35 - Above the Highway 28 Bridge, large woody debris removal without Agency approval is prohibited.

WSR-S-37- Above the Highway 28 Bridge, and within the river corridor, recreation users stay on designated trails.

FEIS, pp. x, xi, and 1-14: The Chattooga Wild and Scenic River is managed in coordination with the Sumter NF and the Chattahoochee-Oconee NF. Ongoing monitoring is necessary to determine if a change in visitor use management on the Chattooga River is needed. Additional explanation regarding the Chattooga River is included in FEIS Chapter 2, Alternatives Considered but Eliminated from Detailed Study.

FEIS, Alternatives Considered but Eliminated from Detailed Study, 2-30 and 2-31: An alternative that reconsiders management of the Chattooga Wild and Scenic River. In 2012, the Sumter NF, Chattahoochee-Oconee NF and Nantahala and Pisgah NFs signed decisions on managing recreation opportunities on the Chattooga WSR. In addition to amending forest plan direction, these decisions included a Monitoring Plan and Adaptive Management Strategy designed to characterize use and social impacts occurring within the upper segment of the Chattooga WSR corridor, identify changes since a previous study in 2008, and consider whether the capacity thresholds are effective at protecting and enhancing the river’s ORVs, in particular the social/solitude values. The 2012 decisions were challenged on numerous counts and in 2014, the U.S. Court of Appeals for the Fourth Circuit rejected challenges to the 2012 plan amendment decisions and found that the Forest Service's revised plan “carefully balance[s] the wide-ranging



interests advocated by the several parties and participants.” American Whitewater v. Tidwell, 959 F. Supp. 2d 839, 860 (D.S.C. 2013) (“Tidwell”). Following the 2014 court decision, the Forest Supervisor for the National Forests in NC maintained that the Nantahala and Pisgah National Forest plan revision would not revisit the management of the Chattooga WSR because the 2012 decision had not been fully implemented and the required monitoring of the decisions had not yet begun. The first round of recreation use monitoring on the Chattooga WSR upstream of the Highway 28 bridge was conducted in 2017 and 2018 and the monitoring report was published in 2019. Additional monitoring is necessary to determine use trends and to determine whether changes to visitor use management on the Chattooga WSR should be appropriately contemplated. Considering changes now, without additional monitoring, would be premature and inappropriate. As the lead river management unit, the Sumter NF will assess current and future monitoring results and make adaptive management decisions in coordination with the National Forests in North Carolina and Chattahoochee-Oconee NFs. If a need to change visitor use management on the Chattooga WSR is identified, the three forest plans would be amended accordingly. This alternative was eliminated from detail study because it is outside the scope of the forest plan.

FEIS Appendix A, Response to Comments, pp. 159-166.

## **Response**

Objectors assert that some management decisions and direction regarding the Chattooga River were wrongly excluded from the forest plan revision. The Responsible Official’s decision to exclude these topics from the revised plan is within his discretionary authority under 36 CFR 219.7(c)(2)(i) and was fully explained in both the FEIS and response to comments (FEIS, Appendix A) as noted above.

**Instruction(s):** None.

## **WILDERNESS**

### **Issue 1: Wilderness Study Areas and Recommended Wilderness**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Chattooga Conservancy; Cherokee County Commission; Graham County; Kim Porter; Cynthia Simonds; Richard Melvin

Numerous objectors do not agree with the number of recommended wilderness acres within the forest plan, stating that it is far too low. They want the Forest Service to identify more lands as recommended wilderness to help preserve the qualities that make them appropriate for wilderness. Objectors contend that with each iteration and/or revision of the forest plan that these areas are not designated as recommended wilderness, the forests continue to lose those qualities.

Objectors are also concerned that not only does the plan recommend the least amount of wilderness possible, but it also removes a wilderness study area from recommendation.



Objectors assert that the agency has incorrectly not recommended several “Wilderness Inventory Areas” which should otherwise be recommended for wilderness. The objectors accuse the Forest Service of misapplying the wilderness criteria and ask that these areas include all of the necessary components of wilderness. They accuse the Forest Service of violating NEPA by not taking a hard look and violating NFMA by not following the wilderness inventory and evaluation process correctly.

Objectors are concerned that the plan does not adequately protect areas that were included in the inventory for potential additions to wilderness. The objector claims that while these areas are some of the wildest and most remote places within the plan area, they are still being actively managed and the "plan fails to protect most of the forest's important recreation and conservation areas. It removes protections for 100,000 acres of Wilderness Inventory Areas."

In contrast, Objectors Cherokee County and Graham County do not want additional wilderness areas within their counties. Objector Graham County does not support the designation of Wilderness Study Areas because in their opinion, "limited access to the forests combined with current management practices literally creates wilderness areas by taking no action." Objector Cherokee County is concerned that the Unicoi Mountains and Bald River Area are within the boundaries of Cherokee County. They see wilderness designations as too restrictive and a loss to the local economy. They are concerned about loss of access for the motorized communities, recreational tourism, and loss of forest products extraction. Objector Graham County is appreciative of past collaboration and the willingness to negotiate less recommended wilderness areas, but still believes there is more room for compromise.

### **Remedy(s) proposed by Objectors**

- Acknowledge and act upon the following facts, to preserve the integrity of these potential wilderness areas: 1. The Overflow Wilderness Study Area is large enough to qualify as a potential wilderness area because Overflow's 3,900 acre potential wilderness area in NC, combined with a contiguous 2,700 acres of primitive backcountry in GA, altogether comprise a 6,600 acre potential wilderness area. State lines do not determine or confine the boundaries of wilderness areas, as illustrated by the Ellicott Rock Wilderness Area. 2. The 824 acre Ellicott Rock Wilderness Area West Extension is contiguous with and will thus add resiliency to the Ellicott Rock Wilderness Area, which will help protect and augment its existing wilderness characteristics and features, to benefit present and future generations. 3. Terrapin Mountain contains 5,441 acres of rugged landscapes, steep slopes and rare habitats that are contiguous with protected acreage in Chattooga Wild & Scenic River Corridor. These characteristics merit its recognition as a potential wilderness area. The Final Plan should instate and recommend potential wilderness area designations for the Overflow Wilderness Study Area, Ellicott Rock Wilderness Area West Extension and Terrapin Mountain, because all have outstanding, unique characteristics and features that make them suitable as potential wilderness areas.
- The objectors request that the following areas should be included as recommended wilderness or national scenic area designation: Craggy/Big Ivy (Wilderness and National Scenic Area), Overflow, Black Mountains, Mackey Mountain, Joyce Kilmer Extensions (excluding Yellowhammer), Southern Nantahala Extensions, Ellicott Rock Extension,



Shining Rock Extensions, Harper Creek, Lost Cove, Snowbird, Tusquitee, Unicoi & Cantrell Top, and Middle Prong Extension.

- Objectors also recommend that Wilderness Inventory Areas should be managed to maintain or restore their wildland values and should be off limits for construction of utilities, highways, and energy development.
- In contrast, Objectors Cherokee County and Graham County do not want additional wilderness areas within their counties.

## REVIEW FINDINGS

### Law, Regulation and Policy

The Wilderness Act at 16 U.S.C. 1131 directed the Secretary of Agriculture to review the wilderness potential of primitive areas identified by the Forest Service and to make wilderness recommendations for those lands within 10 years of enactment of the law.

Multiple Use Sustained Yield Act of 1960 established the policy and purpose of the National Forests to provide for multiple-use and sustained yield of products and services.

The National Forest Management Act at 16 U.S.C. 1604(e)(1) requires plan revision provide for multiple use and sustained yield of the products and services obtained therefrom in accordance with the Multiple-Use Sustained-Yield Act of 1960 [16 U.S.C. 528–531], and, in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness.

36 CFR 219.1(g) - The responsible official shall ensure that the planning process, plan components, and other plan content are within Forest Service authority, the inherent capability of the plan area, and the fiscal capability of the unit.

36 CFR 219.7(c)(2)(v) requires the responsible official to “identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System and determine whether to recommend any such lands for wilderness designation.”

FSH 1909.12, Ch. 70 requires the responsible official to “consider the areas evaluated and determine which areas to further analyze for recommendation as part of one or more alternatives in the applicable National Environmental Policy Act (NEPA) document.”

70.1 – Authority - The purpose of wilderness and the broad direction for managing wilderness are in the Wilderness Act of 1964 (16 U.S.C. 1131–1136, 78 Stat 890) and the Eastern Wilderness Act of 1975 (16 U.S.C. 1132).

Land management planning process requirements are in FSM 1923 and in the Planning Rule as follows: In developing a proposed new plan or proposed plan revision, the responsible official shall: (v) Identify and evaluate lands that may be suitable for inclusion in the National Wilderness Preservation System and determine whether to recommend any such lands for wilderness designation. (36 CFR 219.7(c)(2)).



71 – Inventory - The primary function of the inventory step is to efficiently, effectively, and transparently identify all lands in the plan area that may have wilderness characteristics as defined in the Wilderness Act.

The inventory is intended to be reasonably broad and inclusive, based on the inventory criteria set out in this section and additional information provided to the Responsible Official through the required opportunities for public and government participation (sec. 70.61 of this Handbook). The intent is to identify lands that may be suitable, so that they can be evaluated and to allow for public input and feedback (sec. 70.61 of this Handbook). Lands included in the inventory will be carried forward for evaluation. Inclusion in the inventory is not a designation that conveys or requires a particular kind of management.

71.21 Inventory Steps and Criteria - Areas to be included in the inventory must be federal lands and must meet one of the following size criteria: The area contains 5,000 acres or more; The area contains less than 5,000 acres but is of sufficient size as to make practicable its preservation and use in an unimpaired condition, including but not limited to areas contiguous to an existing wilderness, primitive areas, administratively recommended wilderness, or wilderness inventory of other Federal ownership.

71.22b - Other Improvements - Include such lands in the inventory where the other improvements or evidence of past human activities are not substantially noticeable in the area as a whole, including when the area contains the following, also recognizing the potential need to provide for passive or active restoration of wilderness character in previously modified areas, consistent with the intent of the Eastern Wilderness Act.

72.1 - Evaluation of Wilderness Characteristics - The Interdisciplinary Team shall evaluate areas, which must include all lands identified in the inventory (sec. 71 of this Handbook), to determine potential suitability for inclusion in the National Wilderness Preservation System using criteria included in the Wilderness Act of 1964, section 2(c), as follows:

1. Evaluate the degree to which the area generally appears to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable (apparent naturalness). Consider such factors as:
  - a. The composition of plant and animal communities. The purpose of this factor is to determine if plant and animal communities appear substantially unnatural (for example, past management activities have created a plantation style forest with trees of a uniform species, age, and planted in rows);
  - b. The extent to which the area appears to reflect ecological conditions that would normally be associated with the area without human intervention; and
  - c. The extent to which improvements included in the area (sec. 71.22 of this Handbook) represent a departure from apparent naturalness.
2. Evaluate the degree to which the area has outstanding opportunities for solitude or for a primitive and unconfined type of recreation. The word "or" means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre.



- a. Consider impacts that are pervasive and influence a visitor's opportunity for solitude within the evaluated area. Factors to consider may include topography, presence of screening, distance from impacts, degree of permanent intrusions, and pervasive sights and sounds from outside the area.
  - b. Consider the opportunity to engage in primitive-type or unconfined recreation activities that lead to a visitor's ability to feel a part of nature. Examples of primitive-type recreation activities include observing wildlife, hiking, backpacking, horseback riding, fishing, hunting, floating, kayaking, cross-country skiing, camping, and enjoying nature.
3. Evaluate how an area less than 5,000 acres is of sufficient size to make its preservation and use in an unimpaired condition practicable.
4. Evaluate the degree to which the area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value. These values are not required to be present in an area for the area to be recommended for inclusion in the National Wilderness Preservation System, but their presence should be identified and evaluated where they exist. Such features or values may include:
  - a. Rare plant or animal communities or rare ecosystems. Rare can be determined locally, regionally, nationally, or within the system of protected designations.
  - b. Outstanding landscape features such as waterfalls, mountains, viewpoints, waterbodies, or geologic features.
  - c. Historic and cultural resource sites. (Confidentiality requirements with respect to cultural resource sites must be respected (25 U.S.C 3056)).
  - d. Research natural areas.
  - e. High quality water resources or important watershed features.
5. Evaluate the degree to which the area may be managed to preserve its wilderness characteristics. Consider such factors as:
  - a. Shape and configuration of the area;
  - b. Legally established rights or uses within the area;
  - c. Specific Federal or State laws that may be relevant to availability of the area for wilderness or the ability to manage the area to protect wilderness characteristics;
  - d. The presence and amount of non-Federal land in the area; and
  - e. Management of adjacent lands.

74 – Recommendation - The Responsible Official shall document a decision on whether to recommend specific areas for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area east of the hundredth meridian, based on the analysis disclosed in the applicable NEPA document and input received during public participation opportunities (sec. 70.61). This decision must be included in the final decision document for the plan. The final decision document must identify the wilderness recommendation proposal as a “preliminary administrative recommendation” and qualify it by stating:

This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final



decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related recommendations for wilderness designation.

The decision must include a summary of the information required in steps 1 through 7 in section 73 of this Handbook for each area recommended for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area. Furthermore, the decision document must affirm that the plan includes plan components that provide for managing areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for each area's suitability for wilderness recommendation (36 CFR 219.10 (b) (iv) and chapter 20 of this Handbook).

For lands in the inventory and evaluation that were not recommended for inclusion in the National Wilderness Preservation System or as a Wilderness Study Area, the decision document must briefly identify or describe what management direction is provided in the plan for those lands. Once a final decision has been made and documented, the Responsible Official, through the Regional Forester, shall notify the Chief of preliminary administrative recommendations for wilderness designation following the direction in FSM 1923.11.

FSM Chapter 1920 - Land Management Planning, FSM 1923.04c – Exhibit 01 - Forest, Grassland, Prairie, or Other Comparable Administrative Unit Supervisor Responsibilities: 3. Make preliminary administrative recommendations in plan decision document; 4. Approve plan, including the plan components for recommended wilderness or recommended wilderness study areas (see 36 CFR 219.10 and FSH 1909.12, Ch. 20).

FSM 1923.1 – Review and Approval, 1923.11 – Proposals Resulting from Wilderness Recommendations Incorporated in Land Management Plans, Including Legislatively Mandated Studies:

1. Forest Service Recommended Wilderness Using 2012 Planning Rule. Before publishing the public notice commencing the 60-day objection period (36 CFR 219.16(a)(3)) for a plan, plan amendment, or plan revision, the Responsible Official, through the Regional Forester, shall notify the Chief of tentative preliminary administrative recommendations for wilderness designation of areas evaluated during the land management planning process.

The land management plan decision document that makes preliminary administrative recommendations for wilderness must contain the following statement:

This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. The Congress has reserved the authority to make final decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related recommendations for wilderness designation.

## **Project Record**



Forest Plan, Management Area: Recommended Wilderness and Wilderness Study Areas, pp. 276-279.

FEIS, Chapter 2, alternatives considered but not in detail (p. 2-30): “An alternative that recommends Wilderness for all areas included in the inventory for potential additions to Wilderness. The Forests considered but did not include an alternative based on the comment to include all inventory areas as Recommended Wilderness. There is no requirement in the 2012 Planning Rule for all lands included in the inventory and subsequent evaluation to be carried forward in an alternative (FSH 1909.12, Ch 70.73). The Planning Rule requires that the responsible official shall identify which specific areas, or portions thereof, from the evaluation to carry forward as Recommended Wilderness in one or more alternatives to be analyzed for effects.

The inventory was based on a very inclusive process using criteria that included size as well as roads and other improvements. The total inventory of potential additions to Wilderness amounted to approximately 362,000 acres, roughly 35 percent of the total Nantahala and Pisgah NFs. As this was a broad inventory, not all areas within the inventory were identified as having wilderness characteristics. Only those areas that contain wilderness characteristics and meet the theme of an alternative were brought forward into the analysis. A more detailed explanation of which areas were brought into each alternative is described in Appendix E.

An alternative that includes no recommendations for Wilderness. Some commenters expressed that the Forests should not be recommending any additional wilderness and that the designated wilderness on the Nantahala and Pisgah NFs already sufficiently represents wilderness conditions in WNC. Citizens and many county governments expressed concern with potentially negative economic impacts that may be realized by counties and the concern with potential loss of management opportunities and motorized access from recommending areas for wilderness.

This alternative was not considered in detail, because it is largely duplicative of Alternatives A and C, which only recommend a portion of the existing Wilderness Study Areas (WSAs) for wilderness. The five WSAs on the Nantahala and Pisgah NFs have been managed to maintain wilderness characteristics over the last thirty plus years and will continue to be managed as such until Congress acts to designate or release them from WSA status. As a result, Alternatives A and C already reflect alternatives that do not recommend additional acres to be managed for wilderness characteristics.”

FEIS Appendix A, Response to Comments, pp. 84-85, 121, 145-146, 167-170:

**Comment:** Federal lands provide habitat for our diverse regional wildlife and ecosystems to live and flourish. Any acreage designated as protected cannot be part of any control burns. WNC is in a fire-dependent environment and has adapted to a regime of low-intensity prescribed fires to remain healthy and thrive. This is a critical management tool that benefits the life cycle of our forests and wildlife and helps reduce the impact of wildfire hazards on adjoining properties to national forest lands.

**Response:** ...The Forest Plan includes standards for the Congressionally Designated Wilderness management area as well as the Recommended Wilderness management area



to allow prescribed fire to reduce risks of wildfire or reduce fuel loading which may pose a risk to adjacent private lands. Prescribed burns in other designated areas would be conducted with the stated values of those areas in mind and within any restrictions of the designating legislation.

**Comment:** Tribes expressed concerns about how wilderness recommendations would impact rights of tribal members to visit, harvest, and gather in places of cultural significance within recommended areas.

**Response:** The Forest Service will continue to consult with Tribes regarding access to culturally significant places. Other than prohibitions on use of motorized equipment or mechanical transport per Plan direction for recommended wilderness, there would be no additional restrictions to traditional tribal uses or gathering of plants for personal use that are allowed in other parts of the National Forest.

**Comment:** Many commenters expressed concern for the protection of national forests and recommended that more areas be protected as national recreation areas, national scenic areas, wilderness, special/ecological interest areas, or part of the old-growth network. There were requests that timber harvest be eliminated as a treatment option in these designated areas.

**Response:** While many management areas such as wilderness, recommended wilderness, and special interest areas include more restrictions on active management such as timber harvest, all national forest lands are managed to protect natural resources and plan direction provides protection for water quality, soils, rare species and habitats and recreational values.

**Comment:** Many commenters expressed support for more wilderness designations while other commenters supported less wilderness designations on the Nantahala and Pisgah NFs.

Comments in support of wilderness included reasons such as preserving forests for future generations, providing additions to existing wilderness in neighboring states, ensuring habitats are preserved in the face of climate change, and providing connectivity of undisturbed forested habitat across the landscape. Comments ranged from general support of additional wilderness designations to naming of specific areas that people felt strongly should be recommended and protected and why these areas have wilderness characteristics. Some comments suggested that the entire inventory for potential additions to wilderness should be designated as wilderness or included in a management area that provides protection of wilderness characteristics.”

Comments in opposition to additional wilderness cited reasons such as constraints on active management, the creation of young forest habitat, and mineral exploration; the loss of forestry related jobs and vehicular access; the loss of maintained wildlife fields; there is already enough wilderness on the forest; and the assertion that backcountry management can provide similar recreation experience without the same constraints as



wilderness designation. There were specific concerns related to not being able to achieve restoration and NRV objectives with the designation of additional wilderness. Comments were received both in opposition to specific areas as well as opposition to wilderness in general.

**Response:** The final EIS contains detailed analysis of five alternatives with a range of wilderness recommendations from 11,120 acres in Alternative C to 126,333 acres in Alternative B. The selected alternative and record of decision recommend 49,131 acres of wilderness. The recommendation in Alternative E includes areas with highest wilderness characteristics and represents a compromise between the protections afforded by wilderness and the management flexibility that is retained in non-wilderness management areas.

The decision to recommend 49,131 acres was informed by the wilderness inventory and evaluation process, in which the Forest identified potentially suitable areas, evaluated their wilderness characteristics with input from the public, and analyzed the impacts of potential wilderness designation in the environmental impact statement. It was the conclusion of the responsible official that the 49,131 acres that are recommended are those areas with the highest degree of wilderness character and due to their remote and inaccessible landscape and adjacency to existing wilderness, there is a lower probability of conflicts with other management goals and multiple uses.

Eight of the fourteen areas that are recommended for wilderness are extensions to existing wilderness (seven in NC, one in TN). Additionally, the recommended Craggy Mountains area is an extension to an existing Wilderness Study Area, and three other WSAs are recommended (Lost Cove, Harper Creek, and Snowbird WSAs).

The decision to recommend additional acres of wilderness was based on a careful consideration of public preferences, and the social, economic, and environmental impacts associated with wilderness designation.” “An alternative that recommended the entire inventory of areas considered for wilderness was included as an alternative not analyzed in detail in Chapter Two of the EIS.

**Comment:** Some commenters expressed support for local timber harvest targets for some areas that should be met in order to earn support for subsequent wilderness designation(s) in that area.

**Response:** The final plan does not tie wilderness recommendations to timber harvest outputs. The plan revision decision documents will make wilderness recommendations. Areas that are recommended for wilderness have some opportunity for limited vegetation management until such time that they are designated as wilderness by congress.

**Comment:** Designating additional areas as recommended wilderness would limit the group size allowed in the area and negatively impact outfitter and guides that operate in areas like Linville Gorge, Lost Cove, and Harpers Creek.



**Response:** The Forest Plan does not set group size limits in recommended wilderness or Wilderness Study Areas. Group size limits greater than 10 people would be considered when the area is designated as wilderness by Congress.

**Comment:** The FS should give a preponderance of weight to the resolutions and requests of county commissioners and other elected/appointed public officials who represent and are accountable to the people.

**Response:** The Forest considered a range of alternatives in response to comments regarding wilderness recommendations. The selected alternative recommends 49,131 acres and was informed by the wilderness inventory and evaluation process, in which the Forest identified potentially suitable areas, evaluated their wilderness characteristics, and analyzed the impacts of potential wilderness designation in the environmental impact statement. The decision of which areas to recommend is not based solely on public comments nor does it give more weight to interest groups or local governments.

**Comment:** The CMC supports continued ability to use motorized equipment for trail maintenance in Wilderness Study Areas. Because of the typically remote, rugged terrain quality of potential Wilderness acreage, use of motorized equipment is important for the Club in its maintenance activities for these areas.

**Response:** Use of motorized equipment for trail maintenance and other administrative management needs will continue to be allowed in recommended wilderness and wilderness study areas until designation as wilderness.

FEIS, Appendix E in its entirety.

Draft ROD, Issue: Special Designations, p. 14 - “This issue addresses the number, type, and extent of special designations and recommended designations in the plan area and the impact of these designations on the other issues described here. Public interests range from support for fewer acres in special designations to support for tens or hundreds of thousands of acres of additional area designations across the Forests. General disagreement regarding special designations revolves around the allowable activities within special designations, the duration for which these designations apply, and the ability of future forest planning efforts to respond to changing conditions after designations are recommended or established. Some members of the public are concerned that additional designations would limit management flexibility, while others value the long-term protections provided by designations.”

“More specifically, there is a difference of opinion about the places and total acres that should be recommended to Congress for designation as wilderness. Some value that recommending an area for wilderness would set the area aside from timber management and that the area would be managed to maintain wilderness characteristics until Congress takes action to either designate the area or release it for other management. Wilderness supporters value that wilderness provides passive restoration of native ecosystems, opportunities for a remote recreation experience, and an emphasis on core interior forests that are unfragmented by roads and development. Others have concerns that recommended wilderness would limit active management, including restoration



opportunities, as well as limit motorized access to the Forests, limit future opportunities for mountain biking, and limit activities that require commercial permits, such as commercial plant collection and outfitters and guides. Those who are not in favor of additional wilderness have concerns about providing management restrictions that would be long-term, citing that if Congress chooses to designate wilderness, there would be no ability to change the management emphasis in future planning efforts. Many members of the public believe that some amount of recommended wilderness is appropriate on the Nantahala and Pisgah NFs but disagree on the extent and location of recommended areas.”

“Some individuals desire to see more areas administratively recognized for their unique features, such as by creating a National Recreation Area for heavily used recreation areas of the Forests or creating more Special Interest Areas identified for their unique resource values. Others question whether these special designations are needed to sustain their unique characteristics and believe that highlighting unique values might increase visitation to a degree that compromises the area’s characteristics or fear that special designation might preclude support for multiple-use management.”

Draft ROD, Decision and Rationale for the Decision, pp. 17-18: 7. “Recommendations for wilderness designation of lands in the plan area for the following areas with boundaries as described in FEIS Appendix E: Bald Mountains; Southern Nantahala Wilderness Extension, Barker’s Creek; Southern Nantahala Wilderness Extension, Chunky Gal; Craggy Mountain Wilderness Study Area; Harper Creek Wilderness Study Area; Joyce Kilmer-Slickrock Wilderness Ext., Deep Creek-Avey Creek ; Joyce Kilmer-Slickrock Wilderness Ext., Sugar Cove Branch; Lost Cove Wilderness Study Area; Mackey Mountain; Shining Rock Wilderness Ext., Dark Prong; Shining Rock Wilderness Ext., Sam Branch; Snowbird WSA; Southern Nantahala Wilderness Ext., Indian Ridge; and Unicoi Mountains/Upper Bald River. (36 CFR 219.7 (c)(2)(v); FSH 1909.12, chapter 70). This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Congress has reserved the authority to make final decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related to recommendations for wilderness designation. Plan direction for recommended wilderness identifies suitable uses and provides direction to allow for some activities needed for the administration of the area and for ecological restoration of at-risk species.”

Draft ROD, Decision and Rationale for the Decision, p. 23: “Recommends more than 49,000 acres of undeveloped land for recommended wilderness. Wilderness is a topic that stirs passion on all sides, and we heard comments from all perspectives. My decision recommends 14 areas, including four existing wilderness study areas, two stand-alone areas, and eight extensions to existing designated wilderness on the Nantahala and Pisgah and neighboring National Forests. These areas are those with the highest degree of wilderness characteristics, and due to their remote and inaccessible character and adjacency to existing wilderness, there is a low probability of conflicts with other management goals and multiple uses.”

Draft ROD, Components of the Decision: Preliminary Administrative Recommendations, Recommended Wilderness, pp. 30-33: “I arrived at my decision on recommended wilderness



after extensive engagement with my staff, local governments, Tribes, commenters, our public, and consideration of all sides of the issue. My decision on which areas to recommend for wilderness is based on careful considerations of the public comments and the tradeoffs between managing the areas as recommended wilderness and managing them as other land allocations. I considered the existing uses, current allowable uses, and the protections afforded by other management area allocations. I decided on recommending wilderness areas that are manageable as wilderness, currently have little to no motorized use or trails allowing mechanical means of transport, and which truly add value if designated as wilderness by Congress in the future.”

“The Nantahala and Pisgah NFs contain approximately 66,400 acres in designated wilderness (6.4 percent of the Forests) and under this land management plan, there will be an additional 49,098 acres in recommended wilderness (4.7 percent), and about 136,200 acres in other Wilderness Study Areas and Backcountry areas (13 percent). Together, these management areas comprise about 24 percent of the Forests and emphasize natural processes with little human disturbance. In my selection of alternative E, with 14 additional recommended wilderness areas distributed across the forest, I recognize the importance of large undeveloped areas and their role in maintaining existing water quality, wildlife habitat connectivity, and the diversity of conditions that are currently enjoyed on the Forests.”

“The final plan includes plan components that provide for managing areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for each area’s suitability for wilderness recommendation. Although several commenters expressed concern that the management of recommended wilderness creates “de facto wilderness areas” in lieu of action by Congress, the Plan does not create wilderness. The Forest Service has an affirmative obligation to manage recommended wilderness areas for the social and ecological characteristics that provide the basis for their recommendation until Congress acts.”

“Areas recommended for wilderness designation will be managed to preserve their condition with minimal evidence of human influence. Human safety is our top priority, so use of motorized equipment would be authorized for wildfire suppression and search and rescue operations in life threatening situations. Hunting and fishing will continue to be enjoyed in these areas with access on foot or by equestrian trails. Existing trails will continue to be maintained to allow for hiking and equestrian use per current trail-use designations. Collection of non-timber forest products, such as galax, for personal use will continue. All of these activities would be allowed even if areas were designated as wilderness. However, administrative use of motorized equipment for trail maintenance will only be allowed until designation. Similarly, existing roads within recommended areas would either continue to be maintained as linear wildlife fields or decommissioned and allowed to return to a natural state. Restoration activities where the outcomes protect wilderness characteristics will be allowed to continue in recommended areas, including monitoring, relocation of animals and habitat improvements such as removal of nonnative invasive plant species, prescribed fire, and rehabilitation of recreation impacts. If designated, administrative use of motorized equipment, prescribed fire, or habitat manipulation actions would only be allowed in certain circumstances and with required analysis and line officer authorization; and roads would be decommissioned or excluded with boundary adjustments.”



“Public use of mechanical transport such as bicycles or carts would be prohibited in all recommended areas (with exception of approved mobility devices for the impaired). Commercial ventures such as collection and sale of non-timber forest products and other commercial activities such as recreation special-use events will not be allowed in recommended areas. There would be no infrastructure development nor timber harvest activities, and no new wildlife fields would be created.”

“Several campaigns and thousands of form letters were received that advocated for Craggy Mountains (the Big Ivy area) on the Appalachian Ranger District to be recommended for wilderness and a National Scenic Area. Each alternative analyzed a different area configuration for recommended wilderness in the Big Ivy area to be responsive to public comments and management considerations. My final decision recommends 3,222 acres for wilderness, which is an expansion of the existing designated Wilderness Study Area. The recommended wilderness, plus an additional 8,279 acres in the Big Ivy area that are visible from the Blue Ridge Parkway is designated as a Forest Scenic Area and allocated to a Special Interest Management Area. The Big Ivy/Craggy Mountains Forest Scenic Area designation will provide flexibility to manage for a diversity of recreation uses including mountain biking and motorized access along existing open forest service roads, while maintaining the scenic values of the area. More information about how the Forest Service responded to this set of comments can be found in FEIS Appendix A.”

“This recommendation for additions to the National Wilderness Preservation System is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Congress has reserved the authority to make final decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related recommendations for wilderness designation. The information considered in making this administrative recommendation for each area recommended for inclusion in the National Wilderness Preservation System is available in Appendix E of the final EIS.”

Draft ROD, Plan direction for lands within the wilderness inventory that are not recommended, pp. 33-35: “It is important to note that the initial inventory of lands that may be included in the National Wilderness Preservation System was intended to be reasonably broad and inclusive, based upon the inventory criteria, and that the inventory was not and is not a designation that conveys or requires a particular kind of management.”

“All lands within the inventory of potential additions to wilderness were evaluated for wilderness characteristics, and the final EIS analyzed alternative plan direction for these lands, with the final recommendations identified in Table 1 above. The balance of areas that are not recommended for wilderness are allocated to other management areas for other multiple use management. The majority of these relatively undeveloped lands provide for semi primitive motorized and semi primitive nonmotorized recreation opportunity settings.”



“Table 2 includes each of the wilderness inventory and evaluation lands that are not being recommended for wilderness designation, and the management area allocation for each. For more specifics on the evaluation and maps, please see appendix E of the final EIS.”

## Response

The Forests followed current law, regulation, and policy regarding alternative development and the wilderness recommendation inventory, evaluation, and analysis and provided rationale for the decision. Ultimately the decision to recommend or not recommend an area is up to the Responsible Official based on the information they present during the planning process – there is no “formula” that results in an area being automatically recommended or not.

All Wilderness Study Areas on the Forests are congressionally designated and will continue to be managed as Wilderness Study Areas under the revised forest plan until Congress either designates them as wilderness or removes them from study. Forest Plan, pp. 276-279. This includes Overflow Wilderness Study Area (WSA), which is not being recommended for wilderness designation, but will continue to be managed as a Wilderness Study Area.

The following excerpts from the FEIS and draft ROD demonstrate the attention paid by the Forests to this issue, along with the rationale for the decision:

- FEIS Appendix A, p. 168: “Areas that are recommended for wilderness have some opportunity for limited vegetation management until such time that they are designated as wilderness by congress.”
- FEIS Appendix A, p. 170: “Use of motorized equipment for trail maintenance and other administrative management needs will continue to be allowed in recommended wilderness and wilderness study areas until designation as wilderness.”
- Draft ROD, p. 18: “This recommendation is a preliminary administrative recommendation that will receive further review and possible modification by the Chief of the Forest Service, the Secretary of Agriculture, and the President of the United States. Congress has reserved the authority to make final decisions on wilderness designation. Plan implementation is not dependent upon subsequent action related to recommendations for wilderness designation. Plan direction for recommended wilderness identifies suitable uses and provides direction to allow for some activities needed for the administration of the area and for ecological restoration of at-risk species.”
- Draft ROD, p. 23: “My decision recommends 14 areas, including four existing wilderness study areas, two stand-alone areas, and eight extensions to existing designated wilderness on the Nantahala and Pisgah and neighboring National Forests. These areas are those with the highest degree of wilderness characteristics, and due to their remote and inaccessible character and adjacency to existing wilderness, there is a low probability of conflicts with other management goals and multiple uses.”
- Draft ROD, p. 32: “The final plan includes plan components that provide for managing areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for each area’s suitability for wilderness recommendation. Although several commenters expressed concern that the management of recommended wilderness creates “de facto wilderness areas” in lieu of action by Congress, the Plan does not create wilderness. The Forest Service has an affirmative



obligation to manage recommended wilderness areas for the social and ecological characteristics that provide the basis for their recommendation until Congress acts.”

- Draft ROD, pp. 32-33: “Areas recommended for wilderness designation will be managed to preserve their condition with minimal evidence of human influence. Human safety is our top priority, so use of motorized equipment would be authorized for wildfire suppression and search and rescue operations in life threatening situations. Hunting and fishing will continue to be enjoyed in these areas with access on foot or by equestrian trails. Existing trails will continue to be maintained to allow for hiking and equestrian use per current trail-use designations. Collection of non-timber forest products, such as galax, for personal use will continue. All of these activities would be allowed even if areas were designated as wilderness. However, administrative use of motorized equipment for trail maintenance will only be allowed until designation. Similarly, existing roads within recommended areas would either continue to be maintained as linear wildlife fields or decommissioned and allowed to return to a natural state. Restoration activities where the outcomes protect wilderness characteristics will be allowed to continue in recommended areas, including monitoring, relocation of animals, habitat improvements such as removal of nonnative invasive plant species, prescribed fire, and rehabilitation of recreation impacts. If designated, administrative use of motorized equipment, prescribed fire, or habitat manipulation actions would only be allowed in certain circumstances and with required analysis and line officer authorization; and roads would be decommissioned or excluded with boundary adjustments.”
- Draft ROD, p. 35: “All lands within the inventory of potential additions to wilderness were evaluated for wilderness characteristics, and the final EIS analyzed alternative plan direction for these lands, with the final recommendations identified in Table 1 above. The balance of areas that are not recommended for wilderness are allocated to other management areas for other multiple use management. The majority of these relatively undeveloped lands provide for semi primitive motorized and semi primitive nonmotorized recreation opportunity settings.”

As noted above, Craggy Mountains, Lost Cove, Harper Creek and Snowbird are addressed in Appendix A, response to comments, pp. 167-168; the Terrapin Mountain/Ellicott Rock area was addressed in Appendix A, response to comments pp. 168-169; the Overflow Wilderness Study Area was specifically addressed in Appendix A, response to comments, p. 171. Appendix D fully documents the Wilderness Evaluation Process.

The decision to recommend additional acres of wilderness was based on a careful consideration of public preferences, and the social, economic, and environmental impacts associated with wilderness designation. The action alternatives considered different packages of areas to recommend, ranging from 11,193 acres to 74,173 acres. An alternative that includes no recommendations for wilderness was included as an alternative not analyzed in detail in Chapter Two of the FEIS. An alternative that recommended the entire inventory of areas considered for wilderness was included as an alternative not analyzed in detail in Chapter Two of the FEIS.



Areas that were not recommended for wilderness were allocated to other management areas, consistent with law, regulation and policy. Inclusion in the wilderness inventory is not a designation that conveys or requires a particular kind of management.

**Instruction(s):** None.

## STATE NATURAL HERITAGE AREAS

### Issue 1: Protect State Natural Heritage Areas

**Objector(s):** Friends of Big Ivy; Forest Keeper; Friends of Panthertown; Nantahala Pisgah Forest Partnership; Center for Biological Diversity; Southern Environmental Law Center, et al.

The objectors assert that the revised Forest Plan fails to protect North Carolina Natural Heritage Areas. Specifically, the objectors are concerned that the revised Forest Plan did not exclude Natural Heritage Areas from the timber base and road building; they believe that this will impact non-designated old-growth, federally listed species, and habitat for species of conservation concern. For example, the Panthertown area includes rare species such as the mayfly, *Ameletus tertius*, and the Pallid roachfly, *Viehoplerla ada*, which would be adversely affected by timber harvest.

Objectors allege that the final Plan (especially alternative E) has arbitrarily and capriciously excluded many natural heritage areas from protection by leaving them in the “highest priority logging designations.” They highlight that over 70% of rare species occurrences are in Natural Heritage Areas and that these areas protect “the most important habitats for 339 species of conservation concern identified in the forest plan.”

The Nantahala Pisgah Forest Partnership believes that the Natural Heritage Natural Areas (NHNAs) and the species within them do not have additional Plan content that is necessary to ensure that any management will maintain or enhance them, stating that the timber production management areas in Alternative E are not broadly supported and are “likely to continue the current pattern of inefficient projects that stoke conflict.” They contend that the Forest Service's approach to managing Natural Heritage Areas fails to meet the purpose and need of the Plan, as well as the Desired Conditions.

Objectors feel strongly that the “protection of NHNAs should be the cornerstone of the Plan's strategy to protect rare species. Throughout the planning process, NHNAs have been front and center, in part because the Forest Service's repeated attempts to log them in successive projects, including in projects during the planning process, have been so controversial.”

They state that “After Objectors gave input on the importance of focusing on NHNAs and their values in conservation analyses, the Forest Service actually went backwards. It removed the only substantive requirement related to NHNAs that happen to be mapped into timber-suitable MAs. Draft PAD-DC-04 provided that “[u]nique ecological characteristics are maintained or enhanced within [NHNAs].” The final version provides only that NHNAs generally “contribute” to biodiversity—a desired condition which provides absolutely no guidance for a project level



decision affecting a specific NHNA and, if taken seriously, would require a sprawling cumulative impacts analysis every time action in an NHNA was proposed to determine whether the desired condition would continue to be met. ...After this change, the sole plan component left for NHNAs that are mapped into timber-suitable MAs is a nebulous guideline to “coordinate” with the State Natural Heritage Program (NHP) during project development (PAD-G-02). As the Forest Service surely is aware, this is merely the status quo. Agency staff already “coordinate” with NHP regarding proposed timber management in NHNAs, but that has not prevented the regeneration of NHNAs for creation of ESH and timber production.”

### **Remedy(s) proposed by Objectors**

- Suggested remedies include protecting all State Natural Heritage Areas; manage State Natural Heritage Areas to maintain their "exemplary natural communities"; and place the vulnerable 65,000 acres that are currently in Matrix and Interface into either Backcountry or Special Interest Areas.
- The Nantahala Pisgah Forest Partnership's suggested remedies include: "NHNAs rated as "Exceptional" should be added to Special Interest Area MAs. Currently, over 7,000 acres are included in Matrix and Interface outside of designated old growth." "Very High" and "High" NHNAs should not be mapped as "suitable." If within Matrix or Interface they should be moved to Ecological Interest Area.
- Natural Area boundaries can be changed with field verification and administrative plan changes, but only if the reasons/criteria for doing so are spelled out in the Plan. This works if there is language in the Plan components that states that the natural values identified will be corrected within the new boundary. These strategies should be reflected as a Standard or Guideline in the Final Plan.
- Clarify the Desired Condition to explain that the NHNA's "unique ecological characteristics" to be maintained or restored include not only element occurrences, but also exemplary natural communities as described by the North Carolina Natural Heritage Program.
- Add standards (1) that coordination with NHP must occur before any stands in NHNAs are prescribed for treatment; (2) include field work to verify appropriate boundaries; and (3) that coordination is intended to determine how best to maintain the rare and unique ecological characteristics of the NHNA. A coordination requirement without any further direction will result in differences of opinion regarding the relative importance of protecting disturbance-sensitive species and creation of young forest habitat, and these differences could continue to create conflict as they have under the old Plan.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

A natural area identified by the North Carolina Natural Heritage Program is a site (terrestrial or aquatic) of special biodiversity significance due to the presence of rare species, unique natural communities, important animal assemblages, or other ecological features. The North Carolina Natural Heritage Program works with many partners, including state and federal conservation



agencies, national conservation groups, and the land trust community, to implement voluntary protection for these areas.

The planning regulations at 36 CFR 219.4(b) require the responsible official to coordinate land management plan revision with other planning efforts such as those done by State governments. The results of the review of State planning and land use policies shall be displayed in the EIS for the plan.

See also Issues 3, 4, and 5 under T & E, Sensitive Species and Species of Conservation Concern. Also see Issue 1 under Botany for requirements for maintaining species diversity.

## **Project Record**

FEIS, p. 3-106 indicates some forest sites contain special biodiversity significance and are recognized as Natural Heritage Natural Areas (NHNAs) by the North Carolina Natural Heritage Program. As part of their mission, the North Carolina Natural Heritage Program (NCNHP) seeks to identify, document, and consolidate rare species and natural community information across North Carolina, including the Nantahala and Pisgah NFs.

Rather than analyze effects to NHNAs as a separate indicator, the analysis addresses the ecological integrity of these areas by considering the ecozones and unique habitats, species groups, and rare species.

FEIS, Appendix A, Response to Comments, pp. 67-68 and 146-148, regarding management of NHNAs.

Forest Plan, Chapter 2, Plant and Animal Diversity, p. 74: “Within this section, the plan includes direction on managing in North Carolina Natural Heritage Natural Areas located on the Nantahala and Pisgah NFs. The North Carolina Natural Heritage Program (hereafter “Heritage Program”) is administered by the state of North Carolina to complete a systematic inventory of elements of natural diversity that exemplify the state’s natural heritage. Across the state, the Heritage Program has identified North Carolina NHNAs as areas with either rare terrestrial or aquatic species, unique natural communities, important animal assemblages, or other unique ecological features. Not all NHNAs possess the same caliber of unique ecological characteristics, and the Heritage Program ranks NHNAs on a scale from general to exceptional. The Forest Service will work with the Heritage Program to discuss the values inventoried and locations of unique characteristics during planning and implementation for projects in and adjacent to NHNAs,” and “Many of the most exceptional sites have been allocated to the “Special Interest Areas” management area (see chapter 4).”

Forest Plan, PAD-DC-O4, p. 77: North Carolina NHNAs, which support important populations of rare species and high-quality natural communities, contribute to the goal of maintaining and restoring biodiversity across the Forests.



Forest Plan, PAD-DC-O5, p. 77: The FS partners with NCNHP, NCWRC, and USFWS in the identification of plant and animal species and their associated habitat needs, proactively working to maintain, enhance, and restore plant and animal diversity.

Forest Plan, PAD-G-02, p. 81: When NHNAs are present within an analysis area, coordination should occur with the NC Natural Heritage Program early during project development to discuss the unique ecological values present, their locations, the representativeness and quality of these values, and potential management treatments. Project proposal development should consider opportunities to maintain or restore unique values. Field review may be necessary.

Forest Plan, Management Approach, p. 81: Regularly coordinate with the State Natural Heritage Program regarding newly inventoried locations and proposed changes to the Heritage Program's state registry including refinement of area boundaries to reflect new information about species and rare communities.

Forest Plan, Management Approach, p. 81: Coordinate with the NC Natural Heritage Program early during the development of projects as well as on out year activities and potential partnership opportunities to improve NHNA conditions. Active management techniques may occur within NHNAs such as, but not limited to, prescribed burning, vegetation management including commercial timber sales and non-commercial improvement practices, and non-native invasive species treatments.

The Natural Heritage Program expressed appreciation for the plan components and support for Alternative C in their comments on the draft EIS. In a letter to the Forest Supervisor in 2022, the NC Natural Heritage Program further acknowledged the inclusion of plan components that guide cooperation with the Heritage Program during project development and implementation.

## **Response**

The response to comments indicates the evaluation of North Carolina Natural Heritage Natural Areas (NC NHNAs) during forest plan development led to the allocation of many NC NHNAs to the Special Interest Areas (SIA) MA. NHNAs rated as 'Exceptional' by the NC Natural Heritage Program were reevaluated between draft and final and several boundary adjustments to the SIA MA were made based on further review and consideration of MA allocation. These boundary adjustments are reflected in Alternative E of the FEIS. Some other NHNAs are geographically small locations scattered across the plan area in a manner impractical to manage as a specific management area. However, forest-wide plan components have been identified to ensure the biological values are addressed during project implementation, regardless of location.

As for boundary adjustments to NHNAs, the NHNAs are identified and mapped by the state Natural Heritage Program. Adjusting the boundaries of a state designation is outside the scope of the Forest Service's authority.

The Forest Plan includes plan components in the Plant and Animal Diversity section to work with the NC Natural Heritage Program to maintain, enhance, and restore plant and animal diversity. No specific direction is applied to NHNAs that are not identified as Special Interest



Areas; however, close coordination with the State will ensure that the unique ecological values of the area are considered when designing projects.

The Forest Plan requires field surveys for threatened and endangered species, as well as species of conservation concern if habitat as detailed in PAD-S-03. These surveys would be conducted within NHNAs and would include field reviews for unique habitats (Forest Plan, p. 80). The plan also includes desired conditions for 25 unique habitats that occur on the Nantahala and Pisgah NFs. The recreation section of the forest plan includes direction for the protection of unique habitats, specifically in areas that are sensitive to trampling of rare plants and animals. Additionally, integrated Ecosystem and Wildlife Habitat Management Approaches recognize the need to design treatments that are sensitive to or enhance unique biological features, especially within Natural Heritage Natural Areas.

The relationship between NHNAs and suitability for timber production varies across the forest based on the management area that they are contained within. As noted above, the NHNAs designated as 'Exceptional' by the NC Natural Heritage Program were reviewed and many were allocated to Special Interest Areas (SIA) where appropriate. In management areas other than the Matrix and Interface, NHNAs would be considered not suitable for timber production per that management area direction. Although NHNAs that fall within the Matrix and Interface MAs are within an allocation broadly suitable for timber production, timber management would be subject to forest-wide direction for NHNAs that recognizes their unique values regardless of the overlapping land allocation. This includes desired condition (PAD-DC-04 and PAD-DC-05) and guideline (PAD-G-02), which require the Forests to coordinate with the State Natural Heritage Program for projects in NHNAs and work to maintain, enhance and restore plant and animal diversity. This plan direction will ensure collaboration with the State Agency and decision making that is both responsive to multiple use management and cognizant of key biological values present. Overall, the Responsible Official included plan components to address the unique biological values within NHNAs.

**Instruction(s):**

**Clarification:** Add language to FEIS Appendix G: Coordination with Other Public Planning Efforts, regarding the compatibility of the Forest Service's Forest Plan with the North Carolina Natural Heritage Program. Add additional language to the FEIS, Appendix H: Public and Government Involvement to describe how the Forest Service coordinated with the NC Natural Heritage Program in the development of the Forest Plan.

**Issue 2: Natural Heritage Areas – Effects Analysis**

**Objector(s):** Cynthia Simonds; Southern Environmental Law Center, et al.

Objectors contend that the final EIS fails to adequately analyze management effects to State Natural Heritage Natural Areas (NHNAs) by failing to compare NHNA allocations by alternative as an aspect of the coarse filter analysis, which are confirmed areas of biodiversity that must be used in the coarse filter analysis to ensure their protection. By not including them in the coarse filter analysis, the objector believes that the Forest Service failed to capture spatially specific



biological values, including where rare species are most likely to be found on the Forests. Objector states that the Forest Service failed to include a comparison of NHNA allocations by alternative (which they could have done), noting that the Forest Service's response to comments stated that the information was not used in the Ecological Sustainability Evaluation (ESE) and that the individual resources were considered generally in the FEIS. Objectors state that by ignoring NHNAs in the coarse filter analysis, the FEIS failed to take a hard look under NEPA and ignored the best available scientific information about where rare species are found.

An objector also states that "The FEIS acknowledges that NHNAs are areas which "contain special biodiversity significance," but it completely ignores that significance when comparing alternatives (FEIS at 3-106). Under NEPA, Forest Service cannot both acknowledge that NHNAs are places of "special biodiversity significance" that require protection and fail to disclose the environmental impacts of regeneration harvest in these areas."

The objector goes on to contend that the FEIS's analysis of impacts to rare species is "inadequate precisely because it does not consider where rare species are most likely to be found. It is circular reasoning to say that there is no need to consider where rare species are because that analysis says rare species will be fine. Put simply, the FEIS fails to account for the reality that acres of forest with similar seral classes are not fungible and are not equivalent in terms of ability to support biodiversity. By failing to analyze the comparative effects of Plan alternatives that would impact NHNAs differently, the Forest Service is making a claim that those differences do not matter for maintaining and restoring biological diversity."

The objector also notes that by failing to separately analyze differences for NHNAs, the Forest Service will "ignore the tradeoffs that come with opening the best examples of natural communities to incompatible forms of management" and in particular, regeneration harvest.

Objector's suggested remedy is for the Forest Service to include "spatial information about NHNAs in its models analyzing impacts to species groups. At the very least, the agency must now provide supplemental analysis comparing the alternatives' relative ability to protect biological diversity in the long-term. Such an analysis would have to recognize the acreage of NHNAs that would be available for timber production over multiple planning cycles and, for each alternative, analyze the effects of losing those rare and exemplary habitats on the Forests' ability to maintain and restore biological diversity. It is absolutely inadequate, however, to design an analysis that assumes that acres within ecozones and age classes are fungible, then rely on it for a conclusion that different MA allocations won't make any difference."

The objector concludes that "Since analysis into the real impacts of NHNA allocation has not been done, the only solution to ensure protection of rare species persistence without changing the Plan's components would be reallocation into more protective management areas. Alternatively, to meet the obligations of the Planning Rule to "maintain the diversity of plant and animal communities and the persistence of native species in the plan areas" without reallocating these areas, the Forest Service would be obligated to add new standards or guidelines with substantive direction that NHNAs must be managed to maintain or enhance their local rare and exemplary values, and that coordination with NHP is intended to determine whether management is needed to accomplish that end."



**Remedy(s) proposed by Objectors**

- Do not permit timber production in Natural Heritage Natural Areas and they should only be managed to maintain their rare or exemplary values.
- Include spatial information about NHNAs in modeling that analyzes impacts to species groups.
- NHNAs should be included in the coarse filter. Objectors provided details as to why the coarse filter analysis should include NHNAs.
- Supplement the analysis comparing the alternatives' relative ability to protect biological diversity in the long-term. Such an analysis would have to recognize the acreage of NHNAs that would be available for timber production over multiple planning cycles and, for each alternative, analyze the effects of losing those rare and exemplary habitats on the Forests' ability to maintain and restore biological diversity.
- Either reallocate all NHNAs to more protective management areas or add new standards or guidelines with substantive direction that NHNAs must be managed to maintain or enhance their local rare and exemplary values, and that coordination with NHP is intended to determine whether management is needed to accomplish that end.

**REVIEW FINDINGS****Law, Regulation and Policy**

See NEPA Issue 5: Effects Analysis and Hard Look for an explanation of programmatic NEPA requirements.

**Project Record**

FEIS, Appendix A, Response to Comments, p. 42 regarding NHNA analysis and the response to incorporating NHNAs into the coarse filter analysis.

FEIS, Chapter 3 - Effects of the forest plan framework on plant and animal diversity as well as unique communities is analyzed in the Terrestrial Ecosystems section. Alternatives A through E provide a range of management area allocations that differ in the extent to which Natural Areas are included in management areas not suitable for timber production.

See State Natural Heritage Areas, Issue 1: Protect State Natural Heritage Areas for additional citations to the project record.

**Response**

Objectors request NHNAs be utilized as a specific coarse filter spatial analysis modeled across alternatives, but as described in the response to comments, NHNAs are not a Forest Service designation. While some are included in the Special Interest Area Management Area, many are small geographic locations spread across the plan area. The resources present in the NHNAs – the forest communities, unique habitats and rare species that NHNAs contain - are analyzed in



detail in the Terrestrial Ecosystems section of the EIS. See issues in sections T & E, Sensitive Species, and Species of Conservation Concern and Section related to the sufficiency of the plan to provide for species diversity.

As documented in the FEIS, Appendix A, Response to Comments, p. 42, “Additionally, NC Natural Heritage Natural Areas have value ratings that range from ‘General’ to ‘Exceptional’ and most of the ‘Exceptional’ NHNAs were included in the Special Interest Area MA. Alternative E includes additional acres in SIA compared to Alternatives A, B, C, and D. Several EIS sections analyze the effects of resource management on Special Interest Areas.”

While objectors would have preferred alternate analysis approaches, the Responsible Official considered NHNA values within the analysis in the final EIS and project record.

**Instruction(s):** None.

## **RECREATION**

### **Issue 1: Recreating in Wilderness**

**Objector(s):** Cherokee County; Graham County

Objectors Cherokee and Graham County both assert that the plan is too restrictive of economically important recreational activities. Specifically, the counties oppose recommendation of designated wilderness in their counties as they believe designation will adversely impact the economic benefits they receive from forest visitation and recreational activities. The objectors note that the Plan includes 2655 acres of proposed wilderness in Cherokee County and 65% of the land in Graham County is USFS land.

Cherokee County uses the following as an example of their concern; “In 2014 the U.S. Forest Service abruptly closed Hanging Dog Campground, the only publicly-owned campground in Cherokee County. WHEREAS, in 2016 and 2017, after much dialogue and political intervention, the U.S. Forest Service reluctantly agreed to partner with Cherokee County, in an effort to keep the county's only publicly-owned campground open for its residents and visitors. WHEREAS, in 2018, despite Cherokee County's commitment of funds, labor, and in-kind support to keep the campground open for its residents and visitors, the U.S Forest Service permanently closed Hanging Dog Campground, citing financial unsustainability.[...]the U.S. Forest Service Land Management Plan is adopted, as currently proposed, it will further prohibit and restrict important recreational activities in Cherokee County, which are currently enjoyed by residents and visitors.[...]Cherokee County Board of Commissioners remains adamantly opposed to the loss of any additional recreational opportunities in Cherokee County, and remains adamantly opposed to the designation of any wilderness areas within the boundaries Cherokee County.”

### **Remedy(s) proposed by Objectors**

- The remedy proposed by both Cherokee and Graham County is to ensure there is no loss of additional recreation opportunities by not including additional recommended



designated wilderness within their boundaries. Graham County proposes to increase recreation opportunities by increasing road development and improving access to the forest. An additional remedy proposed by Cherokee County is to reopen Hanging Dog Campground.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Wilderness Issue 1: Wilderness Study Areas and Recommended Wilderness for relevant law, regulation and policy.

### **Project Record**

FEIS, Appendix E describes the identification of the wilderness inventory and then evaluates each area for wilderness characteristics using the five criteria set forth in the Wilderness Act of 1964 and FSH 1909.12, section 72.1. This appendix documents the questions and measures that the team used to address each of these five criteria to provide a consistent way to evaluate each area in the inventory for wilderness characteristics in a comparable manner. It also documents the public participation opportunities offered to acquire feedback and input on the inventory, evaluation, and analysis of the areas considered for recommendation.

FEIS, p. xv: Based on the evaluation and public input, the alternatives in the FEIS analyze a wide range of recommended wilderness areas. The alternatives ranged from recommending 15,226 acres in Alternative A to 126,333 acres in Alternative B.

FEIS, pp. 2-22 and 2-23: Alternative E incorporated public comments between the draft and final EIS. This alternative recommends 49,098 acres and only recommends areas with the strongest wilderness characteristics in combination with public comments and management needs for other multiple uses. Additionally, the alternative provides for a broad range of forest-wide recreation experiences including semi-primitive non-motorized recreation to highly developed areas with opportunities for motorized recreation. Therefore, Alternative E generates various economic contributions from outfitter and guide permits, recreation, and tourism.

See also the response to Wilderness Issue 1: Wilderness Study Areas and Recommended Wilderness for additional citations to the Project Record.

### **Response**

The Responsible Official appropriately followed and documented the wilderness evaluation process found in the Forest Service Handbook 1909.12, Chapter 70 (FEIS 3.4.7 and FEIS appendix E). His decision is within his discretion to provide for the multiple use management of various resources and areas of the Forest. He considered the perspectives of Graham and Cherokee counties by analyzing the trade-offs associated with varying land allocations in the final EIS. The rationale provided in his decision, as supported by the planning record, demonstrates the careful consideration he gave to accommodating the appropriate mix of



multiple uses the Forest Service is mandated to provide while providing for ecological, social, and economic sustainability. The decision to recommend additional acres of wilderness was based on careful consideration of public preferences, and the social, economic, and environmental impacts associated with wilderness recommendation and potential designation.

Both Cherokee and Graham counties express their concern about expanding recommended wilderness areas citing economic benefits received from recreation activities are reduced in designated wilderness. While recreation accounts for the majority of Nantahala and Pisgah NF-related employment, the FEIS and draft ROD adequately addresses this concern in several places. Section 2.3.2 states that Alternatives B, C, D, and E provide greater economic contributions to the local economy than Alternative A (No Action). When comparing employment contribution, labor income and final monetary value from recreation all alternatives estimate the same amount (FEIS, pp. 3-589 through 3-591). The FEIS also cites studies that wilderness does not adversely impact regional economies and actually may increase long-term economic development opportunities (FEIS, p. 3-586). Overall, the FEIS states the difference in economic contributions across alternatives are small, and the variation in economic impacts make Alternatives B, C, D, and E somewhat equivalent (FEIS, p. 2-6).

In the FEIS, there was no alternative analyzed in detail which excluded all recommended wilderness, but Alternatives A and C did not recommend new wilderness acres beyond those in the 1994 Plan Amendment. In fact, Alternative A had no recommended wilderness acres in Graham or Cherokee Counties at all. Furthermore, across the Forests, 100% of recommended wilderness in Alternatives A and C were within existing Congressionally designated Wilderness Study Areas (WSA), which are also Inventoried Roadless Areas (IRA) that were designated under the 2001 Roadless Area Conservation Rule. All WSAs have been and will continue to be managed to maintain wilderness characteristics until released from further study by Congress, this is true regardless of alternative.

As per the recommendation to reopen Hanging Dog Campground, a plan cannot authorize projects or activities nor commit the Forest Service to taking action; as such, that action is outside the scope of this planning effort.

See also the response to Wilderness, Issue 1: Wilderness Study Areas and Recommended Wilderness.

**Instruction(s):** None.

## **Issue 2: Sustainable Recreation**

**Objector(s):** Nantahala Pisgah Forest Partnership

Objector asserts Partnership-proposed plan components for sustainable recreation were not included in the Plan, and should have been. They believe not including these will result in conflict and dissatisfied visitors. Objector's suggested remedy is to include all of their points raised in draft plan comments in the final plan to more fully ensure sustainable recreation opportunities for 5 million annual visitors.



## **Remedy(s) proposed by Objectors**

- The Partnership recommendations included requests for sustainable recreation-related Plan components. These Plan component recommendations were carefully crafted to integrate with Management Area allocations and other elements of our agreements to ensure that as other interests' needs are met on the Forest, the Forest Service provides for meaningful and positive outdoor experiences for the over 5 million annual visitors. The result of this integrated approach would have been fewer conflicts during implementation among stakeholders, between stakeholders and the Forest Service, and between visitors and natural resources. In rejecting management area allocations including designations, management sideboards, and approaches to sustainably managing recreational uses like climbing, paddling, horseback riding, hiking, biking and mineral gathering, the Forest Service has chosen a future with more conflicts and less collaboration, and with less satisfied visitors, and is failing to adequately provide for sustainable recreation as is required by the 2012 Forest Planning Rule.[...]Therefore, the agency's approach fails to meet the purpose and need of the Plan, as well as stated Desired Conditions and Objectives, to the extent and with the efficiency of the Partnership proposed solutions (Final Plan p. 1-2). The Partnership's request remedy of these errors in the Final Plan by bringing each error into alignment with the Partnership's Comments on the Draft Plan, which address each point in detail. Doing so would more fully provide for sustainable recreation as is required in the 2012 Planning Rule.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.8(b)(2) states that the plan must provide for social, economic, and ecological sustainability and include plan components, including standards, or guidelines, to guide the plan area's contribution to social and economic contribution, taking into account: sustainable recreation settings, opportunities; and access; and scenic character. The plan must also consider multiple uses that contribute to local, regional, and national economies in a sustainable manner (§ 219.8(b)(3)).

36 CFR 219.10 requires plan components for integrated resource management to provide for ecosystem services and multiple use [including outdoor recreation]; and plan components including standards or guidelines to provide for: Sustainable recreation; including recreation settings, opportunities, and access; and scenic character. Recreation opportunities may include non-motorized, motorized, developed, and dispersed recreation on land, water, and in the air.

### **Project Record**

Forest Plan, p. 21 outlines the key themes of the plan, including management of sustainable recreation under the theme of "Connecting People to the Land."



Forest Plan, pp. 23-24 outlines how Sustainable Recreation as one of the Key Plan Concepts, noting that “The Forest Service has adopted sustainable recreation as a core focus to ensure that everyone can connect with their natural and cultural heritage through the Forests, which brings health and vitality to individuals and communities.”

Forest Plan, pp. 113-117, includes the following plan components to ensure sustainable recreation for both dispersed and developed recreation opportunities:

REC-DC-01 provides for forest settings that connect people to the land through high-quality and safe sustainable recreation opportunities.

REC-DC-06 states, recreation use occurs within the ability of the site to support it with high visitor satisfaction, minimal conflict between users, and without impacts to the environment.

REC-DC-15 emphasizes that existing developed sites are maintained and updated based on the Forests overall sustainable recreation strategy.

REC-DC-21 aims for sustainable dispersed recreation use occurs within the ability of the land to support it, with high visitor satisfaction, minimal conflict between users, and without impacts to ecologically and culturally sensitive areas.

REC-DC-28 states sustainable trail planning and management is done collaboratively with interested stakeholders; such as recreation users, volunteer or partner organizations, user councils, community organizations, state or local governments, special use permit holders, etc.

REC-O-01 details that developed recreation will move toward more sustainable goals by implementing collaborative recreation planning with stakeholders and local communities to develop strategic guidance and shared vision for sustainable developed recreation for the future within five years. The Plan also emphasizes collaborative planning with specific user groups including equestrian and bicycle users (REC-O-07), and the mountain climbing community (REC-O-09).

Forest Plan, p. 116 and 119, Management approaches also emphasize sustainable recreation.

Forest Plan, pp. 190, 195, 210 highlights how each geographic area will contribute to sustainable recreation opportunities.

Forest Plan, p. 295, Monitoring Question MQ 5-1-T2 asks “How has collaborative recreation planning been implemented and what outcomes have resulted from collaborative recreation planning, for sustainable recreation?”

FEIS, Chapter 1 outlines the importance of sustainable recreation in both the Key Themes and Key Plan Concepts.

FEIS, Chapter 2 explains how each alternative addresses sustainable recreation.

Chapter 3 of the FEIS states the guidelines clarify that mixed use non-motorized trails should be accompanied by educational efforts to reduce user conflicts, and that all user groups should be encouraged to share responsibility and work together in supporting the trails (REC-G-06).



## Response

As documented above, the Forest Plan addresses sustainable recreation per the planning regulations and includes numerous plan components that emphasize sustainable recreation and address user conflicts. The Forest Plan, p. 23, highlighted sustainable recreation as one of the Key Plan Concepts, emphasizing that “The Forest Service has adopted sustainable recreation as a core focus to ensure that everyone can connect with their natural and cultural heritage through the Forests, which brings health and vitality to individuals and communities.”

The concept of sustainable recreation is woven into both the geographic areas and various plan components, with a monitoring question that will determine how collaborative planning has contributed to sustainable recreation. The Responsible Official has chosen to use a collaborative meeting processes and educational efforts to ensure sustainable recreation and minimize user conflicts. Law, regulation, and policy does not require the responsible official to incorporate the objector’s suggested modifications into the plan. The Responsible Official exercised his discretion to identify plan components for sustainable recreation and multiple uses (36 CFR 219.10).

**Instruction(s):** None.

## Issue 3: Rock Hounding

**Objector(s):** Southern Appalachian Mineral Society; Nantahala Pisgah Forest Partnership

One objector states that the use of mechanical tools that penetrate the surface are currently prohibited when removing materials from the Forest, and the current wording of the standard implies that some small hand tools such as picks and shovels are not the appropriate method of extracting material from the Forest. The objector cites the following plan standard:

"REC-S-03 Non-commercial mineral collection, such as rockhounding, gem collection, and gold panning for personal use, may take place ... Restrictions apply:

1. Following the identification of areas where surface penetrating tools can be used for non-commercial mineral collection (REC-O-02) use of surface penetrating tools for collection is only allowed in identified areas.

The objector cites the old forest plan standard, which states, "Allow recreational collection of minerals where minerals are loose and free on the surface, in federal ownerships, and not restricted by permit" and "Restrict mineral collection to non-mechanical equipment with no significant ground and stream disturbance."

The objector goes on to state that “Until the promised joint conferences actually exist and further clarify rules for rockhounding, do the current regulations of rockhounding still apply until modified by the triggered conferences? Or is it Ranger discretion? Or something else. This unclarity can only create conflict in the interim.”



Regarding mineral hunting, another objector believes the Forests erred in including unprecedented and undesirable new language in REC-S-03, prohibiting use of any "surface penetrating tool," which contradicts current management standards (Comments p. 82, Final Plan p. 116).

### **Remedy(s) proposed by Objectors**

- Objector suggested remedy is to insert the word "mechanical" in front of "Surface Penetrating Tool", which reflects and preserves the status quo until collaboration with mineral and rock collecting groups, volunteer or partner organizations, and/or state or local governments with an interest in minerals and geology occurs. This ensures that nothing mechanized can be used, just hand tools.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The Forest Service Manual Chapter 2860.2, Forest Service Authorized Prospecting and Mineral Collecting states the Forest Service objective to provide the opportunity for recreational collection of mineral and fossil materials.

36 CFR 219.8(b) states the plan must include plan components, including standards or guidelines, to guide the plan area's contribution to social and economic sustainability, taking into account: (1) Social, cultural, and economic conditions relevant to the area influenced by the plan; (2) Sustainable recreation; including recreation settings, opportunities, and access; and scenic character; (3) Multiple uses that contribute to local, regional and national economies in a sustainable manner.

### **Project Record**

FEIS: The FEIS identifies rock hounding as a dispersed recreation activity on the Nantahala and Pisgah National Forests. In Chapter 3 of the FEIS, it states the current forest wide direction in the 1994 Plan Amendment specifically restricts mineral collection to loose material on the surface and prohibits the use of mechanized equipment or use of other methods resulting in significant ground or stream disturbance. However, the 1994 LMP Amendment does not designate sites for non-commercial mineral collecting.

The desired condition for action alternatives in the Forest Plan is that (MIN-DC-05) opportunities for rockhounding and other types of non-commercial mineral collecting are available and managed to protect natural resources and public health and safety (FEIS, p. 3-560; Forest Plan, p. 141). Regarding protection of natural resources in the analysis of soils, the FEIS notes that noncommercial recreational mineral collection can disturb the soil and cause erosion. To reduce adverse impacts, current guidance keeps disturbance to less than a square foot in area and rocks are removed only from the surface (FEIS, p. 3-51).



Forest Plan, p. 116: To allow for non-commercial mineral collection while protecting natural resources, the revised Forest Plan proposes to identify areas where surface-penetrating tools can be used within three years of the plan approval through a collaborative meeting process (REC-O-02). The revised Forest Plan will then allow use of surface penetrating tools only in these identified areas. While the Forest Plan will initially allow noncommercial mineral collection to take place without use of surface penetrating tools and where not otherwise restricted, the collaborative meeting will further define where rockhounding may occur with surface penetrating tools.

## **Response**

As part of ensuring access to sustainable recreation as required by the planning regulations, the Forest Plan will limit surface penetrating tools for non-commercial mineral collecting to specific areas. In reviewing this aspect of the plan, it is evident that the Responsible Official appropriately developed recreation plan components to meet the desired condition, which included management action that involves public input and collaboration.

However, the objectors take clear issue with the proposed restrictions for non-commercial mineral collecting in the new plan. Specifically, they disagree with the change of terminology, from the 1994 LMP Amendment restricting mineral collection to “nonmechanical equipment”, to the new plan restriction on use of “surface penetrating tools” (until areas are identified for use of surface penetrating tools).

The Forests responded to the concerns of the objectors in several places within the project record. First, the Forests define “surface penetrating tools” as tools that are used to penetrate the surface of the ground (FEIS, Appendix A, p. 101). The FEIS also explains what the rules are for rockhounding until the collaborative meeting further clarifies the rules and areas open to non-commercial mineral collecting. The FEIS states the current plan does not designate areas for non-commercial mineral collecting (FEIS, p. 3-560). The Forest Plan clarifies that while there is an objective to restrict non-commercial mineral collecting using surface penetrating tools to certain areas, it would not result in any change to where rockhounding activities can occur until the objective is implemented through the collaborative process.

The project record adequately defines “surface penetrating tools” and explains what mineral collection activities will be allowed with implementation of the revised Forest Plan. Although the objectors disagree with the terminology and future restrictions for rock hounding, the Responsible Official has the discretion to create desired conditions, objectives, standards, and guidelines to achieve sustainable recreation as per the Planning Rule.

The Responsible Official exercised his discretion to identify plan components for sustainable recreation (36 CFR 219.8(b)) consistent with guidance at FSM 2860.2. The Responsible Official has chosen to use a collaborative meeting process to include public input in the identification of areas for non-commercial mineral collection which will allow use of surface penetrating tools.

**Instruction(s):** None.



## Issue 4: Equestrian Camping

**Objector(s):** Graham County; Back Country Horseman of NC

An objector contends that the responsible official failed to determine why equestrian campers are not given priority in designated equestrian camps. The objector stated "the sites could still be filled by non-equestrians after being first offered to equestrians, for whom the camps were designed. Seeking displacement for designated horse camp user groups has a lack of provision, which has prohibited user groups to address these concerns across Forest Nationwide to help prioritize horse camping in designated camp sites."

### Remedy(s) proposed by Objectors

- The proposed remedy would be to add new plan language under developed recreation that mirrors [REC-G-06] that references camps, which will reduce user conflict. They suggest the following wording: Guidelines clarify that mixed use camping facilities should be accompanied by educational efforts to reduce user conflicts, and that all user groups should be encouraged to share responsibility and work together in supporting the camping facility.
- An additional remedy would be to modify REC-S-07 to include campgrounds and roadside campsites where horses and pack stock is restricted. They suggest the following wording: In developed recreation sites (campgrounds or road-side campsites), camping with horses and pack stock is restricted to designated and signed equestrian camping areas. In designated horse camps, develop and utilize a system to offer priority to horse campers for whom these areas were specifically designed, which will help mitigate resource damage.
- Graham County also requested the Forest Service to develop more sites for primitive and group camping.

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.8(b)(2) requires plan components, including standards and guidelines, to guide the plan area's contribution to social and economic sustainability, taking into account; sustainable recreation, including recreation settings, opportunities, and access; and scenic character.

36 CFR 219.10(a) requires plan components including standards or guidelines for integrated resource management to provide for ecosystem services and multiple use [including outdoor recreation] and sustainable recreation; including recreation settings, opportunities, and access; and scenic character (36 CFR 219.10 (b)(1)(i)).

Forest Service Handbook 1909.12 Section 13.4 requires the responsible official to identify and evaluate the compatibility or incompatibility of different recreation activities within the plan area, including any recreation user conflicts. The responsible official should also identify and



evaluate the preferences of the public and demand for specific recreation opportunities or settings.

Forest Service Manual 2330 complements the land management planning regulations and handbook direction to provide developed recreation sites and facilities that serve the interests and needs of users, to the extent feasible and appropriate. The Forest Service Manual also directs the Forest Service to develop, operate, and maintain developed recreation sites and facilities that support or enhance natural and cultural resource-based activities that are economically sustainable.

### **Project Record**

FEIS, Appendix A: Commenters to the DEIS requested equestrian receive priority for camping at designated horse camps. The Forests responded to this comment in the FEIS in Appendix A, p. 99. The Forests stated that equestrian camping priority was discussed with District personnel and it was concluded that non-equestrian campers don't negatively impact campsite availability for equestrians to the degree that would warrant the comment's recommended change. If such restrictions are determined necessary in the future, site-specific management decisions could be implemented to address visitor concerns. The Forests also noted that campground utilization is paramount to financially sustainable operations.

The document in the official project record, the National Forests of NC summary overview and developed recreation evaluates recreational opportunities on the Nantahala and Pisgah National Forests. According to a 2002 visitor survey cited in the document, horseback riding on trails accounted for 10% of the most popular activities on the Forests.

### **Response**

On the Nantahala and Pisgah National Forests, there are six horse camps that can accommodate more than 350 people (FEIS, pp. 3-451 and 3-452). Comparatively, there are 23 developed family-type campgrounds that accommodate over 4,700 people and seven group camps that accommodate 875 people. Therefore, the capacity at the horse camps represents about 6% of the total developed campground space. Additionally, three horse campsites are listed on Recreation.gov for equestrian users to reserve ahead of their visit.

After reviewing the information above, it is clear that the Responsible Official appropriately included plan standards to provide for equestrian activities and access as per the planning regulations (36 CFR 219.10). Given the information regarding demand for equestrian opportunities, the revised Forest Plan adequately follows Forest Service direction to provide recreation facilities that serve the interests and needs of the users.

The request to develop more sites for primitive and group camping is a site-specific decision that is outside of the scope of this programmatic document.

The Responsible Official exercised his discretion to identify plan components for multiple uses (36 CFR 219.10) consistent with guidance at FSH 1909.12 and FSM 2330.



**Instruction(s):**

**Voluntary Modification:** The Forests will add the following management approaches to the developed recreation section of the plan to clarify the intent behind managing equestrian campgrounds:

- To minimize user conflict at equestrian campgrounds, provide educational information to non-equestrian campers about the designed use of the facility, equine behavior and visitor safety, and sharing the facility responsibly.
- Utilize the most current agency guidance in managing equestrian campgrounds, including technical guides, whitepapers, design guides, etc.

**Issue 5: Multi-Use Trail Decision Criteria**

**Objector(s):** Carolina Mountain Club

Objector Carolina Mountain Club (CMC) asserts the plan doesn't establish specific considerations or process for multi-use trail decisions. They are concerned about degradation of hiker safety and resource impacts if trails are added, or turned into, multi-use.

**Remedy(s) proposed by Objectors**

- Objector CMC's proposed remedy: (1) articulate policy principles, factors, and decision criteria concerning multi-use trail planning, preferably as outlined by CMC, in the final Plan's Desired Conditions, Objectives, Standards, and Guidelines; and (2) explain the Forests evaluations and decisions relative to CMC's comment.

**REVIEW FINDINGS****Law, Regulation and Policy**

See Issue 2: Sustainable Recreation for relevant law, regulation and policy citations.

40 CFR 1503.4 requires an agency preparing a FEIS to assess and consider comments and to respond in one of several ways, including by modifying its analysis or by explaining why the comments do not warrant further agency response.

**Project Record**

Forest Plan, Chapter 2, pp. 121 through 123: Forestwide Plan Components, Dispersed Recreation describe the desired conditions, objectives, standards, guidelines and management approach relevant to Carolina Mountain Club's (CMC's) multi-use trail concern. Desired conditions REC-DC-21 and REC-DC-22 guide the plan to ensure dispersed recreation use, including multi-use trail use, minimizes user conflict, supports high-quality recreation experiences for all use-type, and avoids impacts to ecologically and culturally sensitive areas. REC-DC-28 states that trail



planning and management will be done collaboratively with interested stakeholders. REC-O-07 outlines the Forests policy for collaborative trail planning.

Forest Plan, p. 124: REC-G-06 describes project criteria where mixed-use trails should be accompanied by educational efforts to reduce user conflict. Additionally, a management approach states that prior to re-designating hike only trails to multi-use trails affected stakeholders should be consulted along with consideration of social and ecological impacts, user conflicts, and trail suitability in the project analysis.

FEIS, Appendix A pp. 103, 104, 107, 110, response to comments regarding multi-use trails.

## **Response**

The planning regulations state that the Forest Plan must include components for multiple uses and sustainable recreation opportunities and access. The Forest Plan includes desired conditions, objectives, standards, guidelines, and management approaches that specifically address creation or re-designation of multi-use trails and ensure they meet the considerations outlined in the Planning Rule. These components of the Forest Plan address the objectors concern regarding consideration of policy or process for multi-use trails. The Forests' reference to these components in the FEIS, Appendix A (pp. 103, 104, 107, 110) satisfies the requirements under NEPA in responding to the objector's comments. There is no requirement in the planning regulations that have decision-criteria for multi-use trail planning.

In their objection letter, CMC states that the Forest Plan's objectives are equivalent to CMC's policy principles. The objectors also state that the proposed plan does not discuss policy for decisions regarding multi-use trails. REC-O-07 is an objective that directly outlines the Forest's policy for collaborative trail planning. The objective states the policy will include collaborative trail planning and stakeholder engagement at the local level. This objective sets out a management approach that will address resource damage, user conflicts and sustainable management of trails.

The objectors want to set decision-criteria for multi-use trail planning as they do not believe the Forest Plan discusses policy and a process for decision-making regarding multi-use trails. As appropriate for Plan-level programmatic analysis, the Forest Plan includes direction that ensures sustainable trail development through collaborative trail planning and a requirement that trails are ecologically, socially, and financially sustainable.

**Instruction(s):** None.

## **Issue 6: Mountain Biking and Equestrian Closures**

**Objector(s):** Southern Off-Road Bicycle Association (SORBA)/International Mountain Bicycling Association (IMBA); Nantahala Pisgah Forest Partnership; Backcountry Horseman of NC



Objectors SORBA and IMBA contend that the change in the proposed plan to prevent mountain biking on non-system trails unfairly restricts their recreation opportunities.

Objectors do provide positive feedback, as evidenced by “we appreciate the way that the Forest Service incorporated many of our suggestions relating to trails in the plan. We look forward to continuing our close collaboration with the Forest Service in implementing this plan.”

Objectors Backcountry Horseman of NC (BCH) and Nantahala Pisgah Forest Partnership contend that the plan language is unclear about when restriction of bikes and horses to designated trails will occur, whether at the signing of the plan, or only after completion of collaborative process. They believe it should be the latter and the plan should more clearly state this. Objector BCH asserts this is the only way to meet the intent of the plan to engage in analysis and collaboration, rather than unreasonable restriction. They state that if all non-system roads and trails are closed to equestrian use, mileage available will be reduced by 80% and users will have difficulty obeying the new restrictions.

### **Remedy(s) proposed by Objectors**

- Objector SORBA and IMBAs suggested remedy is the Forests should clarify intent in the plan, in part by changing plan language to reflect the intent noted in the FEIS.
- Recommended language for objective REC-O-07(a): “Within five years, begin collaborative trail planning to address equestrian and/or bicycle trail supply/demand issues to meet associated Goals in Bald Mountains, Black Mountains, Eastern Escarpment, and Highland Domes Geographic Areas.”
- Recommended language for footnote to REC-O-07(a) and REC-S-11: “Standard REC-S-11 will be implemented forest-wide through a Forest Supervisor order after collaborative trail planning identified in Objective REC-O 07(a) and associated Geographic Area Goals have been completed.”
- Recommended language for associated Geographic Area Goals: “Address supply/demand issues for equestrian and/or bicycle trail opportunities within the geographic area through collaborative trail planning to identify appropriate trail mileage, new trail locations utilizing sustainable trail design principles, potential adoption of unauthorized routes, sources of construction funding, and long-term maintenance commitments by volunteer and/or partner organizations. Area-specific metrics for achieving this Goal should be identified by Forest Service managers and partners during the collaborative planning for trails and trail complexes within this Geographic Area (for GA's - BAM, BLM, EE & HD).”
- Regarding restricting bicycles and horses to designated trails, REC-S-11 and its associated footnote, the closure order could technically be implemented after REC-O-07a "begins" collaborative trail planning which fails to secure time for the process, as suggested in FEIS and we ask that it be changed to "upon completion of collaborative trail planning in each GA (EE/BM/BLM/HD)" (Comments p. 9 & 81, Final Plan, p. 122, FEIS p. 3-465).

### **REVIEW FINDINGS**



## Law, Regulation and Policy

See Issue 2: Sustainable Recreation for relevant law, regulation and policy citations.

## Project Record

Forest Plan, p. 121 - REC-DC-22 states that “An ecologically, socially, and financially sustainable system of trails provides high quality recreation experiences across a range of settings for each use-type.” Additionally, REC-DC-24 states that, “Unauthorized trails are closed and actions are taken to prevent erosion, restore vegetation, and discourage use; or they are improved to meet agency trail standards and added as system trails through collaborative planning.”

Forest Plan, p. 123: REC-S-11 is listed as a measure to help meet the above desired conditions. The standard states that “Equestrian (horse, stock, pack, and saddle) and bicycle use is only allowed on system trails designated for those uses, and on open or gated system roads...”.

Footnote 21 states that REC-S-11 will be implemented forest-wide through a Forest Supervisor order after objective REC-O-07(a) has been achieved. REC-O-07(a) states that “Within five years, begin collaborative trail planning to address equestrian and/or bicycle trail supply/demand issues in Bald Mountains, Black Mountains, Eastern Escarpment, and Highland Domes Geographic Areas.”

FEIS, p. 3-464 and 3-465 state that “By clarifying that these supply and demand issues will be addressed prior to completing a closure order to restrict equestrian and bicycle use to system trails, this alternative clarifies that restrictions to the trail system will not immediately begin with the signing of the plan. This will provide an opportunity to make needed adjustments to the trail system while also expressing the Forest’s commitment to addressing the proliferation of unauthorized trails over the long term.”

FEIS, Appendix A, pp. 102-103, 105 and 106:

**Comment:** Commenters do not support restricting cross-country travel by horse and mountain bike and the standard to restrict those uses to trails designated for their use until multi-use trail needs and opportunities are collaboratively evaluated and met first, noting crowding on some trails and including some support for establishing new trail segments. There was reference to the need for analysis of the impact of restricting all bike and horse use to the trail system. Conversely, some commenters want the proliferation of bike trails to be limited. Other commenters request the completion of trail inventories and evaluations using user data before cross country travel is restricted and still others want connectivity of trails to be maintained and increased.

**Response:** This issue was discussed extensively with members of the Stakeholders Forum, Nantahala-Pisgah Partnership, and other representatives from equestrian and mountain bike user-groups; including leadership of Back Country Horsemen of America (NC) and Southern Off-Road Bicycle Association. All parties agreed that keeping



equestrian and mountain bike riders on NF system trails would help mitigate erosion, stream sedimentation, and habitat degradation. Although the need for this standard was acknowledged by these representatives, there were concerns that immediate implementation of the standard without first addressing trail supply/demand issues in certain areas would unfairly penalize users of unauthorized (non-system) trails. To address these concerns, an objective has been added to the Dispersed Recreation section of the plan to require collaborative trail planning to address equestrian and mountain bike trail supply/demand issues in certain Geographic Areas where public comment indicated the need for additional trail miles. An associated set of Geographic Area Goals has also been added. Implementation of the standard restricting horse and bicycle use to designated trails will then be deferred until trail objectives have been accomplished.

The final EIS was updated to include the effects of implementing requiring designated trail use by equestrians and bikers.

In addition, any new trail construction or adoption of unauthorized trails to the system would be subject to standards included in the Dispersed Recreation section, requiring sustainable trail design principles, collaborative planning, and a demonstrated need.

The Plan provides management direction on moving the trail system to a more sustainable condition, which may be achieved through trail maintenance, relocation or new trail construction in conjunction with decommissioning of unsustainable trails or trail segments.

**Comment:** Commenters request an increase in mountain biking opportunities (some noting specific areas) including repairing existing trails and reference to use of non-system trails, closure of existing trails and adding constructed features.

**Response:** There is a desired condition of an ecologically, socially and financially sustainable system of trails referring to each user type within the Dispersed Recreation section. An objective was added to the same section requiring collaborative trail planning to address equestrian and mountain bike trail supply/demand issues in certain Geographic Areas. An associated set of Geographic Area goals has also been added. A standard addresses design and maintenance of trails and another standard outlines conditions for new trail construction or adoption of unauthorized routes as system trails. No existing NFS trails designated for mountain bike use would be changed or eliminated under the new Plan. Constructed wooden challenge features are more appropriate to the many private, county, or city bike parks in the area. National Forests provide a less developed trail experience in a natural-appearing setting. Project level trail management decisions referencing specific areas are made by Ranger Districts considering broader collaborative trail planning.

## Response

The objectors do not take issue with restricting mountain biking and equestrian use to system routes. However, they are concerned with the timing of restrictions as related to addressing trail



supply and demand issues. The Forests appropriately outlines the collaborative trail design process to address supply and demand issues and sustainable recreation.

The FEIS and Forest Plan are clear that REC-S-11 restrictions will not immediately begin with the signing of the plan. However, REC-O-07(a) nor its footnote provide a clear timeline for when restrictions will take place, only that they will occur after the objective has been achieved. It is unclear at what point during the collaborative process the restrictions will take place. Although, information in the FEIS and Forest Plan do not directly contradict each other, clarification of the timeline for implementation of REC-S-11 would add clarity in the Forest Plan.

It is up to the discretion of the Responsible Official as to when to implement restrictions while pursuing sustainable recreation per (36 CFR 219.8(b)(2)). However, in response to the objectors, the Responsible Official could provide more information regarding when REC-S-11 restrictions will take place with regard to addressing supply and demand issues.

**Instruction(s):**

**Voluntary modification:** Provide more information in the Forest Plan clarifying when REC-S-11 restrictions will take place with regard to addressing mountain bike and equestrian trail supply/demand issues. Specifically, the Forest Plan could include language from the FEIS that the restrictions will not begin immediately with the signing and implementation of the Forest Plan; and/or consider adopting objector proposed changes to Forest Plan language or some variation thereof.

## **Issue 7: Recreational Special Uses and Management Areas Desired Conditions**

**Objector(s):** Back Country Horseman of NC

The objector contends there are three specific instances in which special use permits for events (such as bike races) are incompatible with management area desired conditions (LSU-S-03). Specifically: (1) in Interface, events are incompatible with emphasizing visitor safety and quality information; (2) in Matrix, events are incompatible with high-quality user experiences and resource protection; (3) in Backcountry, events conflict with solitude and resource protection. Objector BCH also states that events are incompatible with LSU-S-05 visitor use management and ask that the monitoring program include questions that are more applicable to the need.

**Remedy(s) proposed by Objectors**

- Objector Back Country Horseman's suggested remedies are: (1) add an LSU standard to require posted advance notice and subscriber alerts for events; (2) monitor resource impacts of events, including measuring the status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives. Objector BCH suggests this should be accomplished with a new monitoring question and indicator, "How have SUP events in MA's affected visitor safety & visitor satisfaction? How have SUP events on multi use trails impacted resources (trail compaction, water quality, etc.)?"



## REVIEW FINDINGS

### Law, Regulation and Policy

See Issue 2: Sustainable Recreation for relevant law, regulation and policy citations.

36 CFR 219.12(a)(7) states that monitoring is not a precondition of conducting projects or carrying out management actions or a prerequisite for carrying out a project or activity such as the renewal of special use permits.

The regulations state that “This section does not apply to projects or activities. Project and activity monitoring may be used to gather information for the plan monitoring program, and information gathered through plan monitoring may be used to inform development of projects or activities. But, the monitoring requirements of this section are not a prerequisite for making a decision to carry out a project or activity.”

### Project Record

Forest Plan, pp. 102-103:

LSU-DC-03 - Special uses are authorized and managed to support and contribute to the protection of natural resource values and the promotion of public health and safety.

LSU-DC-04 - Special use activities leave little evidence of impacts and are compatible with other visitor uses, site capacity and recreation management.

LSU-S-03 - Authorize special uses only if consistent and compatible with the desired conditions of the applicable management area.

LSU-S-05 - Permitted special uses are compatible with visitor use, site capacity and recreation management.

FEIS, p. 3-431 explains procedures for the review and response times of special use proposals are set by policy and regulations outside the forest plan and will apply regardless of the alternative selected, as well as procedures for allocating outfitting and guiding use by conducting needs assessments and resource capacity analyses. Additionally, with alternatives B, C, D, and E, project-level analysis would be conducted to allocate commercial recreation use when considering significant changes to current use or demand.

FEIS, Appendix A, pp. 87-88:

**Comment:** Special Use Permits may be dangerous to other users, an inappropriate use of forest trails and discriminate against the rights of other users.

**Response:** The special-uses program authorizes uses on NFS land that provide a benefit to the general public and protect public and natural resources values. The Forest Service carefully reviews each application to determine how the request affects the public's use of NFS land. Normally, NFS land is not made available if the overall needs of the individual or business can be met on nonfederal lands.



**Comment:** The Forest Service or permit holders should be required to notify the public in advance of special use events in order to minimize user conflicts.

**Response:** The Nantahala and Pisgah NFs provide for a high number of special use permits annually and do not have the capacity to post and remove signs for individual events. Mitigation for recreation events on high use trails are addressed through the project-specific NEPA process. The Forest is evaluating the use of the Forest website for future notifications of recreation Events.

**Comment:** The Forest Service should develop and implement a monitoring protocol for determining negative impacts to trail systems and facilities as a result of special use events.

**Response:** Forest Service permits are handled on a case-by-case basis. All special use permits state that the holder shall be liable for any damage or other costs connected with rehabilitation or restoration as a direct result of their use. Currently, no monitoring plan to measure the cumulative effects of recreation events exists.

## **Response**

As documented in the response to comments, special use permits are project-specific analyses versus preparation of a land management plan, which is a programmatic decision. As the Responsible Official describes in their response to comments, environmental impacts and adherence to the Forest Plan for special use permits are analyzed through the programmatic NEPA process. Special use permits will only be issued if they conform with the plan components of the revised Forest Plan, including consideration of Standards and Guidelines, desired conditions, management area direction and the results of the site-specific decision. Additionally, guidance for issuing special use permits is set by policy found in Forest Service Handbook 2709.14, outside of the Forest Plan.

Regarding advance notice for special use events, the as stated in the response to comments, the Forests currently do not have the capacity to physical sign each permitted event. The Forests responded to the suggested remedy by reviewing its ability to post special use events on the website in the future. Special use permits require that the holder be responsible for rehabilitation or restoration related to the event.

Lastly, the planning regulations (36 CFR 219.12(a)(7)) state that monitoring is not a precondition of conducting projects or carrying out management actions or a prerequisite for carrying out a project or activity such as the renewal of special use permits.

**Instruction(s):** None.

## **Issue 8: Climbing**

**Objector(s):** Nantahala Pisgah Forest Partnership; Access Fund and Carolina Climbers Coalition



Objectors Nantahala Pisgah Forest Partnership and Access Fund object to the analysis of rock climbing and the limitations placed on it. Specifically, NP Forest Partnership asserts that REC-S-19 and REC-O-09 impose closures and policy that don't align with collaboration. They believe fixed-anchor policies in CDW-S-05 and RW-S-13 are too prohibitive. Objector Access Fund concurs with these assertions and adds that climbing standards in the plan are not based on appropriate analysis or monitoring. They allege that the climbing management plan objective is pre-decisional and has ill-defined outcomes. They also contend that the wilderness fixed anchor standard is unreasonable. Objectors also believe the wilderness management approach on page 274 of the Forest Plan arbitrarily conflates camping and climbing use and is too selective of two specific recreational uses, while leaving other wilderness recreational uses and impacts unaddressed. Finally, they are confident that climbing and falcon management can be compatible when using best practices.

### **Remedy(s) proposed by Objectors**

- Suggested new language for REC-S-19: To manage and maintain desired climbing experiences, mitigate and reduce adverse impacts to natural and cultural resources, and support fulfillment of REC-O-9, implement the following:
  - (a) New trails or climbing routes that may traverse unique habitats or NRHP eligible, unevaluated, or sacred cultural resource sites on rocky summits, granitic domes, cliffs, or waterfall spray zones should be inventoried and evaluated for impacts to guide future management of the site.
  - (b) If unacceptable damage to natural or cultural resources is occurring, temporarily mitigate impacts from climbing routes until climbing management planning and implementation can occur to correct issues.
  - (c) The climbing management plan (CMP) shall incorporate inventory and evaluation of existing trail use or climbing route impact on unique habitats or NRHP eligible, unevaluated, or sacred cultural resource sites. The CMP should create a process to assess if climbing routes shall be closed, unauthorized trails or NFS trails shall be decommissioned or relocated, or other protective measures must be implemented to mitigate resource impacts.
- CDW-S-05 and RW-S-13: To manage for wilderness climbing opportunities and ensure that no ecological or cultural resource damage occurs and that wilderness values are not adversely impacted, placement of new fixed anchors for climbing shall only be done following the latest agency policy on climbing and with the appropriate analysis and line officer approval to ensure no ecological or cultural resource damage occurs and that wilderness values are not adversely impacted. If fixed anchor use is approved, anchors shall be of a non-reflective or camouflaged finish. Line officer approval associated with this standard is not a special use permitting process and is an informal review and approval process conducted collaboratively with representatives of the climbing community. Replacement of existing fixed anchors for maintenance is programmatically authorized and does not require line officer approval. Use of motorized drills is prohibited for placement and replacement. Future climbing management planning may change or clarify this standard.



## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Issue 2: Sustainable Recreation for relevant law, regulation and policy citations.

### **Project Record**

Forest Plan, p. 123: REC-O-09 Tier 2: Over the life of the land management plan, develop a Nantahala and Pisgah National Forest climbing management plan in collaboration with representatives of the climbing community. The climbing management plan should utilize inventories of climbing routes, access trails, staging areas, and other information provided by users to develop area-specific management direction following the latest agency policy on climbing and similar activities. The climbing management plan should consider user desires to improve the climber experience, identify access trails suitable for addition to the system, explore climber education opportunities, identify site-specific resource protection measures and potential closures, and develop monitoring protocols.

Forest Plan, p. 124: REC-S-19: Until completion of a climbing management plan per REC-O-09, implement the following:

- (a) New trails or climbing routes shall not traverse unique habitats or NRHP eligible, unevaluated, or sacred cultural resource sites on rocky summits, granitic domes, cliffs, or waterfall spray zones.
- (b) Where existing trail use or climbing routes are impacting unique habitats or NRHP eligible, unevaluated, or sacred cultural resource sites, climbing routes shall be closed, unauthorized trails shall be obliterated, NFS trails shall be decommissioned or relocated, or other protective measures must be implemented to mitigate resource impacts.

Forest Plan, p. 271: CDW-S-05: Installation or replacement of fixed anchors for climbing or similar activities shall only be done following the latest agency policy on climbing and with the appropriate analysis and line officer approval to ensure no ecological or cultural resource damage occurs and that wilderness values are not impacted. If user installation or replacement is approved, anchors shall be of a non-reflective or camouflaged finish. Use of motorized drills is prohibited.

Forest Plan, p. 278: RW-S-13: Installation or replacement of fixed anchors for climbing or similar activities shall only be done following the latest agency policy on climbing and with the appropriate analysis and line officer approval to ensure no ecological or cultural resource damage occurs and that wilderness values are not impacted. If user installation or replacement is approved, anchors shall be of a non-reflective or camouflaged finish.

FEIS Appendix A, pp. 110, 111 - Response to comments regarding fixed anchors and the climbing management plan.

### **Response**



The establishment of a climbing management plan was originally suggested by public comments during the Assessment phase of plan development (FEIS, Appendix A, pp. 110-111). The Forests incorporated this idea as a forest wide objective rather than adding site specific information throughout the plan because, although climbing and similar activities are identified as recreation opportunities for certain geographic areas, a forest plan does not typically contain guidance for site-specific management or detailed inventories of climbing routes; that level of detail is more appropriate in a forest climbing management plan.

Based on comments between draft and final (FEIS, Appendix A, pp. 111), this objective was modified in Alternative E to provide additional detail of who should be involved in this effort and the resulting outcomes. This climbing management plan would utilize information provided by users, such as inventories of climbing routes, access trails, staging areas, etc. to develop area-specific management direction following the latest agency policy on climbing and similar activities. The climbing management plan would provide more detailed information such as: how to improve the climber experience, identify access trails suitable for addition to the system, explore climber education opportunities, identify site-specific resource protection measures and potential closures, and develop monitoring protocols, while increasing knowledge transfer between the Forest Service and climbing community.

As documented above, all action alternatives contain several plan components designed to protect ecological and cultural resources, as well as wilderness values, from impacts associated with climbing and similar recreational uses forest-wide.

Plan direction ensures protection of peregrine falcon nesting sites (PAD-S-05); and restricts recreation use in unique habitats like rocky summits, or on National Register of Historic Places eligible, unevaluated, or sacred cultural resource sites (REC-S-19).

Based on public comments, Alternative E modified this standard to be implemented as interim protection until the forest climbing management plan is completed per objective REC-S-09. After completion of a climbing management plan, site specific resource protection needs would be identified, along with closure orders and monitoring protocols. Therefore, the broad-brush restrictions of standard REC-S-19 (a) and (b) would no longer apply once site-specific protection measures and associated closure orders are in place. This could result in an increase in climbing opportunities, since restrictions will only affect certain climbing routes or areas.

The climbing management plan would also address the issue of adopting sustainable climbing access trails as National Forest System trails so they can be properly maintained.

The designated and recommended wilderness management approaches on pages 274 and 279 were revised between draft and final to include unauthorized climbing access routes and climbing staging areas in the list of potential recreational impacts that should be naturalized and closed where causing resource damage or impacts to wilderness character. These management approaches are somewhat redundant since objective REC-O-09 seeks to identify site-specific resource protection measures and potential closures as elements of the Forest climbing management plan.



As for fixed anchors, Alternative B, C and D standard CDW-S-05 identifies that climbing is allowed in designated wilderness where there is no resource damage occurring and where not prohibited by Forest Supervisor's order. It also requires line officer approval for the installation or replacement of fixed anchors in designated wilderness.

In Alternative E, the standard was modified to remove references to allowed uses, and was expanded to clarify that approval for placement of fixed anchors is solely for the purpose of ensuring resource protection and consistency with wilderness values. Wording of this standard also defers to future agency policy, which is appropriate and forward thinking.

Compared to the current plan, this plan direction should improve knowledge exchange between the climbing community and the Forest Service, benefiting the climbing experience and ensuring protection of ecological and cultural resources.

**Instruction(s):**

**Voluntary Modification:** For the designated and recommended wilderness management approaches on pages 274 and 279, revert to language used in the draft Plan by removing references to unauthorized climbing access routes and climbing staging areas. Those resource protection measures would be addressed collaboratively in development of the Forest climbing management plan, and do not warrant a separate management approach.

## **NATIONAL SCENIC TRAIL**

### **Issue 1: Integrating the Appalachian National Scenic Trail into Plan Direction**

**Objector(s):** Greg Warren

Objector alleges the National Forest Management Act requires that the Land Management Plan address the comprehensive planning and other requirements of the National Trails System Act (NTSA) in order to form one integrated Plan.

The objector states that "The National Forest Management Act requires the formulation of one integrated plan (16 U.S.C. § 1604(f)(1)). ...As such, the NTSA Section 7(a)(2) guidance that a National Trails System segment be, "designed to harmonize with and complement any established multiple-use plans for that specific area," is not applicable to a land management plan approved after the passage of the National Forest Management Act (NFMA) in 1976 and as addressed in the 1982 planning regulations."

**Remedy(s) proposed by Objectors**

- The objector believes that the Forest Service "should recognize that the NTSA Section 7(a)(2) simply identifies the need for National Trails to be an integral part of multiple-use plans" and that "The 2012 NFMA regulations 36 CFR § 219.1 requires integrated resource management of the resources within the plan area and that plans must comply with all applicable laws and regulations. Planning regulations also require integrated



resource management of multiple use (36 CFR § 219.10(a)), including providing for plan components to provide for the “(vi) Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.”

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The National Trails System Act (Public Law 90-543, as amended through Public Law 116-9, March 12, 2019) and (United States Code, Vol. 16, sections 1244) designated the Appalachian National Scenic Trail (ANST). It was established and located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass (section 3(a)(2)).

Section 7(a)(2) of the act states, “Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for the specific area in order to insure continued maximum benefits from the land.”

36 CFR 219.10(b)(1)(vi) require land management plans provide for appropriate management of other designated areas or recommended designated areas in the plan area.

FSH 1909.12 section 24.3 describes the requirement to develop land management plan components compatible with the statutorily required plans required for designated areas like national scenic trails.

### **Project Record**

Plan Assessment, p. 181 – The assessment documents that the management emphasis for the trail in the 1994 Plan is in accordance with the National Trails System Act (Public Law 90-543) and carried out through the Cooperative Management System as defined in the Appalachian Trail Comprehensive Plan.

Final EIS, p. 2-24 states the trail corridor will be managed comparably in the Forest Plan. Under Alternative A, a smaller area was mapped in the forest plan than the area that is regularly considered in project design. The proposed plan in all action alternatives was updated to incorporate the potential foreground acreage that is reviewed at the project level.

Forest Plan, p. 236 – The management area description for the trail corridor describes the Congressional establishment and its administration by the Department of Interior in consultation with the Secretary of Agriculture and managed as a partnership among the U.S. Forest Service, the National Park Service (NPS), the Appalachian Trail Conservancy (ATC), and local ATC-affiliated maintainer clubs. Management is in accordance with the National Trails System Act and the Appalachian Trail Comprehensive Plan utilizing the cooperative management system. Along with the Forest Service, the NPS and ATC carry out management actions and programs to



protect, enhance, and ensure that uses do not substantially interfere with the nature and purposes of the ANST.

Project Record - A June 2020 letter from the Appalachian Trail Conservancy received during the public comment period on the EIS states, “Prior to new forest planning by the Chattahoochee-Oconee, Cherokee, Jefferson and George Washington National Forests, the RO-8 Regional Forester invited APPA and ATC to come to Atlanta to work with the regional office staff to develop A.T. plan components that would ensure consistent A.T. management throughout Region 8. Once the new A.T. plan components were developed, the Regional Forester sent them to each of those forests, and the NFsNC, with instructions to incorporate them as they prepared new forest plans... Thus, the A.T. management area direction for those four forests is nearly identical, and it is the objective of the ATC and APPA to assure the revised Nantahala/Pisgah forest plan A.T. direction closely mirrors the A.T. direction within those other four RO-8 forests. Additionally, the White Mountain and Green Mountain NFs in RO-9 have A.T. plan components and management direction which are very similar to the RO-8 forests traversed by the A.T.

As a congressionally designated area, management direction for the ANST [Appalachian National Scenic Trail] must be provided by plan components including a spatially delineated management area designation (A.T.MA) defined as “foreground” by the USFS Scenery Management System, a desired condition statement, objectives, suitability statements, and standards and guides that direct A.T. management to provide high quality experiences for visitors, to preserve the natural, cultural, historic, and scenic resources, and the qualities, values, and associated settings of this national scenic trail, and to implement the nature and purposes for which the A.T. was established by Congress and reiterated in the APPA Foundation Document for the ANST (pg.4) and A.T. Comprehensive Plan, signed by both the NPS Director and USFS Chief. Additional A.T. management direction is provided throughout the proposed N/P Plan Revision, e.g., the forest-wide standards for scenery management and in the Congressionally Designated Wilderness and Roan Mountain MAs.”

## Response

The objectors concern regarding the sufficiency of the Forest Plan to provide for the nature and the purpose of the trail is addressed in National Scenic Trail Issue 2: Appalachian National Scenic Trail Plan Components response in this section.

Objectors’ contention that the National Trails System Act (NTSA) requirements are not applicable to a land management plan approved after the passage of the NFMA in 1976 and as addressed in the 1982 planning regulations is inaccurate. The 2012 planning regulations require sustainable, integrated resource management of the resources within the plan area per the NFMA’s requirement for one integrated plan for a National Forest System Unit. This does not supplant the Agency’s statutory requirements to manage the trail to “harmonize with and complement any established multiple-use plans for the specific area in order to insure continued maximum benefits from the land” and comply with the NTSA requirement to develop comprehensive plan. While the comprehensive plan could be incorporated in the land management plan, it is not required. Given the multiple jurisdictions and Forest Service land management plans contributing to management of this extended trail, the Responsible Official



chose not to do so. However, as noted above, the record demonstrates that a review of other Region 8 plan components was conducted (Project Record, ATC comments and responses) and the Forest Service worked with the Appalachian Trail Conservancy and NPS Appalachian Trail Park Office at major milestones throughout the plan development process.

The Forest Plan developed per the NFMA regulations is compatible with the Appalachian Trail Comprehensive Plan developed per the NTSA.

**Instruction(s):** None.

## **Issue 2: Appalachian National Scenic Trail Plan Components**

**Objector(s):** Greg Warren

The objector asserts that land management plan fails to recognize the nature and purposes and protect the qualities and values of this National Scenic Trail. In addition, objector contends that to provide for the conservation purposes of a National Scenic Trail, the ANST corridor must provide for natural ecological processes and not just the visual appearance of naturalness.

### **Remedy(s) proposed by Objectors**

- Modify the ANST management corridor extent to provide for not only scenery, but also for Semi-Primitive Non-Motorized ROS class conditions.
- Establish and display on a Forest Plan map an ANST Management Area that is discernable with an extent of at least one-half mile on both sides of the ANST travel route.
- Put the ANST Management Area in Group 3, which more accurately reflects the National Trails System Act for National Scenic Trails and desired Primitive and Semi-Primitive Non-Motorized ROS settings, noting that the Forest Service did not address this concern in response to comments.
- The ANST nature and purposes description should be the principal desired condition for the ANST management corridor. ANST standards or guidelines should clearly describe providing for a Semi-Primitive Non-Motorized ROS setting and a High Scenic Integrity Objective.
- Recognize that to provide for the nature and purposes of the ANST the established ROS class should be a Primitive or Semi-Primitive Non-Motorized ROS setting. Any acceptable ROS inconsistency would be managed to minimize the influence of the nonconforming ROS indicator on the ANST desired ROS setting.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The National Trails System Act (16 U.S.C 1244(f)) requires a comprehensive plan for the ANST and 16 U.S.C.1246(a) and (b) prescribe a process for the trails location. The National Trails System Act (16 USC 1246(a)(2)) expresses that: Development and management of each segment



of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for that specific area in order to insure continued maximum benefits from the land. National scenic or national historic trails may contain campsites, shelters, and related public-use facilities. Other uses along the trail, which will not substantially interfere with the nature and purposes of the trail, may be permitted by the Secretary charged with the administration of the trail.

ANST Foundation Document, p. 4, Need and Purpose Statement: “The APPALACHIAN NATIONAL SCENIC TRAIL is a way, continuous from Katahdin in Maine to Springer Mountain in Georgia, for travel on foot through the wild, scenic, wooded, pastoral, and culturally significant landscapes of the Appalachian Mountains. It is a means of sojourning among these lands, such that the visitors may experience them by their own unaided efforts. The Trail is preserved for the conservation, public use, enjoyment, and appreciation of the nationally significant scenic, historic, natural, and cultural quality of the areas through which the trail passes. Purposeful in direction and concept, favoring the heights of land, and located for minimum reliance on construction for protecting the resource, the body of the Trail is provided by the lands it traverses, and its soul is the living stewardship of the volunteers and workers of the Appalachian Trail community.”

ANST Comprehensive Plan, p. 26 states, “Awareness of ongoing threats should arouse in the Appalachian Trail community a concern and a vigilance. At the same time, emphasis should be on integration with compatible land uses, rather than on an attempt to preclude them.”

See also National Scenic Trail Issue 1: Integrating the Appalachian National Scenic Trail into Plan Direction for additional relevant law, regulation and policy, including the 2012 Planning Rule and the Land Management Planning Handbook.

## **Project Record**

Project Record, Management Area Mapping Process 2020 Document regarding Appalachian Trail:

This management area comprises the mapped foreground of the Appalachian National Scenic Trail, which is administered by the National Park Service in partnership with the Appalachian Trail Conservancy and the USDA Forest Service.

The ANST corridor management area consists of the potentially visible foreground up to 1/2 mile on each side of the footpath and associated features such as shelters, vistas, and side trails. Extents of the foreground zone were determined using a GIS “bare-ground” visibility analysis.

Corridor mapping was done in a manner consistent with adjacent National Forests, utilizing the definition of “Foreground Zone” described in the USDA Forest Service “Scenery Management System” handbook (Landscape Aesthetics: A Handbook for Scenery Management).



FEIS, p. 3-115 to 3-116 - “For this analysis, management areas for the action alternatives are grouped by the opportunity and likelihood that active or passive management methods would occur to advance the forest toward desired conditions.”

## **Response**

The objector would prefer recreation settings along the length of the Appalachian Trail (AT) be primitive or semi-primitive non-motorized and asserts management activities allowed within the trail corridor such as timber harvest would interfere with the nature and purposes of the trail. However, the National Trails System Act and the Appalachian Trail Comprehensive Plan acknowledge the multiple uses that may occur along the trail corridor, with the plan seeking to place emphasis “on integration with compatible land uses, rather than on an attempt to preclude them.” As described in National Scenic Trail Issue 3: Logging in the Appalachian National Scenic Trail Corridor, the plan includes a suite of plan components guiding management consistent with the nature and purposes of the AT, including its conservation values.

It’s important to note that management of the trail is guided by both the Forest Plan and the AT Comprehensive Plan. It is not necessary to repeat management direction from the AT Comprehensive Plan in the Forest Plan.

The management groups used in the FEIS’s analysis are not a plan decision; they are simply a tool used to aid in the analysis of different resource evaluations in the FEIS and they do not dictate management.

The plan components in the land management plan are compatible with the direction in the AT Comprehensive Plan and comply with the planning regulations and the National Trails System Act.

See also the response to National Scenic Trail Issue 3: Harvest in the Appalachian National Scenic Trail Corridor.

**Instruction(s):** None.

## **Issue 3: Harvest in the Appalachian National Scenic Trail Corridor**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Hugh and Janice Irwin

Objectors contend that the Forest Service failed to protect Appalachian Trail, Mountains to Sea Trail, and other iconic footpaths because the plan allows timber harvest in their viewsheds. They assert that “Logging is now permitted in the viewsheds of the Pisgah-Nantahala’s most popular recreational trail corridors. This contradicts the forest plan’s own economic analysis demonstrating that recreation generates five times more jobs and revenue than timber harvests. The plan incentivizes timber harvests over recreation, especially in dozens of the most important recreation hotspots.”

**Remedy(s) proposed by Objectors**



- Objectors suggested remedy is to prohibit logging in the Appalachian Trail viewshed and other major trail corridors.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The National Trails System Act (Public Law 90-543, as amended through Public Law 116-9, March 12, 2019) and (United States Code, Vol. 16, sections 1244) designated the Appalachian Trail. It was established and located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass (section 3(a)(2)).

Section 7(a)(2) of the act states, “Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for the specific area in order to insure continued maximum benefits from the land.”

Section 7(c) of the act states, “Other uses along the trail, which will not substantially interfere with the nature and purposes of the trail, may be permitted by the Secretary charged with the administration of the trail. Reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts shall be made to avoid activities incompatible with the purposes for which such trails were established.”

ANST Comprehensive Plan, p. 26 states, “Awareness of ongoing threats should arouse in the Appalachian Trail community a concern and a vigilance. At the same time, emphasis should be on integration with compatible land uses, rather than on an attempt to preclude them.”

ANST Comprehensive Plan, p. 26 states, “Harvesting of timber in areas adjacent to the Trail, long a tradition, is considered a compatible use in general and an understood use in National Forests. Again, the emphasis for the Trail community will be on seeking careful consideration of the impacts of such management on the Trail experience, rather than on an attempt to prevent it.”

FSM 2353.42 states, “Administer National Scenic and National Historic Trail corridors to be compatible with the nature and purposes of the corresponding trail.”

FSM 2353.44(a)(2) states, “Manage each National Scenic and National Historic Trail in a wilderness area so that the trail and its associated uses are compatible with wilderness management direction.”

### **Project Record**

Forest Plan, p. 239, AT-DC-06 - The ANST corridor management area retains a natural, forested, or pastoral scenic character shaped by both natural processes and humans. While stands of old growth continue to develop in locations throughout the area, where appropriate, vegetation management activities are designed with recognition of the nationally significant aesthetic and



recreational values of these lands. Low intensity vegetation management is appropriate to maintain the long-term goals and stewardship objectives of the ANST corridor management area. Management activities needed to preserve, maintain, or create vistas, desirable open areas, and balds are a high priority. Activities are planned and carried out in cooperation with appropriate ANST management partners.

Forest Plan, p. 239, AT-DC-07 - Existing wildlife fields, balds, and linear wildlife habitats are sustained. Some of these permanent openings may provide more shrub/sapling habitat as a result of longer maintenance cycles.

Forest Plan, p. 239, AT-DC-08 - Desired scenic character is consistent with the following themes: natural evolving in primitive recreation settings; predominately natural evolving, natural-appearing, or pastoral in semi-primitive settings; and natural appearing, rural forested, pastoral, or cultural/historic in roaded natural or rural settings.

Forest Plan, p. 240, AT-DC-09 - Proposed actions are designed to meet or exceed the following desired SIOs on lands inventoried as the corresponding scenic classes: High, with exceptions to the SIO that may be allowed in coordination with the ATC for open area management or shelter and overnight developments.

Forest Plan, p. 240, AT-S-01 - The ANST corridor management area is unsuitable for timber production.

Forest Plan, p. 240, AT-S-02 - Vegetation management in the ANST corridor management area shall maintain or enhance the ANST environment or user experience. Allow timber harvest, prescribed burning, wildfire, hand tools, power tools, mowing, herbicides, biological controls, or grazing to manage vegetation as appropriate. Vegetation management may be used for the following purposes:

- Maintaining, expanding, or creating desirable open areas, balds, old field habitats, or vistas that enhance scenic qualities or visitor experience of the ANST
- Controlling diseases, insects, or non-native invasive vegetation
- Ecological restoration or managing for resiliency in the face of change
- Maintaining or improving habitat for threatened, endangered, sensitive, or locally rare species Maintaining, restoring, or expanding habitat for rare communities, species dependent on disturbance, or wildlife viewing opportunities
- Meeting trail construction or maintenance needs, including shelters or other associated features
- Managing fuels or mimicking historic fire regimes
- Providing for public safety or resource protection

Forest Plan, p. 240, AT-S-03 - Management activities within or outside the ANST Corridor which are potentially visible from the footpath or associated features shall be planned in cooperation with the ATC and affiliate maintainer clubs.



Forest Plan, p. 240, AT-S-05 - Authorize new roads within the ANST corridor management area only if entering the management area is the only feasible and prudent location and the road is not visible from the ANST footpath or associated features.

Forest Plan, p. 240, AT-S-06 - Prohibit hauling or skidding along or across the ANST footpath or using the footpath as a landing or temporary road. Hauling or skidding in other locations within the corridor management area is allowed only if site-specific analysis indicates that it is the only feasible and prudent alternative, and that activities are not visible from the ANST footpath or associated features.

Project Record - Notes from a meeting with the Appalachian Trail Conservancy on October 4, 2019.

Project Record - Formal comments from the Appalachian Trail Conservancy, dated June 26, 2020:

“Prior to new forest planning by the Chattahoochee-Oconee, Cherokee, Jefferson and George Washington National Forests, the RO-8 Regional Forester invited APPA and ATC to come to Atlanta to work with the regional office staff to develop A.T. plan components that would ensure consistent A.T. management throughout Region 8. Once the new A.T. plan components were developed, the Regional Forester sent them to each of those forests, and the NFsNC, with instructions to incorporate them as they prepared new forest plans. (A copy of that directive is attached.) Thus, the A.T. management area direction for those four forests is nearly identical, and it is the objective of the ATC and APPA to assure the revised Nantahala/Pisgah forest plan A.T. direction closely mirrors the A.T. direction within those other four RO-8 forests. Additionally, the White Mountain and Green Mountain NFs in RO-9 have A.T. plan components and management direction which are very similar to the RO-8 forests traversed by the A.T.

As a congressionally designated area, management direction for the ANST must be provided by plan components including a spatially delineated management area designation (A.T.MA) defined as “foreground” by the USFS Scenery Management System, a desired condition statement, objectives, suitability statements, and standards and guides that direct A.T. management to provide high quality experiences for visitors, to preserve the natural, cultural, historic, and scenic resources, and the qualities, values, and associated settings of this national scenic trail, and to implement the nature and purposes for which the A.T. was established by Congress and reiterated in the APPA Foundation Document for the ANST (pg. 4) and A.T. Comprehensive Plan, signed by both the NPS Director and USFS Chief. Additional A.T. management direction is provided throughout the proposed N/P Plan Revision, e.g., the forest-wide standards.”

## Response

The Forest Plan documents that the current ANST corridor’s scenic characteristics are shaped by both natural process and humans. The Forest Plan also lists the desired scenic condition for the corridor and clearly states that the ANST corridor is not suitable for timber production, but that vegetation management could include timber harvest and other management techniques to



maintain or enhance the ANST environment or user experience. According to the Forest Plan, any management activities inside or outside the corridor and within the viewshed of the ANST shall be planned in cooperation with the ATC and affiliate maintainer clubs. The Forest Plan also addresses new roads that could be associated with timber management and prohibits hauling or skidding operations on or across the ANST. The Forest Plan also mentions that hauling or skidding operations within the corridor is only allowed if the site-specific analysis indicates it's the only feasible location and activities are not visible from the ANST or associate features.

The Forests coordinated extensively with the Appalachian Trail Conservancy and NPS Appalachian Trail Park Office (APPA) to ensure that plan language for ANST management closely mirrors the direction of adjacent forests that also include the ANST. All final Forest Plan language related to the ANST was reviewed line by line with planning team members, ATC, and NPS APPA. Edits were made where necessary and the final language was subsequently approved by ATC and NPS APPA.

There is no language in the National Trail System Act that prohibits the landowner/managing land agency from logging or harvesting of timber in the trail corridor. The Forest Plan, pp. 239-240 contains plan components noting that timber harvest could be an option for vegetation management, with cooperation with the ATC and maintainer clubs with adequate restrictions to operations if viewable from the ANST.

**Instruction(s):** None.

#### **Issue 4: Effects to the Appalachian National Scenic Trail**

**Objector(s):** Greg Warren

The objector asserts that the final EIS is inadequate as it does not describe the affected environment for the Appalachian Trail, nor does it review the Environmental Consequences of the proposed action and alternatives on the ANST's nature and purposes or qualities and values. The objector asserts that for the "Primitive, Semi-Primitive Non-Motorized, and Semi-Primitive Motorized ROS settings.... The FEIS failed to take a hard look at existing and potential roads in the ANST Management Area, in areas of highly erosive soils, and in Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS settings."

#### **Remedy(s) proposed by Objectors**

- Modify the Appalachian National Scenic Trail corridor to include the area within 1/2 mile of the footpath, vistas, and other associated features.
- Prepare a Supplemental EIS to address the ANST affected environment and environmental consequences and include a discussion that is similar to that presented for Wild and Scenic Rivers.
- The FEIS Affected Environment must describe the environment of the area to be affected by the alternatives under consideration. The Affected Environment section must describe the degree to which ANST qualities and values are being protected, including the protection of desired cultural landscapes, recreation settings, scenic character, scenic



integrity, and providing for conservation purposes along the existing ANST travel route. In addition, the quality or condition of the ecological characteristics of the National Scenic Trail management corridor should be described.

- The FEIS must address for each alternative how the land management planning decisions will achieve or contribute to: Providing for the nature and purposes of the National Trail, including protecting the National Trail resources, qualities, values, and associated settings; the quality or condition of the ecological characteristics that would occur within the National Scenic Trail management corridor; ensuring carrying capacity is not exceeded; and Preventing other uses from substantially interfering with the nature and purposes of the ANST.
- Eliminate from consideration alternatives with extensive SPM and RN ROS setting allocations within the ANST corridor.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The National Trails System Act (Public Law 90-543, as amended through Public Law 116-9, March 12, 2019) and (United States Code, Vol. 16, sections 1244) designated the Appalachian Trail. It was established and located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass (section 3(a)(2)).

Section 3(2) of the act states, “National scenic trails, established as provided in section 5 of this Act, which will be extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.”

ANST Comprehensive Plan, p. 6 states, “Federal and state lands so designated will continue to be managed for multiple use. Plans for management of these areas will provide for the Trail and resources to be managed to complement each other in a way that will assure continued maximum benefits from the land.”

See National Scenic Trail, Issue 3: Harvest in the Appalachian National Scenic Trail for references to the ANST Comprehensive Plan, p. 26.

ANST Comprehensive Plan, p. 27 states, “The Trail values to be perpetuated include more than a narrow footpath, and the scheme for protecting those values must thus be broader than simple ownership of land. Trail clubs, the Appalachian Trail Conference, the Forest Service and the Project Office share equally in the responsibility for creating a climate of concern for the Trail, and for finding the convergence of interests between Trail users and adjacent communities (protection of watersheds being one example).”

### **Project Record**



See the Project Record citations from National Scenic Trail Issue 3: Harvest in the Appalachian National Scenic Trail Corridor.

FEIS, pp. 4-465 through 4-468 - Recreation Opportunity Spectrum discussion.

FEIS, pp. 3-471 through 4-484 – Scenery - Management Areas with Congressionally Designated Trails, Rivers and Eligible Wild and Scenic Rivers discussion by Alternative.

## **Response**

The FEIS addresses the effects to the ANST and demonstrates the compatibility with the Forest Plan and the ANST Comprehensive Plan. The FEIS informs the conclusion that the Forest Plan is providing for the nature and purposes of the Appalachian Trail and is compatible with the trail plan.

The FEIS does not need detailed alternative descriptions of existing road miles in the AT Management Area or ROS settings. Rather, the FEIS should and does describe how plan components will guide management of roads and other activities consistent with the NTSA. The level of detail the objector requests is not necessary because the Agency is not developing or analyzing the AT's plan itself, but there is indeed an obligation to affirmatively describe compliance with the NTSA.

The ANST Comprehensive Plan does not address specific trail or corridor values, but does state that the values should be more than a narrow footpath. Federal lands will continue to be managed for multiple use that assures continued maximum benefits to the land. The AT Comprehensive Plan also mentions that emphasis should be on integration with compatible land uses. While the ANST Comprehensive Plan does not state specific values, the Forest Plan does list the desired conditions for scenic character as natural evolving in primitive recreation settings, predominately natural evolving, natural appealing, or pastoral in semi-primitive settings and natural appearing in roaded natural or rural settings.

It would be an improvement to add the NTSA to the section of the final ROD that discusses compliance with other laws an affirmation that describes the compatibility of the ANST Comprehensive Plan and the Forest Plan.

## **Instruction(s)**

**Instruction:** Include in the final ROD a succinct summary describing compatibility with the ANST Comprehensive Plan and the Forest Plan.

## **RECREATION OPPORTUNITY SPECTRUM**

### **Issue 1: Plan Components for Sustainable Recreation**

**Objector(s):** Greg Warren



The objector contends that the revised plan does not include plan components to provide for sustainable recreation as required by the Planning Rule and associated directives, asserting that the plan does not include specific standards or guidelines where restrictions are needed to ensure the achievement or movement toward the desired Recreation Opportunity Spectrum (ROS) classes. He states that development restrictions are needed in Primitive and Semi-Primitive ROS settings to ensure that desired conditions are realized.

The objector also states that "the proposed plan Recreation Opportunity Spectrum setting characteristics descriptions are inconsistent with the ROS planning framework as used for the Planning Rule and associated PEIS. The descriptions must be supplemented to address established definitions and protocols, especially for Semi-Primitive ROS settings. The Plan needs to add descriptions of ROS Class Desired Conditions, Standards, Guidelines, and Suitability."

More specifically, the objector asserts that timber production is incompatible with Semi-Primitive Motorized (SPM) ROS setting desired conditions and administrative use of roads in Semi-Primitive Non-Motorized (SPNM) settings would allow actions that are inconsistent with the ROS planning framework. He is concerned that the purpose of timber production (timber production – purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use) is in contrast and unsuited “with protecting the naturalness and remoteness characteristics of the Semi-Primitive Motorized ROS class.” In addition, the objector believes that motorized use and maintenance on level 2 roads associated with timber harvest is incompatible with semi-primitive motorized settings and would degrade adjacent semi-primitive non-motorized ROS settings. The objector also adds the following as supporting reasons:

1. The lasting effects of an activity (roads, timber harvest) as well as short-term effects (logging trucks, noise) degrade Semi-Primitive Motorized ROS setting characteristics.
2. The spread of non-native and reoccurring harvests for timber purposes, stand tending, permanent and temporary road construction and reconstruction, travel route closures, and other activities are incompatible with the desired Semi-Primitive Motorized ROS settings.
3. In areas where timber harvest with road access is desired, the appropriate ROS class designation is a Roaded Natural/Roaded Modified setting.

### **Remedy(s) proposed by Objectors**

- Strike “vehicular use is infrequent and that occasional administrative use occurs on these roads” from the SPNM description. Describe and map Semi-Primitive Motorized ROS settings as not being suitable for timber production.
- If a road was to be built for any reason in Primitive or Semi-Primitive ROS settings, plan components should require that the road be decommissioned with full obliteration, re-contouring, and restoring natural slopes. Monitoring must ensure that surface areas are stabilized and revegetated with native plants.
- Modify the Plan description of ROS class plan components to be consistent with the ROS planning framework [1986 ROS Book].



- ROS class definitions need to be expanded to add descriptions of Non-Recreation Uses, Evidence of Humans, and Naturalness characteristics. Primitive and Semi-Primitive ROS classes must constrain some management actions such as mechanical treatments of vegetation that utilize heavy equipment and permanent or temporary roads if these desired ROS class opportunities as described in the 1986 ROS Book and referenced in the Planning Rule PEIS are to be protected.

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.10(a) requires plan components including standards or guidelines for integrated resource management to provide for ecosystem services and multiple use [including outdoor recreation] and sustainable recreation; including recreation settings, opportunities, and access; and scenic character (§ 219.10 (b)(1)(i)). The definition for recreation settings at 36 CFR 219.19 indicates the Forest Service uses the recreation opportunity spectrum to define recreation settings and categorize them into six distinct classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban.

Forest Service Handbook 1909.12 section 23.23a requires the plan to include desired conditions for sustainable recreation using mapped desired recreation opportunity spectrum classes.

Forest Service Manual 2310 complements the land management planning regulations and handbook direction requiring the use of the recreation opportunity spectrum as a tool to map and convey desired recreation settings and opportunities. It provides a definition for each recreation opportunity spectrum class (section 2310.5).

### Project Record

FEIS Section 3.4.4 describe the range of recreation settings provided across the Forests (pp. 3-465 through 3-468) and includes a description of timber management related effects on the recreation experience (pp. 3-468 to 3-469).

The response to comments indicates recreation setting definitions were updated for the Forest Plan (FEIS Appendix A, pp. 112-113) and that desired scenic character is identified with spatial reference to mapped ROS settings (FEIS, Appendix A, p. 118). In addition, the response to comments (FEIS, Appendix A, p. 115) explains that the Forests reviewed FSM 2310 and “confirmed that management of Semi-Primitive Motorized settings is not inconsistent with activities potentially occurring on lands suitable for timber production; especially if Scenic Integrity Objectives are being met.”

The Forest Plan includes plan components to guide timber harvest activities in a manner that supports achievement of desired conditions for semi-primitive motorized recreation settings. For example:

- Standard TIM-S-01 - “Timber production will not be the primary purpose for projects and activities and shall complement ecological restoration.” Forest Plan, p. 91.



- Standard TIM-S-03 - “Timber harvest shall be carried out consistent with the appropriate mitigation of effects to soil, watershed, fish, wildlife, recreation, and scenic and heritage resources.” Forest Plan, p. 91.
- Standard TA-S-05 indicates maintenance levels of roads shall be compatible with the recreation development level. Forest Plan, p. 109.
- Standard TA-S-08 states temporary roads are located and constructed to minimize impacts to resources while providing short-term, single-purpose access, and are decommissioned when no longer needed, using techniques such as, but not limited to, removing drainage structures, re-contouring, and stabilizing the final slope. Forest Plan, p. 109.
- Guideline REC-G-01 - “Design and construction of new projects should follow the assigned Recreation Opportunity Spectrum classification.” Forest Plan, p. 116.
- Additional standard and guidelines for scenery will guide timber harvest activities in a manner that meets or exceeds desired scenic integrity objectives. Forest Plan, pp. 126-130.
- The Forest Plan (Chapter 4) identifies desired recreation settings for each management area and a description of appropriate types of development, amenities, and/or management actions. These recreation settings correspond to the mapped desired ROS settings/classifications for the planning area.

## Response

The recreation opportunity spectrum is a framework for identifying, classifying, planning, and managing a range of recreation settings. Through this framework, planners compare the relative tradeoffs of how different patterns of settings across the landscape would accommodate (or not accommodate) recreational preferences, opportunities, and impacts (programmatic indirect environmental effects) with other multiple uses. As the 2012 Planning Rule Programmatic EIS explains, it is a tool used to defined existing conditions, describe desired conditions, and monitor change” (PEIS, p. 209).

As required by the planning regulations and handbook the Forest Plan includes mapped recreation opportunity spectrum settings with desired conditions consistent with those found in FSM 2310. As disclosed in the response to comments (FEIS, Appendix A, p. 115), semi-primitive motorized settings are predominately natural or natural-appearing and may have moderately dominate alterations. Timber harvest, whether for the purposes of production (scheduled) or for other resource benefit (unscheduled), is constrained by the Forest Plan to ensure it complements ecological restoration desired conditions (TIM-S-01) and meets or exceeds desired scenic integrity objectives (SC-S-02). Road maintenance is constrained by recreation development level (TA-S-05) and temporary roads are decommissioned after use (TA-S-08).

The FEIS describes the potential impacts to the recreation experience based on the increased pace and scale of ecological restoration on the Forest (FEIS, pp. 3-468 to 3-469). The scope, scale, and effects of timber harvest-related “alterations” to the “predominately natural or natural-appearence” of semi-primitive motorized settings will be addressed during project-level environmental analysis, which is required to implement the direction in the forest plan (FEIS, p.



1-8). The Responsible Official has developed plan components using the recreation opportunity spectrum in compliance with the regulations and Forest Service policy.

The Responsible Official has developed plan components for sustainable recreation using the recreation opportunity spectrum consistent with the regulations and current policy. Objector's primary concern about recreation opportunity spectrum definitions is related to modifications to FSM 2310 made in 2020, which is outside the scope of this review. However, it should be noted that although the 2012 Planning Rule PEIS references the "1986 ROS Book," it does not indicate it was static information that would remain unchanged over time. Rather it states "Within the context of the Framework for Sustainable Recreation, recreation planning and collaboration tools will continue to be developed and be used in forest plans. These will incorporate, but evolve beyond, the recreation opportunity spectrum..." (PEIS, p. 211). In fact, the 1986 ROS Book explicitly states it is not a policy document and the ROS "is still evolving and needs creative application."

The Responsible Official exercised his discretion to identify plan components for multiple uses (219.10) consistent with guidance at FSH 1909.12 and FSM 2310. The objector's primary concerns are addressed through several plan components found in the recreation, timber, and transportation sections.

See also the response to NEPA Issue 5: Effects Analysis and Hard Look.

**Instruction(s):**

**Clarification:** Correct this sentence on p. 113 of Appendix A, response to comments, which states that "ROS itself is about recreation impacts from motorized use and infrastructure development." The response to comments should match the definition found in the Forest Plan, p. 342.

## **Issue 2: Backcountry Land Allocation**

**Objector(s):** Greg Warren

The objector alleges that the revised plan components for backcountry are not integrated, written clearly, concisely or without ambiguity. He advises that the plan components for this management area need to be reconstructed with modifications that emphasize naturally evolving or natural-appearing scenic character and a semi-primitive non-motorized setting.

The objector also asserts that Backcountry Management Areas does not protect Semi-Primitive Non-Motorized ROS settings due in part to improper development permissions that are granted through standards and guidelines such as BAC-S-09, noting that these permissions conflict with Semi-Primitive Non-Motorized ROS setting desired conditions. He concludes that "Forest Plan components need to establish and protect Primitive and Semi-Primitive Non-Motorized ROS settings in this Management Area."

**Remedy(s) proposed by Objectors**



- Plan components for this Management Area need to be reconstructed with modifications that emphasize providing for Naturally Evolving or Natural-Appearing Scenic Character and a Semi-Primitive Non-Motorized ROS setting.
- The following consolidated desired conditions could be adopted for the proposed Backcountry MA allocation:
  - BAC-DC-01 - The desired recreation setting in Backcountry is Semi-Primitive Non-Motorized. Large blocks of remote and unroaded forest appear to be primarily shaped by natural processes, where mid to late-successional communities and old growth forests predominate.
  - BAC-DC-02 - Desired Scenic Character is Natural-Appearing with a High Scenic Integrity Objective.
  - BAC-DC-03 - Within Inventoried Roadless Areas, Roadless Area Characteristics are retained as defined in the 2001 Roadless Rule.
  - BAC-DC-04 - Wildlife habitat conditions reflect large contiguous blocks, core, and interior forest conditions. Wildlife habitat conditions support rare and game species. Existing natural appearing wildlife fields and linear wildlife habitats are managed through non-motorized practices.
  - BAC-DC-05 - The role of native pests as natural disturbances persists.
  - BAC-DC-06 - Fire plays an important role in maintaining or restoring fire-associated forested communities and reduces fuel buildups.
  - BAC-S-02, BAC-S-03, and BAC-S-08 should be deleted. Ensure that standards and guidelines constrain actions to support desired conditions and that standards do not grant permissions.
  - BAC-S-09 should be deleted. A consideration is not a standard as defined by the Planning Rule.
  - BAC-S-10 and BAC-S-11 do not support Semi-Primitive Non-Motorized ROS setting desired conditions and should be deleted.
  - The standard (BAC-S-09) should succinctly state that system roads may not be constructed or reconstructed in the Backcountry Management Area.

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.7 - The responsible official has discretion to identify management areas and associated plan content consistent with both planning and other regulatory requirements (e.g., 2001 Roadless Area Conservation Rule).

The 2001 Roadless Area Conservation Rule (RACR) establishes prohibitions on road construction and road reconstruction and limitations on timber cutting, sale, or removal within inventoried roadless areas (IRA) on National Forest System lands. The intent of the 2001 Roadless Rule is to provide lasting protection of inventoried roadless areas within the National Forest System in the context of multiple-use management. Generally small diameter timber may be cut, sold, or removed in inventoried roadless areas where it maintains one or more of the



roadless area characteristics as defined in 36 CFR 294.11 (66 Fed. Reg. 3243 (January 12, 2001)).

See Recreation Opportunity Spectrum Issue 1: Plan Components for Sustainable Recreation for requirements associated with the recreation opportunity spectrum framework.

## **Project Record**

The Forest Plan, pp. 217-222, describes the Backcountry Management Area, its overlap with inventoried roadless areas, and recreation opportunity spectrum settings.

The Forest Plan, pp.207-208 describes how management areas were determined and how they work together across the Forests. Plan components provide for management consistent with the 2001 RACR and the intent of the allocation as described in the introduction.

The FEIS describes the effects of varying the size and configuration of the various management allocations across alternatives (pp. 2-3 through 2-10). The FEIS describes both the affected environment and environmental consequences of management direction associated with the Backcountry Management Area for all affected resources (FEIS, pp. 2-14, 2-17 through 2-22, 3-51, 3-52, 3-72, 3-75, 3-179, 3-227, 3-229 through 3-230, 3-392, 3-399, 3-405, 3-408, 3-423, 3-424, 3-427 through 3-430, 3-438 through 3-440, 3-477 through 3-479, 3-486 through 3-488, 3-495 through 3-496, 3-501 through 3-509, 3-447, 3-449, 3-450, 3-453, 3-464, 3-46 through 3-470, 3-514 through 3-517, 3-556, 3-558, 3-564, 3-565 and 3-579).

## **Response**

Plan components guide management consistent with both planning and roadless area regulatory requirements. Plan components similar to those suggested by the objector are included in the Forest Plan and help document full compliance with the 2001 Roadless Area Conservation Rule. The suggested changes to desired recreation settings and scenic integrity objectives for Backcountry are not necessary, because management area desired conditions already identify a semi-primitive non-motorized recreation setting, natural evolving to natural-appearing scenic character, and a high scenic integrity objective in the Forest Plan.

Objector's primary concerns with the Backcountry Management Area plan components are related to the overlapping recreation opportunity spectrum setting issues addressed in Issue 1 and 2 of this section. Consideration of suggested plan components is at the discretion of the responsible official; however similar plan components are addressed in forest wide and management area plan direction, and through integration of roadless area regulations.

As to suggested deletions of BAC-S-02, BAC-S-03, and BAC-S-09, they are consistent with the regulatory definitions of a standard and several are direct quotes from the 2001 Roadless Area Conservation Rule, which cannot be modified through plan revision (36 CFR 294.14(e)). These standards limit timber harvest and road building but provide direction on when it may be an appropriate (exceptions) as per FSH 1909.12 section 22.13(6).



While the objector is correct that BAC-S-08 describes a permissible activity rather than constraining project or activity decision making (36 CFR 219.7(e)(1) (iii)), In this case, roads exist in the Backcountry and the standard adds clarity as to how the Forests will manage Backcountry for the life of the plan.

See also the response to NEPA Issue 5: Effects Analysis and Hard Look.

**Instruction(s):** None.

### **Issue 3: Recreation Settings, Affected Environment and Environmental Consequences**

**Objector(s):** Greg Warren

The objector states that the Affected Environment and Environmental Consequences sections of the FEIS are inadequate. As the objector contends, “the affected environment serves as the baseline for predicting changes to the human environment that could occur if any of the alternatives under consideration. The affected environment is separate and distinct from the no-action alternative, which describes current management rather than the current state of affected resources, and discloses how the current condition of affected resources would change, if current management were to continue. The Affected Environment did not describe the recreation settings of the area to be affected by the alternatives under consideration.”

He goes on to add, “Impacts from ROS setting inconsistencies need to be addressed in the revised plan and FEIS. As stated in the protocol, “Inconsistencies with the existing ROS settings are documented in this process, but do not change the overall ROS settings mapped and identified. Rather the inconsistencies are used with the ROS settings mapped in this process to provide an overall existing condition for ROS and help identify places that may need management actions to improve consistency with desired conditions.” For example, in areas where timber production is a desired condition, the established ROS class should be a Roaded Modified setting. Where a Semi-Primitive ROS setting is the desired condition, constructed roads should be decommissioned. For established Semi-Primitive Non-Motorized ROS settings, the FEIS fails to review the effects of allowing administrative use on roads for the purpose of natural and cultural resource protection and management. Plans must include plan components to maintain or restore ecological integrity and recognize that roads degrade ecological conditions. Natural and cultural resource protection should be accomplished without utilizing roads in this ROS setting. The FEIS failed to map ROS class allocations for each alternative, not allowing for a reasoned decision.”

#### **Remedy(s) proposed by Objectors**

- Prepare a Supplemental EIS to discuss recreation setting conditions and trends and identify contributing factors. Such information can provide a basis for considering how a changing, dynamic environment could affect conclusions that are reached regarding the environmental consequences of implementing any of the alternatives under consideration.



- The EIS must identify the general extent and location of the temporary and permanent road system associated with more primitive ROS settings and provide a rational explanation of why these inconsistencies is to be allowed in these ROS classes. The NEPA document must disclose that timber production, extensive vegetation management, and supporting roads are incompatible with Primitive and Semi-Primitive ROS settings.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The FEIS for the plan is a programmatic review as described by Council on Environmental Quality (CEQ) guidance and as is imbedded in CEQ regulations (40 CFR Parts 1500 to 1507) addressing analyses of "broad actions" and the tiering process. This EIS fits under category III: "When to Use a Programmatic and Tiered NEPA Review" as a "decision to adopt formal plans, such as documents that guide or constrain alternative uses of Federal resources, upon which future agency actions will be based."

36 CFR 219.10 (b)(1)(i) - The analysis must be sufficient to support a finding in the record of decision that the plan provides "for integrated resource management to provide for ecosystem services and multiple use [including outdoor recreation] and sustainable recreation; including recreation settings, opportunities, and access; and scenic character"

### **Project Record**

FEIS, pp. 3-445 through 3-471, Section 3.4.4 describes the affected environment as it relates to recreation on the Forests. This includes a discussion of recreation visitor use and trends associated with a wide variety of recreation opportunities provided on the Forest. The FEIS also includes the environmental consequences of the plan direction as it relates to providing for sustainable recreation in compliance with the planning regulations.

### **Response**

The objector's primary concerns about the sufficiency of the EIS are related to his objections with plan components that may allow management actions that he does not believe are compatible with semi-primitive settings (both motorized and non-motorized). This includes a desire for site-specific information (extent and location of temporary and permanent roads) related to current "inconsistencies" within desired recreation settings.

However, as addressed in the issues 1 and 2 of this section, the Responsible Official has appropriately used the recreation opportunity spectrum framework to identify desired conditions for a variety of recreation settings. The FEIS describes the range of recreation settings provided across alternatives as noted above, as well as the effects of management actions that may have the greatest impact to the recreation experience such as timber harvest and prescribed fire. Identifying the general extent and location of permanent and temporary roads is outside of the scope of a programmatic document; instead, the Forest Plan appropriately outlines where those activities are permitted to occur and provides constraints that will be applied during project



planning. The depth and detail described provided is sufficient information to inform the programmatic decision.

See also the response to NEPA Issue 5: Effects Analysis and Hard Look.

**Instruction(s):** None.

## CLIMATE CHANGE

### Issue 1: Climate and Carbon Storage Benefits of Old Forests

**Objector(s):** Chattooga Conservancy; Forest Keeper; Kim Porter; I Heart Pisgah

The objectors claim that "the climate and carbon-storage benefits of mature, intact forests are largely neglected in favor of increased timber harvests" and are not included in the decision making. They allege that this violates the 2021 Planning Rule. They point out that, Alternative E quadruples timber harvests and includes thousands of acres of old-growth forests in specific management areas. Also, the objectors state that, "the forest plan does not measure climate impacts of quadrupling timber harvests. As a result, this plan results in significant climate harm that will affect the region for decades."

Another objector alleges that the Forest Plan fails:

- To address climate change and thinks it should be "addressed immediately to attempt to head off its catastrophic effects."
- To prohibit harvesting old growth timber, and does not adequately provide for an interconnected network of old growth and near-old growth native forests for ecosystems to adapt to climate change.

The objectors also believe that the plan "sloughs off the carbon-storing potential of old growth forests by asserting that young forests sequester carbon faster than old-growth forests." They feel that agency is "ignoring the latest science that concludes: old-growth forests continue to sequester large quantities of carbon, and further, cutting down old growth will release stored carbon in both trees and soils."

### Remedy(s) proposed by Objectors

- Fully evaluate climate and carbon storage benefits of intact, mature forests in all management decisions.
- Include and utilize the carbon and climate benefits of mature forests and old growth forests in all decisions.
- Manage existing mature and old-growth forests to preserve their carbon storage benefits and biodiversity values.
- The Final Plan must not permit cutting existing old growth.

## REVIEW FINDINGS



## **Law, Regulation and Policy**

No applicable legal or regulatory requirements or established thresholds exist for climate, climate change, or its effects on resources. The 2012 Planning Rule and Final Directives requires an assessment of climate change and integration of this information in development of plan direction that addresses ecological sustainability on national forests. More generally:

36 CFR 219.3: “The responsible official shall use the best available scientific information to inform the planning process required by this subpart.” Additionally: 36 CFR 219.6(b)(3) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change. 36 CFR 219.12(a)(5)(vi) Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.

The Multiple Use Sustained Yield Act of 1960, 16 U.S. Code § 528: Identifies principles for managing the resources of the NFS. Development and administration of renewable surface resources for multiple use and sustained yield of products and services - It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes. The direction to manage these resources for the greatest good over time includes the use of economic and social analysis to determine management of the NFS.

NFMA 16 U.S.C. 1604 (g)(3): requires the Forest Service to “[specify] guidelines for land management plans developed to achieve the goals of the Program which [...] insure that clear-cutting, seed tree cutting, shelter wood cutting, and other cuts designed to regenerate an even-aged stand of timber will be used as a cutting method on NFS lands only where [...] the interdisciplinary review as determined by the Secretary has been completed and the potential environmental, biological, esthetic, engineering, and economic impacts on each advertised sale area have been assessed, as well as the consistency of the sale with the multiple use of the general area.”

2012 Planning Rule – A Planning Rule must address... “Emphasize restoration of natural resources to make our NFS lands more resilient to climate change, protect water resources, and improve forest health.”

FSH 1909.12.4 in reference to considering and assessing carbon stocks for forest plans under the 2012 Planning Rule.

USFS Guidance: Climate change Considerations in Land Management Plan Revisions – January 20, 2010: “Include a basic analysis of conditions and trends of carbon stocks and fluxes on the planning unit, and greenhouse gas emissions influenced by the management of the planning unit.”

## **Project Record**



FEIS: The FEIS discusses old growth, and the carbon and climate issues related to old growth/old forests (e.g., pp. 3-25 through 3-29, 3-384, 3-393 through 3-395). Climate change is discussed on pp. 3-9 through 3-22, while carbon storage is discussed on pp. 3-22 through 3-32.

Draft ROD: The old growth network is summarized in the draft ROD on p. 22-23; climate change and carbon storage are discussed on p. 63.

Forest Plan, pp. 18-19: Needs related to old growth and climate change are both discussed in the 2014 Need for Change. Old growth outside of the network is discussed on p. 92. Carbon storage is discussed on p. 297. Old forests are components of desired conditions ECO-DC-02 (Forest Plan, p. 51), WLF-DC-06 (p. 67), OGN-DC-01/02/03 (pp. 84-85), BAC-DC-01/02/03 (pp. 217-218), CDW-DC-02 (p. 270), objective OGN-O-01 (p. 85), standard OGN-S-01/02/03/04/05 (pp. 85-86), and guideline LSU-G-03 (e.g., pp. 101-102). Specific locations are also managed for their old growth characteristics (p. 205). Monitoring is discussed on pp. 29, 291, 296 and 297.

FEIS, Appendix A, pp. 8-17, 45-51, 81, response to comments on Climate Change and Carbon.

## **Response**

The objectors claim that climate and carbon-storage benefits of mature, intact forests are neglected in favor of increased timber harvests and not included in the decision making, along with their assertion that the Forest Plan “does not adequately provide for an interconnected network of old growth and near-old growth native forests for ecosystems to adapt to climate change” is not substantiated. The Forest Plan is highly focused on the benefits of mature, intact forests. Old growth and the designated old growth network were both identified as priorities in the 2014 Need for Change (Forest Plan, p. 18). The FEIS, p. 3-27, specifically discusses how management strategies were incorporated into forest plan direction that influence carbon uptake and storage potential, which includes enhancing and accelerating the development of old-growth conditions to support higher carbon stalks in mature forests.

The FEIS clearly identifies a management objective of enhancing the development of old-growth conditions (FEIS, p. 3-28) and identifies mature and old growth forests as a desired habitat type needed throughout the landscape (FEIS, p. 3-384). The FEIS documents that “Long-term management strategies are needed to ensure dynamic landscape populations of old growth that are able to withstand wildfire, parasites, diseases, human disturbances, and climate change” and includes a Tier 2 objective to enhance or accelerate the development of old growth characteristics as well as a monitoring question (MQ 2-3-T2) that is not included in Alternative A. (FEIS p. 3-394 to 3-395). Old growth or old forest characteristics are components of numerous desired conditions; see Old Growth Network Issue 1: Logging in Old Growth and Defining Old Growth for a comprehensive list of plan desired conditions for old growth or old forests.

Old growth is a specific focus of Alternative E, which would “[increase] the size of the designated old growth network by more than 54,000 acres, up to about 265,000 acres. The adjusted designated old growth network includes all ecozones, moisture conditions, and elevation gradients. Alternative E would provide a larger designated old growth network than



any other alternative; it would take several decades to achieve such a large network under any other alternative. This alternative includes more large old growth patches, thereby increasing the network's overall resiliency and connectivity across the forests. Old growth conditions take decades to develop, and the establishment of this network will improve the forest's ability to ensure the landscape develops old growth characteristics over time" (Draft ROD, pp. 22-23).

In addition to establishing a dedicated old growth network, unmanaged areas outside of the designated Old Growth Network will also age toward old growth, particularly in designated Wilderness, Wilderness Study Areas, and Inventoried Roadless Areas. (Forest Plan, p. 84).

Biological diversity is specifically identified as a benefit of old growth (Forest Plan, p. 94); the old growth network was developed with this in mind, as documented in the FEIS, which notes that "additional patches were selected with consideration of the full range of biodiversity representation, using ecozone representation, moisture and elevation gradient diversity, as well as spatial distribution and redundancy" (FEIS p. 3-392).

The old growth network includes desired conditions, objectives, and standards related to the maintenance of old growth conditions and characteristics (Forest Plan, pp. 84-86). In particular, in response to the objector's concern that Forest Plan must not permit cutting of existing old growth, vegetation manipulation is only allowed for specific purposes related to the enhancement of old growth values and characteristics and to improve forest health, and with project-specific analysis (standard OGN-S-01, p. 85). New roads are permitted "only after all feasible and prudent alternatives have been analyzed in the NEPA process and all impacts to old growth characteristics are minimized," only non-motorized trails are permitted, and "[l]ands in this network are not suitable for timber production" (OGN-S-03/04/05, pp. 85-86). The response to comments also addressed the objector's concerns. See FEIS, Appendix A, pp. 8-9 and 45-46.

Questions about the Forest's management of old growth, in a carbon and climate context specifically, were raised in the FEIS Appendix A, Response To Comments (pp. 8-9, 44-51). The Forests agree that "old growth forests as a valuable natural resource worthy of protection, restoration, and management." (FEIS, Appendix A p. 45). The response to comments (FEIS, Appendix A, p. 8-9) recognizes that the "The Plan's climate change section addresses the forests' role in climate change mitigation and addresses adaptive management to sustain forest climate resiliency into the future," and notes that the analysis in the FEIS documents that over the long term, "Tier 2 objectives would increase forest resiliency which would improve the Forests' ability to uptake and store carbon, potentially reducing future carbon emissions. All plan alternatives seek to improve watersheds and develop old-growth forest conditions." In addition, "The plan contains direction related to managing old growth forests, and managing for climate change, emphasizing adaptive management and ecosystem resiliency" and notes that the plan "outlines a long-term planning process for protecting and enhancing the development of old growth characteristics over time and expands the designated old growth network that represents all ecozones and elevations dispersed across the forest" (FEIS Appendix A, p. 8).

The response to comments also documents that "The Forest Plan includes forest-wide direction on carbon sequestration and air resources. The plan contains direction related to managing old growth forests, and managing for climate change, emphasizing adaptive management and



ecosystem resiliency. The plan outlines a long-term planning process for protecting and enhancing the development of old growth characteristics over time and expands the designated old growth network that represents all ecozones and elevations dispersed across the forest” (FEIS, Appendix A, p. 8).

The FEIS also addresses the carbon storing potential of old forests and addresses the best science. The FEIS, p. 3-25 states that “Although older forests store more carbon and can continue to take up significant amounts of carbon even as they age, the rate of carbon uptake generally declines as forests age. Therefore, in coming decades, aging stands on the Forests may have lower rates of carbon accumulation, although stocks are projected to continue to increase above current levels. Projections from the RPA assessment also indicate that forests under all land ownerships in the Southern region are experiencing a potential age-related decline in the rate of carbon accumulation that will continue through 2060.”

The FEIS, p. 3-28 goes on to explain net carbon gains from active management, documenting that “in the central and Southern Appalachian region, stands treated with periodic low-intensity harvests and thinning can have higher productivity and carbon uptake due to growth releases [...] indicating a positive cumulative effect.” The FEIS, p. 3-26 also documents that “The Forests take up and store more carbon than they lose through disturbances and management activities combined. All of the proposed management activities would initially reduce carbon stocks on the Forests. However, these short-term losses and emissions are very small relative to both the total carbon stocks on the Forests and national and global emissions.” Other reasons for a net carbon benefit from active management are described in the FEIS on pp. 3-26 through 3-32.

The carbon analysis in the FEIS used the best available science and data sources regarding carbon are described in the FEIS, p. 3-22 to 3-23 and draft ROD, p. 63. The role of soil carbon is discussed on pp. 3-22 to 3-31 of the FEIS; maintenance of soil carbon is identified as a desired condition (SLS-DC-01 and SLS-DC-02, Forest Plan, p. 39). Additionally, desired condition CC-DC-03 states: “Ecosystems continue to provide supporting and regulating ecosystem services [including carbon sequestration and climate regulation] under changing and uncertain future environmental conditions. These resilient ecosystems provide a wide range of ecosystem services for local, regional, and national needs” (Forest Plan, p. 31). Monitoring of carbon stocks and fluxes, and the effects of management units on a changing climate, is described in the Forest Plan, p. 296 (MQ-6-3-T1 and MQ-6-4-T1), to help the forest achieve these conditions.

The FEIS, p. 3-27 documented that the plan includes numerous management strategies to improve carbon uptake and storage on forest lands, including:

“Manipulate the forest to provide for new young forest conditions to support wildlife habitat. This can cause a decline in carbon stocks, but compared with older stands, doing so promotes relatively high rates of carbon uptake over time as forests regrow [...]

Enhance or accelerate the development of old-growth conditions to support higher carbon stocks in mature forests compared with younger stands [...]



Decrease forest densities and fuel conditions to reduce the risk of large, stand-replacing disturbance from insect, disease, and fire. Although this strategy initially reduces carbon stocks, it can lower risk for greater carbon stock losses and emissions in the future [...]

Ensure successful reforestation after harvest or mortality-inducing disturbances to ensure continued carbon uptake and storage [...]

Promote desired composition, structure, function, and pattern (ecological integrity) to support long-term carbon uptake and storage in the face of changing environmental conditions.”

The objectors claim regarding measuring the impacts of increasing timber harvest on climate change impacts was addressed in the FEIS (pp. 3-22 through 3-32) and is discussed in more detail in the responses to Climate Change Issues 5 through 8 below. As summarized in the response to comments in Appendix A, p. 9, “The EIS carbon section has adequately considered the influence of carbon, from both natural disturbances and active management to the degree that programmatic plan components and management approaches can or should incorporate concepts related to the issue while using best available science. Because the maximum potential management levels presented in the plan alternatives would have negligible impacts on forest carbon stocks, a quantitative analysis of carbon stocks is not warranted.” Moreover, as stated in the FEIS, p. 3-26 “small differences in carbon impacts among management alternatives, coupled with high uncertainty with estimates of carbon stocks and fluxes, make the detection of statistically meaningful differences among alternatives highly unlikely.”

Potential cumulative effects are summarized in the FEIS, Appendix A, p. 9, which notes that “accounting for the cumulative impact of management and disturbance trends across the National Forest System is outside of the scope of this land management plan revision. Sustaining and increasing carbon storage and sequestration throughout the National Forest System to mitigate climate change is beyond the scope of this forest plan revision effort.” The draft ROD and FEIS also point out that “[t]o focus exclusively on maximizing carbon might prevent the accomplishment of other climate adaptation and mitigation needs that arise during the planning period, such as maintenance and restoration of microsites, promoting habitat enhancement for species at risk of climate change, managing invasive species infestations, or restoring native vegetation in streamside zones, for example” (draft ROD p. 55; FEIS, p. 2-28).

The objectors also claim that the Forest Plan fails to address climate change and believe that this should be “addressed immediately to attempt to head off its catastrophic effects.” The FEIS addresses climate change extensively (pp. 3-9 through 3-22), as does the Final Plan, p. 18-19, which cites the 2014 Need for Change that identified that there is a need to include plan direction regarding potential climate change impacts such as increases in storm events, flooding, wildfires, and other extreme weather. The FEIS, p. 3-21 also notes that “In comparison to Alternative A, these alternatives [B through E] are more explicit that the desired condition is to have a forest that is resilient and adaptive in response to climatic changes.” In addition, the Forest Plan’s climate change section (pp. 31-32) outlines a number of management approaches for improving resilience to these climate threats.



The FEIS, p. 3-22 states that “By including these desired conditions and management approaches, the action alternatives are more responsive to changing climatic conditions than Alternative A.” The draft ROD further states that “All action alternatives include a climate change section that focuses on maintaining and creating ecosystem resiliency and adaptability, forest management that reduces the forests’ susceptibility to future climate-related stressors, maintaining a suite of adaptation and mitigation options for the future, and monitoring to enable adaptive management when needs are identified during plan implementation” (p. 55). Appendix A includes a variety of comments related to climate change and the Forest Service responses (pp. 8-17), highlighting that “Climate change is addressed throughout the forest plan in resource sections, including but not limited to: forest health, geologic resources, minerals, water, soils, aquatic ecosystems, and terrestrial ecosystems plan sections.”

The plan does not authorize project specific actions and is required to consider and integrate multiple uses and ecosystem services. Ultimately, the analysis conducted within the FEIS is appropriate and complies with all existing laws, regulation, and policy. The analysis complies with the 2012 Planning Rule, Forest Service direction (FSH 1909.12.4), and Forest Service guidance on climate change and carbon.

See also the responses to the Old Growth Network Issues 1 and 2 for more information on the old growth network.

**Instruction(s):** None.

## **Issue 2: Effects of Climate Change**

**Objector(s):** Cynthia Simonds

The objector references Audubon's 2019 Survival by Degrees Report which they claim shows climate change and the immediate threats associated with those changes (extreme rain events, spring heat, etc.) pose an existential threat to birds. They believe that management and restoration of the forest should protect against those listed threats.

### **Remedy(s) proposed by Objectors**

- The plan must require that all infrastructure (e.g., stream crossings and culverts) be designed and maintained to accommodate increased storm intensity and frequency.
- The Forest Service should monitor how phenomena like droughts and fires affect the forest and commit to mitigating their impacts if we begin to see more impacts from these threats.
- New or reconstructed stream crossings under roads must provide passage for fish and other aquatic organisms.
- Unroaded areas should be protected to provide intact, connected forests.
- The Forest Service should provide a full accounting of the Nantahala and Pisgah National Forests' role in sequestering and storing carbon.

## **REVIEW FINDINGS**



**Law, Regulation and/or Policy**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

**Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

**Response**

The FEIS addresses climate change extensively (pp. 3-9 through 3-32). Of the immediate threats mentioned in the objection, extreme rain events are covered in the Extreme Weather section (p. 3-20), while temperature changes are discussed on pp. 3-11 through 3-13. Specifically, the FEIS, p. 1-5 notes that “The 2014 Need for Change identified that there is a need to achieve the following in the revised plan: [...] Include plan direction regarding potential climate change impacts such as increases in storm events, flooding, wildfires, and other extreme weather.”

Climate effects on animals were considered in the Biological Diversity and Animal Communities sections (pages 3-19 to 3-20), including discussion of increased heat stress on birds due to climate change. The plan describes threats from climate change on rare species, including nesting migratory birds, as well as adaptation measures to respond to these (pages 3-342 to 3-444). Climate impacts (including precipitation extremes, temperature changes, and phenological changes) were also considered in the analyses of individual animal species, such as the Rusty-patched bumblebee (page 3-295) and the Golden-winged Warbler (page 3-345).

As documented in the response to Climate Change Issue 1: Climate and the Carbon Storage Benefits of Old Growth, the FEIS, p. 3-27 documented that the plan includes numerous management strategies to improve carbon uptake and storage on forest lands. While the Forest Plan, p. 32 includes a variety of management approaches to dealing with climate impacts on species and habitats, including the approaches listed above, as well as “Anticipate and plan for changes in natural disturbance patterns.”

The FEIS, Appendix A response to comments includes a variety of comments related to climate change and the Forest Service responses (p. 8-17). These include responses to climate change in general terms, and those that deal specifically with many of the remedies proposed by the objector. Additionally, the Forest Service responded to a specific comment on helping birds and other species adapt to climate change impacts by adding language to the Climate Change Management Approaches to “emphasize the need for restoration projects that facilitate species migration and adaptation. In addition, the plan promotes activities that support habitat enhancement for species susceptible to the effects of climate change” (FEIS, Appendix A p. 11).

The objector’s suggested remedy that the plan must require that all infrastructure (e.g. stream crossings and culverts) be designed and maintained to accommodate increased storm intensity



and frequency is addressed in the Forest Plan, p. 108, which includes a standard in the transportation section (TA-S-04) that requires that road location and design “consider climate change predications of (rolling-dips, culverts, grade-sags, etc.) that are of adequate frequency and size to ensure runoff is able to seep into the soil without causing erosion, including gullies and catastrophic events of mass movement of road material. Additionally, the climate change section includes this management approach, “Prepare for intense storms and fluctuations in base flow using methods that maintain forest health and diversity, including controlling soil erosion, relocating high risk roads and trails, and constructing appropriately sized culverts and stream crossings while retaining stream connectivity” (Forest Plan, p .32).

Climate change is also addressed in one of the monitoring questions in the Forest Plan, p. 297: “MQ 6-6-T2: What are values at risk associated with changing hydrologic disturbances and what prioritized actions can be taken to mitigate these risks?”

Objector adds that the Forest Service should monitor how phenomena like droughts and fires affect the forest and commit to mitigating their impacts if we begin to see more impacts from these threats. Climate and disturbance monitoring is part of the Forest Plan, including questions related to climate variability (“Climate extremes, temperature, precipitation and their impacts on NFS lands”) (MQ-6-1-T1, p. 296), effects of climate change on “ecological, social, cultural, and economic conditions and contributions” (MQ-6-2-T1, p. 296), effects of disturbances (MQ 6-5-T2, p. 297), effects of hydrological disturbances (MQ 6-6-T2, p. 297), and trends in forest streamflow (MQ-6-8-T2, p. 297).

Objector asserts that new or reconstructed stream crossings under roads must provide passage for fish and other aquatic organisms. This is addressed in the Forest Plan’s aquatic systems section which requires that “road and trail stream crossings shall not permanently isolate populations of native aquatic species unless they protect them from non-native invasive species” (AQS-S-01). Several additional plan components speak to specific requirements associated with passage for aquatic organisms including AQS-G-04, AQS-G-5 and AQS-G-03. (Forest Plan, pp.44-45). The Forest Plan, p. 44 prioritizes completion of an assessment of aquatic organism passage needs for Tier 1 objectives. In addition, priority watersheds were also identified in the Forest Plan as those watersheds that are a priority for maintenance or restoration in order to address threats to aquatic species (Forest Plan, pp. 6, 7, 18, 35-39).

As for the objector’s contention that unroaded areas should be protected to provide intact, connected forests, the FEIS includes extensive discussions of the need to balance the “public desire to preserve large blocks of unroaded lands” (p. 3-501) with the need to meet other plan objectives (e.g., pp. 1-13 to 1-14 and 3-490 to 3-491). The alternatives considered vary in the acreage of backcountry and wilderness areas (p. 3-503) and in the “[p]ercent of the forest in management areas where road building is not allowed” (p. 2-25).

FEIS, Appendix A p. 90 notes that “Large, contiguous blocks of unroaded forest are provided for within Backcountry, Inventoried Roadless Areas, Recommended Wilderness, Wilderness Study Areas, and designated wilderness, which do not allow for new road construction.” One of the desired conditions in the Forest Plan, p. 217 is that “Large blocks of remote and unroaded forest



appear to be primarily shaped by natural processes, where old growth characteristics develop and dominate large parts of these areas over time” (BAC-DC-01).

Objector asks that a full accounting of the Nantahala and Pisgah National Forests' role in sequestering and storing carbon. Carbon is discussed in detail, including discussion of total carbon storage, historical and projected future trends, effects of natural disturbances, management strategies, comparison of alternatives, and cumulative effects (FEIS, p. 3-22 through 3-32, draft ROD p. 55, and Forest Plan, pp. 31-32). Additionally, the Forest Plan, p. 296 calls for monitoring the status and trend of carbon stocks (MQ 6-4-T1).

In summary, the Forest Plan addresses climate change at length, including extreme events, and interactions with birds. The analysis conducted within the FEIS is appropriate and complies with all existing laws, regulation, and policy including the 2012 Planning Rule, Forest Service direction (FSH 1909.12.4), and Forest Service guidance on climate change.

**Instruction(s):** None.

### **Issue 3: Climate Change and Disturbance Regimes**

**Objector(s):** Center for Biological Diversity; MountainTrue; Southern Environmental Law Center et al.

The objectors assert that "the Forest Service's consideration of natural disturbances in the FEIS and Forest Plan remains deeply flawed in several respects." They state that the Forest Plan and FEIS failed to adequately examine the role of natural disturbances and climate change stressors in the creation of early seral forests. Additionally, "disturbances such as fires, insect outbreaks, and wind-throw can disrupt the structure, composition and function of an ecosystem." Lastly, the objectors point out that "disturbance regimes have changed profoundly in many forests in recent years, with climate being a prominent driver of disturbance change. Climate change is altering the frequency, intensity, duration, and timing of disturbances. Disturbance change is expected to be among the most profound impacts that climate change will have on forest ecosystems in the future."

Another objector had concerns that though it is "likely local climate will become warmer, with more severe and frequent drought, and storm events" and "there is some chance that an increase in precipitation will help to moderate average temperatures." They state that it is the particularly "severe weather events, like droughts, heatwaves, and floods that will most impact the persistence of species in the region, not averages." They believe that "maintaining and enhancing conditions for range edge species, especially rare ones, can act as a hedge against climate change."

Objectors state that the agency cannot assume there will be an increase in wildfires to justify management activities for purposes of carbon storage, and at the same time assume there will not be an increase in wildfires, to justify the same management activities for purposes of achieving NRV. They assert that:



- The agency fails to disclose that its timber harvest program will disproportionately focus on mesic forest types that are not at high risk for wildfire, creating a significant additive loss of carbon.
- The agency's timber models justify increases in timber harvest levels by assuming there will not be an increase in climate change-driven disturbances.

### **Remedy(s) proposed by Objectors**

- The Forest Service needs to reexamine the appropriateness of using timber harvests to create early seral forests given the impacts of climate change on natural processes and should not continue to assume that disturbances will have a relatively small and ephemeral impact on the forests and that active management is always necessary to achieve desired young forest conditions.
- The Forest Service should proceed in a manner consistent with the precautionary principle, revisit the assumptions made in the PNV and NRV models regarding natural disturbance, and factor in the increase in frequency and intensity of climate change induced and amplified disturbances across the forests.
- These Forest Plan should also require monitoring of natural disturbances to better inform an adaptive management approach to the creation of young forests.
- The Forest Service should provide a full accounting of the Forests' role in sequestering carbon, along with the cumulative impact of management and disturbance trends across the National Forest System.
- At the Forest Plan level, protecting the known sites for rare species that are disturbance sensitive through a coarse filter approach may justify fewer Standards and Guidelines for the protection of Species of Conservation Concern, for example (see George Washington National Forest 2014 Revised Forest Plan).

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

### **Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

FEIS, Appendix D. Vegetation Modeling Methods - Disturbance modeling is addressed on pp. D-11 through D-19 (historical disturbance) and D-19 through D-23 (future).

FEIS, p. 3-117 to 3-133 – Discussion on Forest Structure.

FEIS Appendix A-Response to Comments pp. 8, 11-13, 17, 37-40.



Draft ROD – disturbance is addressed on pp. 61 and 64-66.

Forest Plan – throughout the document (key theme of Sustaining Healthy Ecosystems (p. 21); Climate Change (pp. 31-32); Geologic Resources (pp. 33-34); Water (pp. 41-42); Streamside Zones (pp. 47-49); Terrestrial Ecosystems (pp. 50-73); Plant and Animal Diversity (pp. 74-83); Old Growth Network (pp. 84-86); Forest Health: Insects and Diseases; Non-Native Invasive Plants (pp. 87-89); Timber Management Practices (pp. 90-97); and Fires and Fuels (pp. 98-100).

## Response

The objectors claim that “the Plan failed to adequately examine the role of natural disturbances and climate change stressors in the creation of early seral forests” is not supported. Disturbance and climate change stressors are covered in multiple places in the FEIS. Historical rates of harvest and natural disturbance as a percent of the forest are described on p. 3-25 of the FEIS; the effects of harvest and natural disturbance on carbon and forest structure are analyzed on pp. 3-28 and 3-117 through 3-118, respectively.

All action alternatives include the goals of “Improving ecosystems using both active and passive management that includes both natural disturbance and silvicultural practices, including prescribed fire; Fire-adapted systems are improved by restoring the natural fire regimes,” (p. 3-108). Effects of the different alternatives on the creation of young forest are compared extensively on pp. 3-120 through 3-124. The FEIS, p. 3-120 notes that “Alternative A, the current plan as implemented over the past five years, would have the least amount of young forest, [...] well below desired conditions for the young forest seral state.” The FEIS, p. 3-124 goes on to state that “natural disturbances form gaps that vary in size from single to multiple tree fall gaps, but generally do not change the seral state.”

Commenters on the draft EIS had suggested that “[t]he Plan and DEIS do not adequately examine the role of natural disturbances and climate change stressors and their relationship to active management approaches and underestimates the amount of natural disturbances” across the Forests, asserting that “There is regional evidence that natural disturbances alone are sufficient for meeting the diversity requirements of the forest Planning Rule without management intervention.” (FEIS, Appendix A, p. 12 and 38). The Forest Service responded by reiterating the ways that the EIS addresses disturbance and climate change and stated that “[b]ased on comments received at draft, the team re-reviewed assumptions about natural disturbance using best available science from academic literature and forest records between draft and final, updating modeling assumptions to reflect the latest information. [...] This EIS analysis does not support the commenter’s assertion natural disturbances alone are sufficient for moving ecosystems toward desired conditions during the life of the plan.” (FEIS, Appendix A, pp. 38-39).

In response to comments, the FEIS, pp. 3-122 through 3-122 documented that “Spectrum model was modified for Alternative E to incorporate a prescription for natural disturbances that create young forests. The amount of young forest created by wildfires, storms, and insects/diseases was estimated and tracked in the model.” The Spectrum model and how it incorporates natural disturbance is described in detail in Appendix D as noted above. Additionally, natural



disturbances were added into the natural range of variation (NRV) model using State and Transition Simulation (ST-SIM) software (FEIS, p. 3-108), as an addition validation step.

The objectors' concerns regarding the effects of climate change on natural disturbance are addressed explicitly in the Plan and FEIS. Effects of climate change on natural disturbance are covered on pp. 3-19 through 3-21, including effects on forest health, plant and animal communities, and water resources. Both the FEIS and Forest Plan note that "[e]cosystems across the region and on the Nantahala and Pisgah NFs are experiencing increased threats from fire, insect and plant invasions, disease, extreme weather, and drought. Scientists project increases in temperature and changes in rainfall patterns [...] that can make these threats occur more often, with more intensity, and/or for longer durations" (FEIS p. 3-19; Forest Plan, p. 31). Specifically, the FEIS documents that "[a]s climate conditions change in the Southeast, warmer temperatures and more frequent and severe droughts are expected to increase, and they may also contribute to increased wildfire risk across forests." (FEIS, pp. 3-28 and 3-29).

All action alternatives include adaptation measures to respond to these changes (FEIS pp. 3-21 through 3-22). These include "Managing ecosystems in the face of climate change focuses on maintaining or creating resiliency and adaptability. In the face of climate uncertainty, maintain a suite of adaptation and mitigation options, focusing on sustaining process and function" (p. 3-21), "Anticipate and plan for disturbances from intense storms" (p. 3-22), and "Consider and address future climate and potential species range shifts when planning restoration projects, facilitating species migration and adaptation when possible" (p. 3-22). By including these desired conditions and management approaches, the action alternatives are more responsive to changing climatic conditions than Alternative A" (p. 3-22). In addition, the FEIS includes the management strategy to "Decrease forest densities and fuel conditions to reduce the risk of large, stand-replacing disturbance from insect, disease, and fire" (p. 3-27). The Plan addresses helping rare and range-edge species adapt to climate change (pp. 3-342 to 3-344).

The Forest Plan, p. 31 includes consideration of climate change on natural disturbances and describes the Desired Condition under CC-DC-01: "The Nantahala and Pisgah are resilient to disturbance regimes allowing for adaptive capacity of landscape level plant and animal communities to respond to climate changes." The management approaches to climate change include "[a]nticipate and plan for changes in natural disturbance patterns." (Forest Plan, p. 32).

The draft ROD, p. 18 also addresses these issues, noting that "Alternative E positions the Nantahala and Pisgah NFs to address the challenges that we anticipate in the next 20 years. The impacts of development pressure on adjacent private lands; unprecedented increase in recreation; the growth of wildland urban interface; the spread of insects, disease, and invasive species; and the impacts from climate change are going to escalate. In this time of accelerated change, ensuring our forest ecosystems are healthy and resilient is critical to long-term sustainability of the diverse habitats these forests provide for wildlife and plants, and for supplying the clean water and other ecosystem benefits that we all depend on." The draft ROD, p. 24 also notes that "The plan will also provide the flexibility to adapt to changing conditions in the face of climate change. The FEIS explains that potential for severe storms is expected to increase in the future, with potential flooding and landslides in mountainous landscapes. Plan components that focus on



visitor safety and ecological resiliency address this from multiple angles [...] and broadscale monitoring questions are poised to help us recognize when we need to adapt our management.”

The objector’s assertion that “The agency's timber models justify increases in timber harvest levels by assuming there will not be an increase in climate change-driven disturbances” warrants clarification by the Forests. Appendix D documents that the Forests analyzed five scenarios, including Scenario 1. This scenario assumes that the rate of disturbance by decade seen for the past 50 years (shown in Table 9), will cycle over the planning horizon (p. D-19), although it is worth noting that the acreage displayed in Table 9 represents disturbances severe enough to reset succession. In addition, Appendix D, p. D-19 also documents that scenarios 2, 4 and 5 as well as the sensing project using ST SIM also provided information that helped frame the uncertainties in estimating disturbance regimes in the future due to changing climates. Because the rate of disturbance increased for each of the last four decades and more than doubled between the first and fifth decade of the comparison period, this implies a substantial decline in the rate of disturbance projected over the next thirty years, compared to what has been seen in the last twenty. Moreover, this pattern would cycle, so the rate of disturbance 50, 100, and 150 years from now would all be set back to the first-decade levels.

As the FEIS describes, impacts from disturbances in the Forests are experiencing increased threats from fire, insect and plant invasions, disease, extreme weather and drought, which, when coupled with increased temperatures and changes in rainfall can make these threats occur more frequently, intensely and be of longer duration (FEIS, p. 3-19). Appendix D, p. D-23 concludes that “Increases in amounts of natural disturbances that create young forest would likely affect management goals in the next couple of planning cycles, but for this planning cycle the desired conditions and objectives are less affected by the climate scenarios. Assumptions about future scenarios are that increases in wildfires that result from droughts brought on by rising temperatures could be the dominant change process of natural disturbances. Acreages impacted from storms and insect and disease could rise but would be less of the driver of change compared with wildfire” and that wildfire effects on the model results in assigning more land to young forest patch creation from natural disturbances, which would reduce regeneration harvest prescriptions for even-aged and shelterwood management in xeric and moderate moisture classes. It is also unknown how many natural disturbances would re-occur in the same area that would sustain young forest conditions. Appendix D, p. D-23.

Appendix D states that Scenario 1 for Alternative E because it was better grounded in the available data than other scenarios, which required extrapolating future changes, where uncertainty is greater. However, they stated that all scenarios are considered as a package of information in order highlight uncertainties associated with climate change. “This scenario was modelled in Alternative E because it is based on the available data or research for the southern Blue Ridge ecoregion” (Appendix D, p. D-19). It would be helpful to clarify how the other scenarios and use of ST SIM were used to inform the results of vegetation modeling for Alternative E.

In the discussion of the natural range of variability, the Forests note that land use in western North Carolina changed from pre-European settlement. Prior to settlement, the forests were dominated by large trees that survived to ages of 300-500 years, with mortality of canopy trees



occurring at low rates due to infrequent natural disturbances with return intervals in the hundreds of years, which is longer than the current forests have even existed. FEIS, Appendix D, p. D-14 and D-15. As such, applying NRV to the forest landscapes of today is challenging, but was used to recognize and map ecological types (ecozones) and help guide the development of plan components that will help restore ecological integrity in the future. FEIS, Appendix D. p. D-15.

The analysis notes that the estimates of disturbance over the last 50 years represent the best scientific information available for long-term disturbances on the Forests, given that the majority of the forest stands are less than 120 years. FEIS, Appendix D, p. D-19 and FEIS, p. 3-117. The FEIS, Appendix D notes that “If the estimates of young forest patch using 2017 LiDAR are representative, then the future estimates of natural disturbances in Alternative E are much higher than current,” with estimates 27-202% higher than was observed in the LiDAR study (Appendix D, pp. D-19 to D-20). Therefore, while this scenario might seem to underestimate the likely increase in disturbances over time, it is still projecting a greater amount of disturbance than was seen in the available empirical data.

The FEIS and Appendix D could be clearer that the purpose of these scenarios was to present a package of information to highlight uncertainties associated with climate change, and specifically to see if higher rates of disturbance would affect the model results, and thus planned management actions.

Forest staff stated in a February 15, 2022, modeling presentation and question and answer session that even though the other scenarios included much higher rates of disturbance, these did not affect planned management actions in this model in the first 20 years of the plan (Modeling presentation February 15, 2022). Significant changes did not appear until 40-50 years into the planning cycle, with major changes appearing 100+ years in. This is summarized in Appendix D, p. 23 which states that “Increases in amounts of natural disturbances that create young forest would likely affect management goals in the next couple of planning cycles, but for this planning cycle the desired conditions and objectives are less affected by the climate scenarios.” The Forests conclude by stating for this planning cycle, the desired conditions and objectives are less affected by the climate scenarios and that beyond the initial planning cycle, specific plans will be shaped by adaptive management, concluding that “A monitoring program is needed to track changes from natural disturbances throughout the planning period. Then, the next planning cycle and beyond would have better information for adjusting (or sustaining) management goals” (Appendix D, p. D-23). The Forest Plan, p. 3 notes that “An adaptive forest plan recognizes that there is always uncertainty about the future of natural systems and the timing and type of disturbances.” Indeed, one of the monitoring questions (MQ 6-5-T2) looks at disturbances (number, type, degree, and proportion that are natural disturbances), and the effects of these on a variety of resource areas and ecological values (Forest Plan, p. 297). The results of this monitoring will shape future management actions on the Forests.

Objectors also point out the apparent conflict between different sections of the planning documents, stating that the “agency cannot assume there will be an increase in wildfires to justify management activities for purposes of carbon storage, and at the same time assume there will not be an increase in wildfires, to justify the same management activities for purposes of achieving NRV.” Again, the sensitivity analysis showed that the selected scenario did not affect



management decisions in the model for the current planning cycle, but as written it is easy to see how this could cause partners and the public to misunderstand the Forests' expectations around future climate change impacts on the Forests.

In sum, the FEIS compares harvests and natural disturbances extensively, including the history, roles, and comparison of the effectiveness in achieving plan goals. The response to comments documented consideration of the objector's concerns, noting that "Based on comments received at draft, the team re-reviewed assumptions about natural disturbance using best available science from academic literature and forest records between draft and final, updating modeling assumptions to reflect the latest information" and that "This EIS analysis does not support the commenter's assertion natural disturbances alone are sufficient for moving ecosystems toward desired conditions during the life of the plan" (Appendix A, pp. 37-39).

Objectors ask that the Forests better describe the reasons for their selection of disturbance Scenario 1 in the Spectrum model; as noted above, clarification by the Forests would better explain that the purpose of exploring different disturbance scenarios was to perform a sensitivity analysis, to see whether the choice of scenario affects management decisions. As Appendix D, p. D-23 and the Forest Plan, p. 297 note, monitoring and adaptive management will affect future management decisions, and the selection of Scenario 1 does not lock the Forests into a particular management path. The Forests can and will change future plans depending on conditions on the ground, including natural disturbance events that occur over the life of the Forest Plan. Providing this additional information will make the Forest's position clearer and will help to reduce confusion about the Forest Service's expectations regarding future disturbance trends.

Objectors contend that the Forest Service should provide a full accounting of the Forests' role in sequestering carbon, along with the cumulative impact of management and disturbance trends across the National Forest System; The Forest's role in sequestering carbon is described extensively in the FEIS, including discussion of cumulative effects (pp. 3-22 to 3-32). Appendix A includes a comment requesting an analysis of cumulative impacts of carbon "within the context of the total carbon impact contributions from the National Forest System." The Forest Service responded that the scale of analysis used is appropriate, and that "Conducting an analysis at other scales is beyond the requirements of the planning process" (Appendix A, p. 14).

The objectors also assert that "The agency fails to disclose that its timber harvest program will disproportionately focus on mesic forest types that are not at high risk for wildfire, creating a significant additive loss of carbon." Tables 40-41 provide the acreage modeled with regeneration prescriptions for Alternative E by moisture class for tiers 1 and 2 (FEIS, pp. 3-123 through 3-124), showing that the largest acreages are in moderate moisture classes. Appendix D, p. D-23 describes that "The effect of wildfire on the vegetation model is to assign more land to young forest patch creation from natural disturbances. This reduces the opportunity in the xeric and moderate moisture classes to be assigned to regeneration prescriptions for even-aged and shelterwood management. In order to sustain management goals for regeneration and sustain a high level of young forest, there is a shift to more mesic sites where more uneven management would be applied."



Furthermore, as was stated in the carbon section of the FEIS, “With maximum intensification, potential management actions would affect up to less than five percent of the forested area and much less than 1 Tg C annually. The Tier 2 action alternatives will not significantly, adversely, or permanently affect forest carbon storage but rather would achieve a more resilient forest condition that will improve the ability of the Forests to maintain carbon stocks and enhance carbon uptake, possibly reducing potential carbon emissions in the future” (FEIS, p. 3-31). Given that “[a]ll of the plan alternatives are projected to contribute negligibly to overall GHG emissions” (p. 3-31), the change in carbon emissions due to timber harvest reducing the likelihood of future wildfires for planned mesic sites, compared to what these would have been in xeric sites, would be even more negligible.

Finally, the Forest Plan considers interactions between rare species and climate-related disturbances; for example, “without plan components to protect and conserve rare species, persistence of rare animal species with greater than 50% of known occurrences within high elevation habitats is particularly susceptible to potential effects of environmental stressors like climate change and/or acidic deposition” (FEIS, p. 3-303). “Plan components to protect unique habitats and streamside forests are present in the revised forest plan [...]. The Forest Plan also includes direction that requires project-specific surveys for rare species when existing data and knowledge is insufficient to make sound management decisions” (FEIS, pp. 3-303 to 3-304, Forest Plan, p. 80 and 83). In addition, the FEIS documented that “Appendix C identifies the association of rare animals with coarse filter elements such as ecozones, unique habitats, and species groups and potential effects of the proposed revised forest plan on habitat for rare animals are inferred from these associations” (p. 3-334). “While rare species occur within areas of the forest that are impacted by timber harvest, recreation use and climate change, the revised plan includes plan components to mitigate these impacts where possible and ensure that the plan is providing for persistence within Forest Service authority and consistent with the inherent capability of the plan area. Plan components are provided for all of the species of conservation concern and federally listed species” (p. 3-344). Given the plan components, rare species and their interactions with climate change and disturbance are already considered by the Forest Plan to the extent required.

**Instruction(s):**

**Clarification:** Clarify the purpose of exploring different disturbance scenarios, how they relate to the Spectrum model and explain how the results of the scenarios can be interpreted in relation to the Alternative analysis that used Scenario 1 (Climate Change, Issues 3, 4).

**Clarification:** Provide an all-in-one-place explanation of the process and rationale behind the disturbance analysis presented in Appendix D (Climate Change, Issues 3, 4).

Describe the results of the different scenarios, including relevant figures or tables if available, to support the statements that the choice of disturbance scenario did not have significant effects on the modeled management actions within the first planning cycle.

Avoid language referring to large disturbance events in recent years as ‘anomalies’ (Appendix D, p. 22), since it is stated elsewhere that these types of events are likely to increase in the future.



## **Issue 4: Climate Modeling**

**Objector(s):** Southern Environmental Law Center et al.

The Objector contends that "climate modeling was not incorporated into Spectrum or otherwise used to inform analysis of plan effects". They allege that the Forests violated NEPA, because they did not consider the cumulative effects of climate-driven disturbances and their own actions, which in their opinion "amounts to failure to use the best available science, which shows climate change will make fire and storm events more severe." Also, they don't trust that the agency considered relevant factors when conducting their modeling. Objectors are worried that the "Plan will create an age-class distribution that is not resilient to increasing (or even current levels of) natural disturbance because the agency failed to consider climate change."

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

#### **Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

FEIS, pp. 3-10 through 3-22; 3-107 to 3-108, Physical Resources: Climate and Carbon section and Biological Resources: Terrestrial Ecosystems: Background.

FEIS Appendix D, (historical: pp. D-11 through D-19, future: pp. D-19 through D-23).

Draft ROD, p. 63: The ROD describes the best available scientific information on climate change, including climate modeling.

#### **Response**

The objector asserts that climate modeling was not incorporated into Spectrum or otherwise used to inform analysis of plan effects. The record documents that climate modeling was incorporated into Spectrum, as documented in the FEIS, which states that "In addition to modeling the EIS alternatives, several climate scenarios were developed that changed the natural disturbance patterns. This was used to estimate potential changes to management goals under different levels of natural disturbances" (FEIS, p. 3-108). The draft ROD documented that "Disturbance patterns were adjusted to for several climate scenarios in order to sense how changes in disturbances could affect management goals as cited in the revised plan" (draft ROD, p. 61). The future disturbance scenarios are described in Appendix D, pp. D-19 through D-23. Scenarios 2 and 4 both assume an increasing rate of disturbance, based on different assumptions. Scenario 5 was



built by calculating the median from 10 future scenarios based on five climate models and two emissions scenarios. Future disturbances were also added into the natural range of variation (NRV) model using State and Transition Simulation (ST-SIM) software, for comparison purposes (FEIS, p. 3-108).

Climate was discussed in the FEIS on pp. 3-10 through 3-22. The analysis includes the use of modeled temperature and precipitation, as well as models of resilient sites for terrestrial conservation. Additionally, a “meta-analysis of peer-reviewed literature describing effects on key resources” (FEIS p. 3-10) was conducted, incorporating the results from other climate models. Consideration of climate is woven throughout the planning documents; one of the specific reasons for the updating the plan identified in the 2014 Need for Change was to “Include plan direction regarding potential climate change impacts such as increases in storm events, flooding, wildfires, and other extreme weather” (FEIS p. 1-5).

The draft ROD, p. 63 summarizes the best available scientific information on climate, which was used in the Plan, documenting that “The most reliable and relevant information about climate change was provided by the Southern Research Station, Eastern Forest Environmental Threat Assessment Center. Scientific information considered during the plan assessment was based on a comprehensive review and synthesis of peer reviewed literature and modeling results available through the “Template for Assessing Climate Change Impacts and Management Options” (TACCIMO; Treasure et al. 2014). The climate summary in the Environmental Impact Statement is based on climate models originally developed for the United Nations Intergovernmental Panel on Climate Change, downscaled by Pierce et al. (2014) and available from the USDA Southeast Climate Hub’s Climate by Forest tool, which is an adaptation of the National Oceanic and Atmospheric Administration’s Climate Explorer.”

More specifically, the objectors state that the Forest Service “fail[ed] to consider how that [increasing disturbance] scenario would interact with the Plan’s effects, and particularly the effects of timber harvest. [...] The climate-realistic scenario was simply never fed into the Spectrum model.” This is inaccurate, but it is possible to see how the objectors got this impression. See the response to Climate Change Issue 3: Climate Change and Disturbance. As noted above, the Forests did consider how scenarios incorporating an increased rate of disturbance due to climate would interact with the Plan’s effects. However, the objector’s confusion on this point is understandable. Clarification on how the climate scenarios were used would help to resolve this issue.

Objectors claim that “Forests did not consider the cumulative effects of climate-driven disturbances and their own actions, in violation of NEPA” is refuted by the analysis in the FEIS, which shows that climate-driven disturbances were considered in the Spectrum model as part of a sensitivity analysis, which concluded that the disturbance scenario used did not significantly affect management actions in the first planning cycle. FEIS, Appendix D, p. D-23. Cumulative effects in the context of climate change on the Forests is addressed in the FEIS (p. 3-22). The objectors concern that early successional habitat will be overrepresented, while mid- and late-aged forests are underrepresented over time as the plan is implemented due to impacts from natural disturbances on old forests is addressed by monitoring and adaptive management (described above) and emphasizes the importance of including this in the Forest Plan. If there is



an increase in climate-driven disturbance, either gradually or suddenly, the Forests can adjust management in order to achieve the desired conditions laid out in the Plan. “Within the constraints of this forest plan, management adapts to achieve the vision that the forest plan lays out. Decision making is informed by feedback from monitoring that actively tests assumptions, tracks relevant conditions over time, and measures management effectiveness” (Forest Plan, p. 1).

Finally, objectors state that “[t]he Plan leaves no buffer of resilience for these future events.” In fact, resilience to disturbances is a major component of the Forest Plan, as described in Desired Condition CC-DC-01: “The Nantahala and Pisgah are resilient to disturbance regimes allowing for adaptive capacity of landscape level plant and animal communities to respond to climate changes” (p. 31). All action alternatives include adaptation measures to respond to these changes (FEIS, pp. 3-21, 3-22 and 3-27). These include “Managing ecosystems in the face of climate change focuses on maintaining or creating resiliency and adaptability. In the face of climate uncertainty, maintain a suite of adaptation and mitigation options, focusing on sustaining process and function” (p. 3-21), “Anticipate and plan for disturbances from intense storms” (p. 3-22), “Consider and address future climate and potential species range shifts when planning restoration projects, facilitating species migration and adaptation when possible” (p. 3-22), and “Decrease forest densities and fuel conditions to reduce the risk of large, stand-replacing disturbance from insect, disease, and fire” (p. 3-27). Finally, “By including these desired conditions and management approaches, the action alternatives are more responsive to changing climatic conditions than Alternative A” (p. 3-22).

**Instruction(s):**

See instructions from Climate Change Issue 3: Climate Change and Disturbance Regimes.

**Issue 5: Carbon Sequestration**

**Objector(s):** Center for Biological Diversity; Southern Environmental Law Center et al.

Objectors would like the Forest Service to provide a full account of the Forests role in sequestering carbon, along with the cumulative impact of management and disturbance trends across the National Forest System. Another objector claims the "Forest Service assumes that each acre of the forest stores an equal amount of carbon, blinding itself to the carbon tradeoffs between different forest plan alternatives, harvesting locations, and harvest strategies". They also allege that the agency has "never assessed the cumulative effect of its timber program on carbon storage and emissions and refuses to do so."

An objector claims the agency's assessment of the role of wood products in carbon storage is incomplete. They also believe the agency's "hard look" is vague and there are incomplete characterizations regarding the role of wood products in sequestering carbon, because of what is documented in the Final Environmental Impact Statement (FEIS). The "FEIS presents wood products as having a carbon benefit, without disclosing that harvesting live biomass and converting it to wood products emits significant amounts of carbon to the atmosphere". The objectors "agree with the agency that carbon can be stored in wood products for varying periods



of time "depending on the commodity produced and end use," but forthright analysis requires disclosure of the fact that conversion of trees to wood products results in emission of most of the carbon stored in the trees shortly after harvest."

### **Remedy(s) proposed by Objectors**

- To cure these deficiencies, the agency must complete additional analysis to satisfy its obligation to take a hard look at the direct, indirect, and cumulative effects of the plan on carbon storage and emissions—particularly, comparing the carbon costs of the plan's strategy to emphasize harvest in mesic ecozones with the "pacing," or "trigger" mechanism recommended by the Pisgah-Nantahala Forest Partnership to ensure that ecologically appropriate levels of work are happening in dry ecozones.
- The agency must also commit to project-level tracking of carbon storage effects in order to confirm the agency's plan-level assessment and ensure plan implementation is not having unexpected outcomes.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

### **Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

FEIS, p. 3-22 and p. 3-32 includes a qualitative and general description of how the proposed management actions might impact carbon stocks and emissions based on the best available science. The section includes a discussion of forest carbon in the plan areas, including its role in the global carbon cycle. It also describes qualitatively how past and current management practices and environmental factors might influence carbon stocks and fluxes, including emissions.

FEIS, p. 3-24 to 3-25 includes quantification of baseline carbon stocks over a recent period from 1990-2013 for all forests in the state, including the forests included in this FEIS.

FEIS, p. 3-26 through 3-32 has an extensive discussion regarding carbon emissions related to direct, indirect, and cumulative effects.

FEIS, Appendix A: Response to Comments addresses numerous concerns related to carbon (p. 8-17).

Forest Plan, pp. 31-32 includes a section on climate change.



Forest Plan, p. 296 includes monitoring questions related to carbon and climate change (MQ 6-4-T1; MQ 6-3-T1).

## Response

Objectors would like the Forest Service to provide a full accounting of the Forests' role in sequestering carbon, along with calculating direct, indirect, and cumulative effects of the plan on carbon storage and emissions. The objectors claim that while any single project has a small effect on carbon storage at the global scale, the sum of all projects on the National Forest System has a weighty effect on atmospheric carbon concentrations. Closely tied to this issue, is that the objectors want the Forest Service to commit to project-level tracking of carbon storage effects.

As stated in the FEIS, there is no applicable legal or regulatory requirements or established thresholds that exist for management of forest carbon or greenhouse gas (GHG) emissions. Because the potential direct and indirect effects of alternatives would be negligible, the contribution of the plan's proposed actions to cumulative effects on global atmospheric GHG concentrations and climate change would also be negligible. Furthermore, there is no requirement for project level tracking of carbon storage effects because any carbon emissions that occur during the initial implementation of management actions (e.g., harvest, thinning, prescribed fire) would only have a temporary influence on atmospheric carbon concentrations as initial emissions would be negligible and removed from the atmosphere over time as the forest regrows. Additionally, the Forests also include a monitoring question in place to track the status and trend in carbon stocks every four years (Forest Plan, p. 296, MQ 6-4-T) and another monitoring question in place to track the effect of management action on a changing climate every five years (Forest Plan, p. 296, MQ 6-4-T).

In a similar vein, the objectors would like the Agency to quantify differences in carbon emissions in plan alternatives. The objectors claim that "NEPA demands a credible accounting to support a comparative analysis between Alternative A and the different tiers of the action alternatives." The FEIS includes a credible explanation of the differences in carbon emissions among plan alternatives qualitatively and is based on the best available science (FEIS p. 3-29 – 3-31). Also, the proposed alternatives will not convert forest land to non-forest uses. As stated in the FEIS: "the largest source of GHG emissions in the forestry sector globally and within the United States is deforestation, defined as the removal of all trees on forested land to convert it to other land uses. Maintaining forest land is necessary to ensure carbon storage over time and to realize potential carbon benefits from management activities through regrowth ... Under all plan alternatives, the Forests would remain as forests and managed to maintain a vigorous and healthy condition" (FEIS p. 3-29). Any further quantitative analysis of the alternatives would likely fail to detect statistically significant differences among the alternatives as uncertainty is very high at such small scales and would not provide meaningful information to the decision given current laws and regulations. Again, the FEIS adequately and accurately describes these potential effects and is warranted in not including a quantitative analysis of the effects of the alternatives.

The objectors also took issue with the agency's assessment of carbon stored in harvested wood products and would like the FEIS to disclose that harvesting live biomass and converting it to wood products emits significant amounts of carbon to the atmosphere. The FEIS states very



clearly what the initial impacts of management actions are on carbon: “The proposed actions will initially decrease carbon stocks and cause carbon emissions. However, these effects will be very small and transitory. The initial small adverse effects on carbon by these proposed actions will likely be balanced, and possibly eliminated or reversed, in a relatively short time. Negative effects will be offset when the forest stands in the proposed managed area regenerate and recover, as well as by facilitating carbon storage in HWPs” (FEIS p. 3-27). The FEIS also uses the best available science to adequately and accurately describe, that carbon stored in harvested wood products is one of many co-benefits that our management activities could have on carbon uptake and storage. Any further quantification of carbon stored in harvested wood products is not required by current law and policy and is beyond the scope of the FEIS. The FEIS states: “Over the longer term, the activities proposed in the plan are likely to increase carbon storage and reduce emissions. These net outcomes would be the cumulative result of forest regrowth, enhanced productivity of young stands and growth releases from lightly thinned stands, reduction in the risk of high-severity wildfires, carbon storage off-site in products, and substitution benefits of wood products and wood-based energy” (FEIS p. 3-32).

Objectors believe the Forest Service must complete additional analysis to satisfy its obligation to take a hard look at the direct, indirect, and cumulative effects of the plan on carbon storage and emissions—particularly, comparing the carbon costs of the plan's strategy to emphasize harvest in mesic ecozones with the "pacing," or "trigger" mechanism recommended by the Pisgah-Nantahala Forest Partnership to ensure that ecologically appropriate levels of work are happening in dry ecozones; the analysis complies with the 2012 Planning Rule, Forest Service direction (FSH 1909.12.4), and Forest Service guidance on climate change with respect to considering carbon. As explained above, any direct, indirect, or cumulative effects of the plan on carbon storage and emissions are negligible.

Ultimately, the analysis conducted within the FEIS is appropriate and complies with all existing laws, regulation, and policy. The analysis complies with the 2012 Planning Rule, Forest Service direction (FSH 1909.12.4), and Forest Service guidance on climate change with respect to considering carbon.

Please see additional discussion around this topic in Climate Change Issue 7: Carbon Storage and Emissions Analysis and Effects, and Climate Change Issue 8: Carbon Sequestration and Cumulative Effects.

**Instruction(s):** None.

## **Issue 6: Carbon Analysis**

**Objector(s):** Southern Environmental Law Center et al.

The objector alleges that the FEIS fails to correct the errors identified in their comments and leaves the analysis in the DEIS largely unchanged. They state the agency "attempts to defer required analyses, stating "[c]limate change impacts, tradeoffs, and cumulative effects would be considered in project-level environmental analyses." FEIS App. A at p. 15."



Objector documented that "We pointed out numerous flaws in the agency's carbon analysis in our comments on the DEIS. First, we demonstrated that the agency's disclosure of the role of harvested wood products in storing carbon was incomplete which led the agency to miss tradeoffs between storing carbon in ecosystems and timber harvesting. See DEIS Comments at p. 231-35. The DEIS's finding that reductions in carbon stocks would be "offset . . . by facilitating carbon storage in [harvested wood products]" overstated the role that wood products play in storing carbon. Particularly problematic was omission of the agency's assessment-phase finding that 57% of the carbon stored in harvested wood is emitted to the atmosphere in the first decade following harvest."

Objectors assert that they "demonstrated that by assuming each alternative would have the same effect on carbon storage and emissions, the agency masked differences between the alternatives thereby preventing meaningful comparison. See DEIS Comments at 236-38. While each alternative called for similar levels of timber harvesting and prescribed burning (by acreage), the spatial distribution of these activities was different under each alternative. As a result, some alternatives disproportionally focused harvesting in carbon-dense older forests, making the agency's assumption that each alternative would have the same general impacts invalid and inadequate to compare alternatives."

Objector "explained that the agency's analysis failed to forthrightly inform the public about the carbon costs of increasing management activities. See DEIS Comments at 236-38. This error stemmed in part from using vague, undefined timeframes and from a refusal to use tools such as the social cost of carbon protocol to clearly explain tradeoffs. Particularly problematic was the agency's assertion that increased CO<sub>2</sub> emissions from logging would be "eliminated or reversed, in a relatively short time." DEIS at 69. This "relatively short time" is decades or centuries; it is also the same window when it is most critical that we reduce atmospheric CO<sub>2</sub> levels. The agency omitted that context which was necessary to its "hard look"."

Objector also "notified the agency that its carbon cumulative effects analysis fell short of NEPA's requirements. See DEIS Comments at 240-42. This shortcoming was particularly problematic because the agency has never assessed the cumulative effect of its timber program on carbon storage and emissions."

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

40 CFR 1503.4 requires Federal agencies to assess and consider comments both individually and collectively, but do not require a point-by-point response. If a number of comments are identical or very similar, agencies may group the comments and prepare a single answer for each group. Comments may be summarized if they are especially voluminous (CEQ Forty Most Asked Questions). An agency may respond by one or more of the following possible responses (40 CFR 1503.4):

- Modify alternatives including the proposed action
- Develop and evaluate alternatives not previously given serious consideration by the agency.



- Supplement, improve, or modify its analyses.
- Make factual corrections.
- Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons, which support the agency's position and, if appropriate, indicate those circumstances, which would trigger agency reappraisal or further response.

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

## **Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

FEIS, p. 3-22 and p. 3-32 includes a qualitative and general description of how the proposed management actions might impact carbon stocks and emissions based on the best available science. The section includes a discussion of forest carbon in the plan areas, including its role in the global carbon cycle. It also describes qualitatively how past and current management practices and environmental factors might influence carbon stocks and fluxes, including emissions.

FEIS, p. 3-24 to 3-25 includes quantification of baseline carbon stocks over a recent period from 1990-2013 for all forests in the state, including the forests included in this FEIS.

FEIS, p. 3-26 through 3-32 has an extensive discussion regarding carbon emissions related to direct, indirect, and cumulative effects.

FEIS, Appendix A: Response to Comments addresses numerous concerns related to carbon (p. 8-17).

Forest Plan, pp. 31-32 includes a section on climate change.

Forest Plan, p. 296 includes monitoring questions related to carbon and climate change (MQ 6-4-T1; MQ 6-3-T1).

## **Response**

While the objector claims that the FEIS fails to correct the errors identified in their comments on the DEIS and that the analysis in the DEIS largely unchanged, a review of the record found that the majority of their concerns were adequately addressed in both the response to comments on the DEIS and in the FEIS. They assert that the agency overstates the role that wood products play in storing carbon.

However, the review found that the FEIS addresses this concept in the Response to Comment, Appendix A, p. 9, which states that "The EIS analysis demonstrates that over the long term, proposed management activities generally maintain and improve forest health, and are likely to



increase carbon storage and reduce emissions on the Nantahala and Pisgah NFs. The EIS carbon section addresses the impact of timber harvest on climate change.” The FEIS also explains that carbon stored in harvested wood products is one of many co-benefits that management activities could have on carbon uptake and storage. Any further quantification of carbon stored in harvested wood products is not required by current law and policy. The FEIS states: “Over the longer term, the activities proposed in the plan are likely to increase carbon storage and reduce emissions. These net outcomes would be the cumulative result of forest regrowth, enhanced productivity of young stands and growth releases from lightly thinned stands, reduction in the risk of high-severity wildfires, carbon storage off-site in products, and substitution benefits of wood products and wood-based energy (IPCC 2007, McKinley et al. 2011, Keyser and Zarnoch 2012, Bergman et al. 2014, Skog et al. 2014)” (FEIS, p. 3-32).

Objector asserts that by assuming each alternative would have the same effect on carbon storage and emissions, the agency masked differences between the alternatives thereby preventing meaningful comparison.

The Forests responded directly to this comment, see Appendix A, pp. 8 through 10. Additionally, the FEIS includes a full explanation of the differences in carbon emissions among plan alternatives qualitatively and is based on the best available science (FEIS, pp. 3-29 through 3-31). Any further quantitative analysis of the alternatives would likely fail to detect statistically significant differences among the alternatives as uncertainty is very high at such small scales and would not provide meaningful information to the decision given current laws and regulations. This is also explained explicitly in the FEIS which states that “small differences in carbon impacts among management alternatives, coupled with high uncertainty with estimates of carbon stocks and fluxes, make the detection of statistically meaningful differences among alternatives highly unlikely” (FEIS, p. 3-26). The FEIS abides by current FS law and policy and is warranted in not including a quantitative analysis of the effects of the alternatives.

Objector states that “The Agency failed to forthrightly inform the public about the carbon costs of increasing management activities. Particularly problematic was the agency's assertion that increased CO<sub>2</sub> emissions from logging would be "eliminated or reversed, in a relatively short time."

The Forests responded directly to this comment, Appendix A, p. 9, stated that “The Forest Plan recognizes the role of maintaining forests to improve forest health and resilience to stressors, and to preserve many ecosystem services and co-benefits, including carbon uptake and storage. The background of the Plan's Climate Change has been modified to include language recognizing the forests' role in carbon sequestration and storage. In addition, Chapter 1 of the plan recognizes carbon sequestration as a benefit of the forest. Chapter 3 of the FEIS recognizes the ecosystem benefits of carbon sequestration”. Additionally, the FEIS accurately describes the carbon cost of management activities. For example, the FEIS states that “Relative to the contribution of all the world's forests to carbon flux, the influence of the Forests is extremely small, so a meaningful analysis at the global scale is not practical” (FEIS p. 3-23).

The FEIS further explains that “Many management activities initially remove carbon from the forest ecosystem, but they can also result in long-term maintenance or increases in forest carbon



uptake and storage by improving forest health and resilience to various types of stressors. Carbon can also be transferred and stored outside of the forest system in the form of wood products, further influencing the amount of carbon entering the atmosphere. Wood fiber can substitute for products that generate more GHG emissions to produce, such as concrete and steel, and it may be used as a renewable energy source (“substitution effect”). Substitution of wood for fossil-fuel intensive materials and energy can lower net carbon emissions” (FEIS p. 3-24). Finally, the FEIS puts into context how historic disturbances have impacted carbon sequestration, documenting that “Forests in the NFs in NC are maintaining a carbon sink; carbon stocks increased by 15 percent from 1990 (79.1±7.1 teragrams of carbon [Tg C])<sup>13</sup> to 2013 (91.1±11.3 Tg C) (Figure 14). This increase indicates that negative impacts on carbon stocks caused by disturbances and environmental conditions have been modest and exceeded by forest growth” (FEIS p. 3-24). The FEIS very clearly explains the role that management activities have on carbon.

The objector asserts that the agency’s carbon cumulative effects analysis fell short of NEPA’s requirements. The Forests responded directly to this comment in Appendix A p. 10, stating that “The carbon analysis presented in the EIS is based on best available science to consider forest management effects on carbon (see Appendix B). The analysis indicates that the carbon emissions from timber harvests are minor in the context of natural processes and global emissions. The EIS analysis demonstrates that over the long term, proposed activities are likely to increase carbon storage and reduce emissions (EIS Chapter 3). Cumulative impacts of carbon and climate change analysis are presented in the EIS, Chapter 3.” Additionally, the FEIS adequately addressed the NEPA requirements related to carbon cumulative effects.

The objector also states that “The agency’s assertion that carbon emissions from forest management activities will “be balanced, and possibly eliminated or reversed” is misleading.” Again, the Forests adequately addressed this comment in Appendix A p. 8-10. Also, the FEIS clearly explains the role that forest management activities have on carbon storage and is not misleading. The objectors are not taking a systems perspective of the forest ecosystem which is identified by the IPCC as the premier way to view the forest system. For example, the FEIS explains that: “The management mechanisms applied in all plan alternatives are consistent with internationally recognized climate change adaptation and mitigation practices identified by the IPCC (IPCC 2000, IPCC 2007)” (FEIS p. 3-32).

The FEIS also provides more context to why forest management activities will be balanced and possibly eliminated or reversed: “The proposed actions will initially decrease carbon stocks and cause carbon emissions. However, these effects will be very small and transitory. The initial small adverse effects on carbon by these proposed actions will likely be balanced, and possibly eliminated or reversed, in a relatively short time. Negative effects will be offset when the forest stands in the proposed managed area regenerate and recover, as well as by facilitating carbon storage in HWP’s” (FEIS p.3-27).

Ultimately, the Forests accurately and adequately responded to the objectors’ initial comments on the DEIS and is not in violation of 40 CFR 1503.4. Additionally, the analysis conducted within the FEIS is wholly appropriate and complies with all existing laws, regulation, and policy.



Please see additional discussion around this topic in Climate Change Issue 7: Carbon Storage and Emissions Analysis and Effects, and Climate Change Issue 8: Carbon Sequestration and Cumulative Effects.

**Instruction(s):** None.

## **Issue 7: Carbon Storage and Emissions Analysis and Effects**

**Objector(s):** Southern Environmental Law Center et al.

The objector argues "that the agency has not forthrightly assessed and disclosed the effect of the plan on carbon storage and emissions". They believe the "agency's disclosure of the effects of the revised plan on carbon storage and emissions relies on misleading assumptions that "impair the agency's consideration of the adverse environmental effects of a proposed project" and "skew the public's evaluation of a project." Hughes River Watershed Conservancy, 81 F.3d at 446. For the same reason, the FEIS fails to "provide full and fair discussion of significant environmental impacts." 40 C.F.R. § 1502.1 (1978 and 2020)". Also, they state "the root of this error is the agency's assumption that the carbon emissions resulting from implementation of the revised plan "will be very small and transitory . . . [and] will likely be balanced, and possibly eliminated or reversed, in a relatively short time frame." FEIS at p. 3-27."

The objectors do "recognize that the agency is not strictly required to complete a cost-benefit analysis to revise its forest plan, but it is required to disclose the effects of its actions and it may not "quantify an action's benefits while ignoring its costs where tools exist to calculate those costs." California, 472 F. Supp. 3d at 623. At minimum, use of the social cost of carbon protocol underscores that carbon emissions under the revised plan are not "very small" or "negligible".

The objector alleges that the Forest Service failed to take a "hard Look" at the direct and indirect effects of the revised forest plan on carbon storage and emissions. One reason is the agency masks tradeoffs by assuming carbon is stored equally across the forest. They argue that this is "unsupported by best available science which shows that older forests store more carbon than younger forests." It was also pointed out that "information provided during the assessment phase of forest planning—but omitted from the DEIS and FEIS—confirms that carbon is not stored equally across forest types. Instead, approximately 60% of the Forest's carbon is stored in just four forest types. Assessment Report at 82."

The objectors also believes that a quantitative analysis would aid the agency's consideration of carbon effects across alternatives. However, they state the agency cited 2009 Forest Service guidance to support its conclusion that "a quantitative analysis of carbon effects . . . is not meaningful for a reasoned choice among plan alternatives." FEIS at p. 3-26. Objectors disagree and feel this "guidance does not comport with law, because it unlawfully purports to allow cumulative effects to go unanalyzed." Additionally, they argue that this "guidance explains that "quantifying greenhouse gases emitted and/or sequestered may help choose between alternatives based on relative direct effects trade-offs" and that "Forest Service decisions having the potential to emit or sequester more greenhouse gases . . . may be best informed by quantitative analyses."



**Remedy(s) proposed by Objectors**

- Objectors believe that forest plan implementation will result in an increase in atmospheric CO<sub>2</sub> levels over the same period which the federal government and Intergovernmental Panel on Climate Change have identified as the most critical to reduce atmospheric CO<sub>2</sub> levels to avoid the worst impacts of climate change and that the Forest must “Appropriately contextualizing the forest plan's effects on carbon storage and emissions could lead the agency to choose a different alternative— for example, one that minimized carbon emissions by avoiding harvests in carbon-dense areas— and is necessary for the public to understand the agency's proposed action.”
- Objectors state that “At bare minimum, the Forest Service must provide a qualitative analysis of the different alternatives' effects on carbon storage and emissions. Such analysis must also include reasonable alternatives that the Forests have so far ignored— most importantly, the strategy of ensuring that a significant proportion of harvest activities are located in the drier systems most in need of restoration and least costly in terms of carbon. The agency cannot simply conclude that every alternative with similar harvesting levels will have the same effect or that increases in harvesting acreage will lead to proportional carbon effects. Those conclusions are not supported by best available science or other portions of the FEIS. They also stymie assessment of "tradeoffs between carbon and other services" and deny the public a meaningful opportunity to compare alternatives.”

**REVIEW FINDINGS****Law, Regulation and Policy**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

**Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

**Response**

The objectors have three main claims: 1) the agency has not forthrightly assessed and disclosed the effect of the plan on carbon storage and emissions 2) the Agency did not conduct a cost-benefit analysis using the social cost of carbon protocol and 3) the Agency did not conduct a cumulative effects analysis which could have informed the alternative that was chosen.

As stated in the FEIS, p. 3-22, there is no applicable legal or regulatory requirements or established thresholds that exist for management of forest carbon or GHG emissions. Furthermore, there is no requirement for project level tracking of carbon storage effects because any carbon emissions that occur during the initial implementation of management actions (e.g., harvest, thinning, prescribed fire) would only have a temporary influence on atmospheric carbon



concentrations as initial emissions would be negligible and removed from the atmosphere over time as the forest regrows.

The objector argues "that the agency has not forthrightly assessed and disclosed the effect of the plan on carbon storage and emissions". The objector also states that "The root of this error is the agency's assumption that the carbon emissions resulting from implementation of the revised plan "will be very small and transitory . . . [and] will likely be balanced, and possibly eliminated or reversed, in a relatively short time." The FEIS has accurately assessed and disclosed the effect of the plan on carbon storage and emissions, as documented in the response to Climate Change Issue 5: Carbon Sequestration and Climate Change Issue 6: Carbon Analysis.

The objectors also claim that the FEIS does not provide a full and fair discussion of significant environmental impacts. In ordinance with 40 CFR 1502.1 the FEIS does provide a full and fair discussion of significant environmental impacts and informs decision makers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment. This information can be found on pp. 3-29 through 3-31 of the FEIS. For example, p. 3-31 of the FEIS states "The maximum treatment area for harvests and thinning under Tier 2 of the action alternatives would be slightly higher in Alternative E because of the additional objective for thin and burn with Tier 2 levels of up to 900 acres annually. This would provide slightly more removal of metric tonnes of carbon per year at 170,000 metric tons."

Additionally, the objector provides their own quantitative overview of the long-term emissions associated with Alternative E; however, the sample analysis presented by the objectors is incomplete. The analysis presented by the objectors does not acknowledge emissions that would be offset by the substitution effect. Among other factors, the analysis does not account for the fact that the emissions are only temporary as the carbon will be sequestered back into the forest system as the trees regrow. Moreover, their analysis does not mention that the proposed management activities in Alternative E are a maximum estimate based on capacity and funding, that may or may not come to fruition. Finally, in multiple instances the objectors compare projected biogenic carbon emissions from Alternative E to emissions from fossil fuels energy (e.g., coal power plants). It is inaccurate to compare biogenic and fossil fuels emissions. When emissions from fossil fuels are released into the atmosphere, those emissions will be permanent as they can never be sequestered back into the system they came from. When biogenic emissions are released into the atmosphere (e.g., emissions from a prescribed fire), they can be temporary if the forest system regrows following the disturbance event. FEIS, pp. 3-24 through 3-32.

The objector also alleges that the Forests failed to take a "hard Look" at the direct and indirect effects of the revised forest plan on carbon storage and emissions by masking tradeoffs by assuming carbon is stored equally across forest, asserting that carbon is not stored equally across forest types. The FEIS includes the best available science regarding carbon density across the landscape. Page 3-25 of the FEIS explicitly states that "The greatest influence on current carbon dynamics on the Forests is the legacy of intensive timber harvesting and land clearing for agriculture throughout the 19th century, followed by a period of forest recovery in the early to mid-20th century. As a result, stands on the Forests are mostly middle-aged and older. Although older forests store more carbon and can continue to take up significant amounts of carbon even as they age, the rate of carbon uptake generally declines as forests age. Therefore, in coming



decades, aging stands on the Forests may have lower rates of carbon accumulation, although stocks are projected to continue to increase above current levels.” Also explained in the FEIS, the proposed management actions have a negligible effect on global atmospheric carbon concentrations (FEIS p. 3-31) which applies regardless of carbon density across the landscape.

The objector recognize that the agency is not strictly required to complete a cost-benefit analysis to revise its forest plan, but they claim that it is required to forthrightly disclose the effects of its actions and it may not "quantify an action's benefits while ignoring its costs where tools exist to calculate those costs." As recognized by the objectors, NEPA does not require a cost-benefit analysis (40 CFR 1502.22). The agency recognizes the existence of the SC-GHG tool, but also recognizes that the SC-GHG protocol states that it was “developed to assist agencies in meeting Executive Order (EO) 12866’s requirement to assess costs and benefits during the development of regulations.” The revision of a National Forest Plan is not completed to support the promulgation of a regulation. Additionally, the objectors claim that “At a minimum, use of the social cost of carbon protocol underscores that carbon emissions under the revised plan are not "very small" or "negligible". The SC-GHG is used to estimate the monetized damages associated with an incremental increase in carbon emissions each year. It includes (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change. Rather than using the SC-GHG protocol (which is not required), the FEIS uses the best available scientific information to qualitatively explain why emissions are negligible. See the FEIS, p. 3-31 which explains that potential management actions would affect much less than 1 Tg C annually and estimated emissions of GHGs in 2010 were  $13,336 \pm 1,227$  Tg C globally and 1,881 Tg C nationally and Appendix B which documents the methods and data that was used.

Finally, the objector claims that the agency’s carbon cumulative effects analysis fell short of NEPA and that the Forest Service failed to take a "hard look" at the direct and indirect effects of the revised forest plan on carbon storage and emissions. The FEIS followed NEPA regulations and CEQ guidance by providing a qualitative assessment of cumulative effects. The FEIS provides a rationale as to why it is unnecessary to provide a quantitative assessment of cumulative effects and the rationale behind this decision. For example, p. 3-32 of the FEIS explains: “Because the potential direct and indirect effects of alternatives would be negligible, the contribution of the plan’s proposed actions to cumulative effects on global atmospheric GHG concentrations and climate change would also be negligible... Potential negative effects are mitigated and may be completely reversed with time, reducing or eliminating potential negative cumulative effects on carbon.” Finally, quantifying the cumulative effects would not have impacted the agency’s decision to choose Alternative E. As stated in the response to comments, “an alternative that focuses on maximizing carbon sequestration was considered but not in detail in Chapter 2 of the EIS: (Appendix A; p. 14). This alternative was not considered in detail because it may have prevented the accomplishment of other climate adaptation and mitigation needs that arise during the planning period (FEIS p. 2-28).

**Instruction(s):**



**Clarification:** The Forests should update the response to public comment regarding an economic cost-benefit analysis or final decision to include the following paragraph for consistency and clarity on this issue:

“NEPA does not require a cost-benefit analysis (40 CFR 1502.22). The agency recognizes the existence of the SC-GHG tool, but also recognizes that the SC-GHG protocol states that it was “developed to assist agencies in meeting Executive Order (EO) 12866’s requirement to assess costs and benefits during the development of regulations.” The revision of a National Forest Plan is not completed to support the promulgation of a regulation.”

## **Issue 8: Carbon Sequestration and Cumulative Effects**

**Objector(s):** Southern Environmental Law Center et al.

The objector contends that the FEIS failed to take a hard look at the cumulative effects of its timber program on carbon storage and emissions. They state that the errors in the agency's cumulative effects analysis start by dismissing cumulative effects as "negligible," because "the potential direct and indirect effects of alternatives would be negligible." The plan's direct and indirect effects on carbon storage and emissions are not "negligible" according to the objectors and they mention, "Even if this plan's effects were too small to count (which they are not), the cumulative effects of the agency's timber sale program across the national forest system is not negligible." They conclude that this rationale is insufficient to comply with NEPA.

The objector has concerns with the agency's calculations of the total loss of non-soil carbon per acre. They state the calculations are not fully explained which has hampered their efforts to replicate them. They point out that "the agency has the data before it to quantify the carbon effects of its timber program here, and cumulatively."

Another issue the objectors assert is that the "project-level analysis is a poor vehicle for assessing the cumulative effect of the agency's timber program on carbon storage and emissions, and cannot substitute for the agency's inadequate analysis in the FEIS." They believe that the "agency always skips over meaningful analysis of cumulative carbon effects at the project level." They list three projects as examples, including the Buck Project, Southside Project and Mossy Oak Project, which they state use identical language to dismiss effects on carbon storage and emissions and focus the cumulative effects analysis on the project's analysis area.

### **Remedy(s) proposed by Objectors**

- The objectors suggest that the one "past, present, and reasonably foreseeable future action" the agency must account for in its cumulative effects analysis is its overall timber program.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**



Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant laws, regulations and policies.

### **Project Record**

Refer to Climate Change Issue 1: Climate and Carbon Storage Benefits of Old Forests for a list of relevant citations to the project record.

### **Response**

The objector claims that the FEIS failed to take a hard look at the cumulative effects of the Plan on Carbon Storage and Emissions. The errors in the agency's cumulative effects analysis start by dismissing cumulative effects as "negligible" because "the potential direct and indirect effects of alternatives would be negligible." In response, the analysis presented in the FEIS provides a qualitative calculation of cumulative effects of the plans proposed management actions and a rationale as to why this calculation was used. For example, p. 3-26 of the FEIS explains that "rather than focus here on a strict but uncertain quantification of potential future changes in carbon stocks and emissions, potential carbon impacts are discussed qualitatively, with supporting estimates where possible. This is accomplished by drawing on the quantitative analysis of the effects of past management activities on forest carbon stocks and fluxes, as well as through future-looking analysis where available (see Affected Environment)."

The FEIS also adequately describes the rationale as to why the impacts of the proposed management actions would be negligible in the context of global greenhouse gas emissions. For example, p. 3-32 of the FEIS explains that "Climate change is a global phenomenon, because major greenhouse gases mix well throughout the planet's lower atmosphere. Estimated emissions of GHGs in 2010 were  $13,336 \pm 1,227$  teragrams carbon globally (IPCC 2014) and 1,881 teragrams carbon nationally (US EPA 2015). All of the plan alternatives are projected to contribute negligibly to overall GHG emissions. The action alternatives are directed at a very small percentage of the total forest land on the Forests; even in the near-term, these alternatives would have a minimal direct effect on carbon emissions and carbon stocks relative to total carbon stocks in the Forests. Furthermore, considering the proposed actions in a global atmospheric CO<sub>2</sub> context, even the maximum treatment levels would contribute infinitesimally to GHG emissions and, therefore, would have a negligible effect on GHG emissions and climate change. Moreover, because local GHGs emissions mix readily into the global pool of GHGs, it is difficult and highly uncertain to ascertain the indirect effects on global climate of emission from multiple, generally small projects that make up these action alternatives. At the global and national scales, each of the plan alternatives direct and indirect contribution to GHGs would be negligible."

See the responses to Climate Change Issues 5, 6 and 7 for additional responses on consideration of cumulative effects to carbon and carbon emissions.

**Instruction(s):** None.



## HYDROLOGY AND SOILS

### Issue 1: Ephemeral Stream Protection

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Friends of Panthertown; North Carolina Forestry Association; Ruffed Grouse Society and American Woodcock Society; Center for Biological Diversity (CBD); Southern Environmental Law Center et al.

Objectors CBD and SELC point out that the FEIS acknowledges that local watersheds will continue to decline from sedimentation; buffers on perennial and intermittent streams, which are an improvement over the draft plan (but should still be wider), should be allowed to be expanded depending on site conditions such as slope, noting that the Forest Service has taken this approach on the George Washington, Cherokee, and Chattahoochee National Forests. Objectors assert that the Forest Service dismissed this approach in the response to comments and has no analysis to support this conclusion. Objector SELC also states that the FEISs brief discussion on streamside management zones does not explain why the buffer widths for perennial and intermittent streams were chosen in the Forest Plan.

Objector CBD then notes that "despite the agency's recognition of the importance of ephemeral streams and numerous comments urging the Forest Service to create similar buffers for ephemeral streams, these streams remain unprotected under the Final Plan. As explained earlier, this is a glaring deficiency in the FEIS and Forest Plan and one that could have significant consequences for numerous imperiled amphibian species, such as salamanders."

Objector CBD points out that without plan components, the management approach the Forest Service refers to on p. 49 of the Plan does not require the agency to take any action to protect ephemeral streams, because it is not a standard or guideline. Objector CBD states that the "management approach is also vague as it does not explain how temporary roads, skid trail crossings, and soil disturbance in these areas would be "minimized" and how vegetation would be retained for slope stability." Objector CBD contends that while the Forest Service suggests that best management practices (BMPs) will minimize impacts, the FEIS "does not explain how even if BMPs are stringently followed or "satisfactory mitigation measures have been designed" (see Standard SZ-S-02) sedimentation would not occur from operations located directly within an ephemeral stream where no buffer is in place. It is inconceivable in these instances that no sedimentation would occur because there would be no buffer zone in which to implement BMPs or other mitigation measures. The construction and operation activities would be within the stream. BMPs are cited as a solution, but their effectiveness changes with site conditions, they can be overwhelmed during storm events, and they are known to fail."

Multiple objectors then conclude that "the FEIS does not analyze the impacts of having no streamside zones for ephemeral streams nor does it identify the basis for the Forest Service's decision not to have these protections (FEIS at pp. 3-74-75). However, the best available science, which the Forest Service must base its decisions on under the 2012 Planning Rules, supports the need for buffers for ephemeral streams."



In contrast to the above support for buffers along ephemeral streams, Objector North Carolina Forestry Association objects to increased protection of ephemeral streams. In particular, they are concerned that standard WTR-DC-06 (p. 42 of the Forest Plan) is overly restrictive and such guidance should not be applied landscape-level. Objector Ruffed Grouse Society and American Woodcock Society also believe that ephemeral stream protection in the Plan should follow the North Carolina Forestry BMPs or not exceed the Forest Stewardship Council (FCS) Forest Management Standards for the Appalachia Region.

### **Remedy(s) proposed by Objectors**

- Analyze and adopt clearer protections for SMZs and ephemeral stream corridors, as well as a slope-dependent SMZ width or another equally protective standard.
- Enforceable standards and guidelines must be developed so that projects will not be subject to conflict over which activities are allowed and prohibited in SMZs and ephemeral streambeds.
- These plan components must be explained regarding the best available science, and the impacts of those choices must be analyzed in the FEIS.
- The Forest Service needs to establish buffers that are at least as protective as those found on other National Forests in the region.
- Require at least a 25-foot buffer for ephemeral streams.
- Prohibit logging within 100 feet of all waterways, including ephemeral streams.
- Include full and robust protections for ephemeral streams.
- Objector North Carolina Forestry Association's suggested remedy is to remove ephemeral stream channels from any Desired Conditions, Objectives, Standards, or Guidelines in the Forest Plan, including removing WTR-DC-06 located on page 42 of the Forest Plan.
- Objector Ruffed Grouse Society and American Woodcock Society's suggested remedy is to replace the Plan language with the Appalachia Region Forest Stewardship Council SMZs; the Plan could also include "very basic setbacks for channeled ephemerals based on the West Virginia BMP manual."

## **REVIEW FINDINGS**

### **Law, Regulation, and Policy**

36 CFR 219.3: "The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered."

36 CFR 219.8(a)(3)(ii): Plans must establish width(s) for riparian management zones around all lakes, perennial and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes.



36 CFR 219.8(a)(3)(ii)(A): Riparian management zone width(s) may vary based on ecological or geomorphic factors or type of water body; and will apply unless replaced by a site-specific delineation of the riparian area.

36 CFR 219.8(a)(3)(ii)(B): Plan components must ensure that no management practices cause detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment that seriously and adversely affect water conditions or fish habitat shall be permitted within the riparian management zones or the site-specific delineated riparian areas.

36 CFR 219.11(d)(2): Timber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged.

## **Project Record**

Streamside Zones - digest - draft to final, p. 2: “We also discussed that based on monitoring data an ephemeral zone is not needed.”

FEIS Appendix A, p. 23: “The Forests considered language for streamside zones in adjacent national forest plans and determined that an exact match to neighboring forest language will not meet the need for the Forests. In all action alternatives, the streamside zone is 100 feet of either side of (or perimeter around) perennial waterbodies (streams, ponds, and reservoirs) and 100 feet of perennial springs, bogs, and other wetlands. Between the draft and final plan, the distance of the streamside zone around intermittent streams was increased to 50 feet (from 15 in the current plan and proposed plan alternatives) to match the distance in which NC forest practice water quality guidelines apply. Ephemeral streams do not have a set streamside zone distance. In streams that flow only ephemeral, the streamside zone differs from perennial and intermittently flowing streams due to the lack of development of riparian and aquatic habitat features. Plan language was added in Alternative E to recognize that ephemeral flowing streams support an abundance of aquatic life and other beneficial uses of water, and are often headwater channels, connecting to a network of streams. Alternative E adds the desired condition that clarifies the role of ephemeral streams in sediment transport and adds plan management approaches to manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management.

We reviewed project-level monitoring, Forest Service and NC state requirements when updating the language from the current plan. The final plan language meets the desired conditions for restoring and maintaining ecosystems, riparian and aquatic resources, and protections for rare species while allowing forest management.”

Forest Plan, p. 42: WTR-DC-06 Emphasize the protection of all stream channels. Protect the integrity of perennial, intermittent, and ephemeral stream channels including their bed and banks.

Forest Plan, p. 47: two paragraphs discuss ephemeral streams in the Background section of Streamside Zones, “In streams that flow only ephemeral, the streamside zone differs from perennial and intermittently flowing streams due to the lack of development of riparian and aquatic habitat features. The Forests recognize that ephemeral flowing streams are often



headwater channels, connecting to a network of streams that support an abundance of aquatic life and other beneficial uses of water. Ephemeral water bodies are managed to retain their ability to filter sediment from upslope soil disturbances. Ephemeral watercourses are always above the water table and have short periods of flow in direct response to precipitation or snowmelt runoff, and they have enough energy to remove leaf litter, organic matter, and soil down to mineral soil. They do not contain riparian vegetation, fish, or aquatic insects with multiple-year larval life cycle phases.

Constructed drainage features, such as system road drainage ditches or ditches within parking areas, are not considered ephemeral channels. Channels caused as a result of increased storm runoff from man-made features (e.g., roads, trails, parking lots, etc.) are considered ephemeral channels only when they connect to the downstream stream network after leaving the constructed feature. Similarly, isolated areas or segments of ephemeral soil scour are not considered ephemeral channels, because they do not connect to the downstream stream network.”

Forest Plan, p. 49: Under Management Approaches states “Manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management.”

## **Response**

With regard for streamside zones for ephemeral streams, some objectors want to add plan standards and guidelines for ephemeral streamside zones. Other objectors want all references to ephemeral streams removed from the Plan. The regulation at 36 CFR 219.8(a)(3)(ii) requires riparian management zones for perennial and intermittent waterbodies. There is no requirement for riparian management zones for ephemeral streams.

The Forest Plan includes the desired condition WTR-DC-06 (p. 42) that emphasizes the protection of all stream channels and specifically includes ephemeral streams in the list of protected channels. The Forest Plan also talks about ephemeral streams in two paragraphs of the Background section of Streamside Zones (p. 47) and then on (p. 49), which discusses ephemeral streams using a management approach that manages ephemeral areas to reduce erosion and sedimentation by minimizing disturbance during activities. These actions in the LMP are also restated in the FEIS p. 3-75. Ephemeral streams are also specifically mentioned in Management Approaches for Transportation and Access (Forest Plan, p. 109).

The FEIS does not say that there would be “no sedimentation” in ephemeral streams. It states that the plan “adds plan management approaches to manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management.” FEIS p. 3-75. The Forests have disclosed how they would manage to reduce the risk of erosion (BMPs) in the National Core BMPs Veg-2.

The Responsible Official addressed ephemeral streams within the Forest Plan in several areas. Ephemeral streams are not required by law to have streamside zones. The Forests acknowledge ephemeral channels and discuss ephemeral areas in terms of Management Approaches that could



be used in these areas. There are no standards or guidelines specific to ephemeral streams, nor are any required.

As for Best Management Practices (BMPs) and sedimentation, in response to Objector CBD who is also concerned that "it is also not clear from the Final EIS if BMPs will be installed before logging units close and skid trails and temporary roads are no longer in use. If not, these BMPs would not mitigate adverse impacts incurred while timber units are open, which can last for several months," this would be addressed during project-level planning. BMPs that are included during project-level planning are carried into the timber sale contract, where applicable. There are also standard contract specifications that cover the timing of when temporary roads and skid trails must be closed and rehabilitated. These specific practices and contract provisions occur during project-level analysis, not programmatic analysis at the forest plan level.

As for the objector's concern regard static streamside zones, objectors contend that the Plan is deficient in its guidance because streamside zones are static and do not adjust for steeper slopes where more streamside zone distance may be warranted to protect water resources. They then give examples of this varying streamside zone distance in George Washington, Cherokee, and Chattahoochee National Forest Plans.

The regulation at 36 CFR 219.8(a)(3)(ii), (A) and (B) discusses requirements for riparian management zones and specifically mentions special attention within 100 feet of perennial waterbodies, and then states that widths may vary based on ecological or geomorphic factors or type of water body.

The Forest Plan includes streamside zones as a standard. Standard SZ-S-01 (Forest Plan, p. 48) specifically states a streamside zone as being 100 feet for perennial water features and 50 feet for intermittent streams and notes that "Narrowing of the above widths are allowed in special circumstances...".

In addition, TIM-S-04 (Forest Plan, p. 91) states that "Timber harvest shall occur only where: A site-specific finding determines that soil, slope, or watershed conditions would not be irreversibly damaged; and Protection is provided for streams, streambanks, shorelines, lakes, wetlands, and other bodies of water." The "site-specific finding" occurs during project-level analysis and means that timber harvest would occur only where soil, slope or watershed conditions are not irreversibly damaged, and that streambanks and waterbodies are protected.

An additional standard, TIM-S-07 (Forest Plan, pp. 92-93) requires the Forests to "Design, construct and maintain erosion control features to meet soil and water quality standards. In particular: a. Follow North Carolina performance standards as outlined in Forest Practices Guidelines Related to Water Quality (NC FPGs) by implementing effective soil and water Best Management Practices, such as those outlined by the North Carolina Forest Service. b. Plan forest management activities to minimize detrimental soil disturbance, stream crossings and avoid springs, seeps, and hydric soils..." This standard has a long list of requirements for timber harvesting operations that ensure protection of water and soil resources.



The response to comments also addressed this issue as noted above, documenting that in all action alternatives, “the streamside zone is 100 feet of either side of (or perimeter around) perennial waterbodies (streams, ponds, and reservoirs) and 100 feet of perennial springs, bogs, and other wetlands” and noting that “Between the draft and final plan, the distance of the streamside zone around intermittent streams was increased to 50 feet (from 15 in the current plan and proposed plan alternatives) to match the distance in which NC forest practice water quality guidelines apply.”

During the review, the language that describes the plan change on both FEIS, p. 3-75 and Appendix A, p. 31 incorrectly indicates that “ephemeral streams support an abundance of aquatic life.” This should be corrected to reflect what the Forest Plan, p. 47 actually states, which is that “The Forests recognize that ephemerally flowing streams are often headwater channels, connecting to a network of streams that support an abundance of aquatic life and other beneficial uses of water.” It is the downstream network, rather than the ephemeral streams themselves that are the source of abundant aquatic populations.

The Planning Rule does not require streamside zones to vary by slope. For the Nantahala and Pisgah NFs, the Responsible Official does vary streamside zone width between perennial and intermittent waterbodies. The Forest Plan does include timber harvesting standards that require not irreversibly damaging soil, slope or watershed conditions and includes a Standard to use best management practices to protect soil and water resources.

As for the assertions regarding the best available scientific information, objectors feel the FEIS and Forest Plan do not adequately explain or analyze the lack of ephemeral streamside zones and dynamic streamside zones by slope.

The project record includes a summary of how the streamzone plan direction was modified between draft and final, but that summary document could use additional explanation. For example, the statement that the team discussed the monitoring data and decided an ephemeral zone is not needed. It would be more useful if the statement referred to the specific monitoring data that was used and how that conclusion was reached. Similarly, it would be helpful to explain why the Forest chose not to include variable streamside zone widths. The Forests are not required by law to have ephemeral streamside zones, nor is it required to vary streamside zones for perennial and intermittent streams by the slope, but adding this information to the digest of changes between draft and final can provide transparency about how these decisions were made.

**Instruction(s):**

**Instruction:** FEIS p. 3-75 and Appendix A p. 31 and should be corrected to say, "Ephemerally flowing streams are often headwater channels, connecting to a network of streams that support an abundance of aquatic life and other beneficial uses of water."

**Instruction:** Include in the Project Record a discussion of what data was used and why it was used to make decisions regarding ephemeral streamside zones and variable streamside zones on steep slopes.



## Issue 2: Erroneous Riparian Management Zone Identification

**Objector(s):** Nick Holshouser

The objector contends that errors and omissions in the analysis and calculation of riparian management zones affect all timber harvest impact analysis, road building, water quality and related environmental consequences in the Final Environmental Impact Statement. As a result of underestimating the total acreage of riparian management zones (which cannot be included in calculations of sustained yield or timber harvest), he asserts that the Forests has overestimated the acreage of suitable lands, which means that they also overestimated the sustained yield limit and timber harvest summary. In addition, various environmental consequences were likely underestimated/understated, rendering the Final Environmental Impact Statement (FEIS) inaccurate and not a true statement of the affected environment and environmental consequences of implementing the Land Management Plan for the Forests.

The objector asserts that the Forest failed to use the best available science with regard to identification of streams, particularly because of the use of the USGS National Hydrography Dataset (NHD). He believes that the data set used was out-of-date, but he could not verify this because the FEIS did not include which data set was used in their documentation of science was used.

The objector states that FEIS has "sparse information on the specifics of the riparian management zone analysis and the data used," but that the FEIS Appendix B at B-47 notes that "A dataset was created by overlaying several versions of USGS Website (NHD data) to eliminate mapping inconsistencies and lack of reliability of the flow/stream origin data fields in the NHD. It represents the most current fine scale mapping of streams available to date." Objector asserts that this is not true, believing that the data is not inconsistent, but instead constantly improving, and noting that the fine scale mapping was not the most current mapping available. Objector points out that the Forest Service identified 2,652 miles of streams for riparian management zones, but that the USGS NHD dataset at the time mapped over 4,700 miles of mapped streams, which is a significant potential difference. Objector concludes that the "The IDT did not use 'best available scientific information' nor did they adequately explain their determination that the data they did use was better than more current information available at the time of the analysis. This is a clear conflict with the 2012 Planning Rule Sec 219.3 because the Appendix B statement that the shapefile was generated "based on work done by the forest wildlife biologist" is not a sufficient explanation, and the Forest Service failed to describe the method of manual curation, failed to disclose other data sources used, and failed to document if they referenced or used other sources of hydrography data.

The objector goes on to explain that upon his review, the total miles of perennial streams disclosed by the Forest Service is quite close to the value of perennial streams for NHD V1, suggesting that NHD V1 was the source data, also noting that the IDT classified roughly 1/2 of the streams as perennial and 1/2 as intermittent. The objector then points out that "A visual inspection of the GIS data reveals many curious classifications - most noticeable is that many named streams are marked as intermittent for their entire reach. Many other well-known streams are classified as intermittent when any person who has visited popular recreation areas would



know they are perennial. Notable examples can be found throughout the forest, such as John Rock Branch, upper Coontree Creek (un-named side), Perry Cove, etc.... These examples show that either the manual process failed due to a lack of local knowledge or it failed because there wasn't a strong directive to identify all streams accurately. As mentioned previously, the excuse that this is a landscape level analysis simply fails in this case. That should not be a reason to perform an inaccurate analysis of the streams."

The objector concludes that the "NHD Version 2 has a significantly higher mapped stream network, but the attributes are not well-maintained in the source data. This dataset was fully available at the time of the analysis and the simple fact that the mapped stream miles were so much higher should have been considered by the IDT when they classified many fewer miles of stream overall. It should be apparent from the data that the IDT missed hundreds of miles of streams, or perhaps they simply considered all the difference only as ephemeral."

### **Remedy(s) proposed by Objectors**

- The USFS should perform the Riparian Management Zone analysis using the most current and best data available. The USFS must issue a supplemental EIS that correct the errors of the riparian analysis and all the related aspects and impacts.
- The SYL calculation must be corrected. The plan considered riparian management zones as desired conditions and objectives in contradiction of the 2012 Planning Rule which requires them as a standard.
- Timber Suitability and Sustained Yield Calculation should be recalculated in compliance with both the regulations and process of 2012 Planning Rule and 1909.12 Forest Handbook Chapter 60. Riparian management zones for all perennial streams and lakes and all intermittent streams are considered not suitable for timber production and should be excluded from the acres used to determine SYL. SYL should be recalculated based on riparian values as determined using an accurate value of the riparian management zones per best available science and most current data.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.3: "The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered."

### **Project Record**

Stream Buffer Process for Timber Suitability Analysis.pdf, p. 1: Identify perennial and intermittent streams from USGS NHD. Most recent NHD uses inconsistent mapping (disclaimer on USGS website); backed up several versions to improve consistency (2012 NHD) across NP.



## Response

The record documents that the USGS National Hydrography Dataset (NHD) from 2012 was used instead of 2018 NHD data because the 2018 data was not mapped at same scale for all watersheds, and some watersheds had much more detailed mapping than other watersheds. The 2012 data was mapped at the same scale for all watersheds so it was chosen to be used for timber calculations.

While the objector asserts that the best available information was not used for the stream buffer calculations for the timber model and that more recent NHD data shows more streams, thus affecting the timber calculation process, it is not required by law to use the most recent information. What is required is to disclose what information was used, why that information was chosen, and how that information was used. While the information provided in the stream buffer process document provides information about what dataset was used and the reasoning behind it, the stream buffer process document could be clarified to more fully explain why the NHD dataset used was chosen as noted above, which would help the reader understand what dataset was used, why it was used, and how it was used.

## Instruction(s):

**Clarification:** Include a complete description of the NHD dataset being used for the timber calculations, and clarify why the 2012 data was used instead of the 2018 data.

## Issue 3: Protection of Drinking Water Sources

**Objector(s):** Cynthia Simonds; Friends of Big Ivy; Forest Keeper; I Heart Craggy Coalition; Buncombe County Board of Commissioners; I Heart Pisgah

Multiple objectors assert that the Forest Service failed to consider the how the 4,000 acres placed in the Matrix management would impact water quality. Specifically, the objectors state that the Craggy/Big Ivy section of Pisgah National Forest is the headwaters for the Ivy River, which supplies the drinking water for the town of Weaverville. The objectors note that the Craggy's headwaters provide an alternate drinking water supply for the town of Mars Hill, while the Ivy River's headwaters are interconnected to the Asheville water system and the Snowball section of Craggy shares a boundary with the 500-acre Reems Creek Bowl Natural Heritage Area, which protects the Town of Woodfin's drinking water supply. The objectors also note that the Ivy River also provides water for local businesses and farms.

Specific to the town of Weaverville, the objectors state that the area is experiencing rapid population growth and development, and that the town is currently evaluating a multimillion dollar upgrade to its wastewater treatment facility on the Ivy River downstream of Craggy/Big Ivy. Objectors assert that any increase in sedimentation from active management in Big Ivy will have a significant impact on the water treatment facility costs and drinking water quality for tens of thousands downstream.



The objectors cite several ordinances, plans and assessments which document the potential impacts from logging in the area, including Buncombe and Madison Counties watershed protection ordinances that controlled land use development and related issues in the watershed; North Carolina Division of Water Resources, Public Water Supply (PWS) Section's 2010 Source Water Assessment Report for the Ivy River, which indicated an "Inherent Vulnerability Rating of Higher" due to physical characteristics of the watershed; and the Ivy River Source Water Protection Plan that was drafted in 2013 and noted the significant impacts of logging on the Ivy River's water quality. The objectors also note that the community of Big Ivy rallied to stop logging projects in the Craggy/Big Ivy section of Pisgah National Forest in the 1980s, which led to plan amendment in 1994 that suspended logging in the Big Ivy section of Pisgah.

### **Remedy(s) proposed by Objectors**

- The objector's suggested remedy is to place the 4,000 acres of Matrix into the Forest Scenic Area designation in order to protect water quality.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Clean Water Act of 1972, including section 404; Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

36 CFR 219.8(a)(1) Ecosystem Integrity. The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity.

36 CFR 219.8(a)(2) Air, soil, and water. The plan must include plan components, including standards or guidelines, to maintain or restore: 36 CFR 219.8(a)(2)(iii) Water quality. 36 CFR 219.8(a)(2)(iv) Water resources in the plan area, including lakes, streams, and wetlands; ground water; public water supplies; sole source aquifers; source water protection areas; and other sources of drinking water (including guidance to prevent or mitigate detrimental changes in quantity, quality, and availability).

36 CFR 219.8(a)(4) Best management practices for water quality. The Chief shall establish requirements for national best management practices for water quality in the Forest Service Directive System. Plan components must ensure implementation of these practices.

### **Project Record**



FEIS, p. 3-71: Table 20 Dillingham Creek and Upper Ivy Creek are listed as priority watersheds. Above and below the table is an explanation of priority watersheds.

Forest Plan, p. 41: WTR-DC-03 Abundant clean water is present on the Forests to meet the current and future needs of communities downstream.

Forest Plan, p. 156: Clean and abundant water - Water is a prominent feature across the Black Mountain Geographic Area with approximately 900 miles of streams and rivers flowing through National Forest System lands. The geographic area provides clean and abundant water to the communities for daily use and subsistence, including several municipal drinking water supplies on National Forest System lands: Mackey Creek (Marion and Old Fort), Bowlens Creek (Burnsville), Clear Creek (Marion), and Ivy River (Weaverville). The eastern portion of the geographic area drains to the Catawba River, which provides water and power for over 1.3 million downstream users.

Priority watersheds in this geographic area include Dillingham Creek and Upper Ivy Creek.

Forest Plan, p. 156: BLM-GLS-10 Manage the Big Ivy area with recognition of its unique features: Improve watershed condition and function in priority watersheds at Dillingham Creek and Upper Ivy River on the Appalachian Ranger District from “functioning at risk” in the Watershed Condition Framework. Because of their location to each other, one watershed action plan could be developed that focuses on supporting the quality, quantity, and timing of water by focusing on:

- i. Stream channels, large woody debris, and aquatic habitat for the benefit of aquatic biota
- ii. Reducing sedimentation from the road and trail network to improve water quality
- iii. Reducing terrestrial non-native invasive plants
- iv. Improving forest health

## Response

The objectors state “Increased sedimentation from active management in Big Ivy will have a significant impact on water treatment facility costs and water quality for tens of thousands downstream.” The Safe Drinking Water Act (SDWA) regulates drinking water provided by public water supply systems. It consists of both legally enforceable primary standards and non-mandatory secondary standards. Sediment is not listed in either standard. Total Dissolved Solids is listed as a secondary standard, but suspended solids (sediment particles) are filtered out before determining the dissolved solid content. Sediment may contain contaminants, cations and ions that are transferred to the water from the sediment.

The FEIS addressed priority watersheds and lists Dillingham Creek and Upper Ivy Creek as priority watersheds for the forest (p. 3-71). These watersheds contain some of the streams where water is consumed by customers. The Forest Plan also has the desired condition WTR-DC-03 to have abundant clean water present on the Forests to meet the current and future needs of communities downstream (p. 41).



The Forest Plan addresses clean and abundant water in the Black Mountain Geographic Area (p. 156). It acknowledges the importance of clean water to community drinking water supplies. It also states Dillingham Creek and Upper Ivy Creek are priority watersheds. This area also includes BLM-GLS-10 which states the goal to improve the watershed condition of Dillingham Creek and Upper Ivy Creek, with one of the focuses to reduce sedimentation (p. 156).

Sediment is not regulated by the Safe Drinking Water Act. The Forest Plan contains desired conditions and goals related to improving water quality and reducing sedimentation within watersheds that serve downstream consumers. The FEIS and Forest Plan sufficiently address the issue of providing clean water to the communities it serves.

**Instruction(s):** None.

#### **Issue 4: Water Quality Impacts and Reliance on BMPs**

**Objector(s):** Friends of Panthertown; Southern Environmental Law Center et al.

Objector SELC states that the FEIS failed to analyze water quality impacts due to "inaccurate assumptions regarding mitigation efficacy." Objector SELC also questions the FEISs conclusion that there will not be "a measurable change in surface or groundwater quality as a result of any alternative," particularly because active management levels could increase by about 500%.

The objector asserts that "This incredible conclusion assumes that the risk coefficient associated with ground-disturbing activities is zero. To explain: if one stream per year is seriously impacted by timber harvest activities at 650 acres per year, then five streams per year would be impacted with levels of 3,200 acres per year. The only way to conclude that there will be no change is to assume that there is no risk. That is simply counterfactual, and it is not supported by the best available science. It also shows a failure to take a hard look at the evidence provided during the planning process."

Objector SELC believes that a fundamental flaw in the analysis is the FEISs assumptions regarding BMP effectiveness, particularly the statement in the FEIS at 3-75 that "With continued implementation of planning and operational BMPs, these activities would not adversely impact water quality, and other improvements associated with the timber project would result in overall beneficial impacts to water quality by reducing erosion and sedimentation." Objector believes that the failed to analyze risks to water quality and failed to commit to a framework to avoid impacts to water quality, stating that FEIS "excessively relies on BMPs to minimize" management activities potential impacts on water quality, and goes on to explain that monitoring (which is not comprehensive, statistically reliable, peer reviewed and does not capture all impacts) "paints only a partial picture of experience gained on the forest - and in some instances obscures chronic problems." Objector SELC concludes that the FEIS failed to analyze how site-specific factors influence soil erosion and sedimentation risks, like slope, soil erosion rating, or logging in erosion-prone soils near Outstanding Resource Waters (ORW).

Objector SELC goes on to explain how the BMP scoring system is flawed, because it scores "each individual BMP separately. In other words, while a single BMP failure can result in



sediment release impacting a water body, the success of other BMPs in the same project will result in a high score for the whole project. Thus, projects with negative water quality impacts still receive high scores. Even projects with adverse stream impacts still have high success rates by the Forest Service's accounting." The objector further explains that BMP monitoring does not include impacts during implementation, generally doesn't consider long-term impacts, and excludes categories of impacts such as fire lines, and states that the FEIS failed to disclose major BMP failures, such as the Panther Branch project, which resulted in 200 liner feet of stream impacted by 2-3 inches of sediment, which further impacted the North Fork of the French Broad River.

The objector also notes that monitoring of 63 timber sales between 2009-2018 found that sediment was reaching streams on 70 separate occasions that that this was not disclosed in the FEIS, which instead documented a 97.4% success rate. The objector also noted that "On-the-ground survey data documents chronic erosion and sedimentation impacts associated with closed and long-unmaintained roads. A survey in 2015 investigated the success rate of BMPs on closed NPNF system roads. Of 322 stream crossings and other BMPs affecting intermittent or perennial streams, 127 (40%) violated NC FPG Performance Standards, with accelerated erosion in a stream crossing or visible sediment directly entering the stream." The objector believes that more violations are likely under the proposed plan, given that at 7 violations every year under current harvest levels under the current plan has caused visible sediment to enter streams. The objector concludes that "the Forest Service has not attempted to develop Plan standards that would improve BMPs and monitoring in the future, nor has it offered any explanation for why continuing with the same approach would lead to different, more protective results in the future."

Objector SELC also asserts that the FEIS failed to include an analysis of impacts of management other than sedimentation, and that there is no analysis of fire lines that will be created during prescribed burning, noting that the new plan calls for 11,000 acres of new burn blocks, but that the FEIS has no disclosure of how many miles of fire line excavation would take place and in which watersheds, and that there is no mention of cumulative impacts to water resources in those areas. The objector notes that the Plan at 100 only requires that fire line construction be "minimized" by using both natural and existing fuel breaks, and that fire lines that expose mineral soil should not be located in streamside zones unless they tie into waterbodies as fire breaks at designated points with minimal soil disturbance. The objector contends that this confirms that there will be impacts to water resources and that those impacts must be disclosed and analyzed as cumulative impacts with other active management.

Objector SELC further asserts that the FEIS "overlooks risks to water quality other than sedimentation. Lacking is a candid analysis of other impacts to hydrology and water quality caused by loss of ground cover, skid trails, log landings, soil disturbance, temperature, and channel erosion. The EIS does not acknowledge the extent of potential hydrologic modifications (including to groundwater) related to timber harvest and associated roads, and fails to analyze the direct and indirect impacts alteration of hydrologic flow paths and soil loss."

Objector SELC contends that in order to meet the requirements of the 2012 Planning Rule, the FEIS must be supplemented and additional plan components must be added to protect water resources because the FEIS is "fundamentally unsupported and the agency's conclusions are



arbitrary and capricious. The Forest Service must supplement its FEIS to reckon with the serious risks that it has so far dismissed. If the Forest Service intends to increase management levels by 500%, it must disclose the likely impacts to water quality or it must adopt protective standards to avoid them. Ignoring the risks is not an option."

Objector SELC concludes by noting that while the Plan does require that short-term impacts to aquatic systems be offset by a greater long-term improvement of watershed condition and water quality (as per WTR-DC-02 and WTR-G-04), they assert that the Forest Service failed to provide justification and assurance that watershed improvements will actually be completed, noting that the FEIS admits that watershed improvements related to roads management are dependent on future funding increases, which means that they may not be implemented, which is what is currently occurring under the existing plan.

### **Remedy(s) proposed by Objectors**

- Monitoring must do a better job of accounting for and reporting negative impacts. Specifically, monitoring should occur during or immediately after rain events for all projects, but it must occur during or after rain events for projects with high risk factors. Further, monitoring should assess the status of disturbed areas periodically after closure for soil stability, hydrology, NNIS, and species composition.
- The Forest Service must repair its analysis or add plan content to avoid the risks it has so far ignored. Increasing SMZ widths on steep slopes and clarifying ephemeral stream protections would be the absolute minimum.
- The agency must adopt a standard requiring a finding at the project level that short-term adverse impacts to water quality will be offset by long-term improvements, and an adaptive management "trigger" to show that it is accomplishing the watershed improvements promised by project decisions.
- The agency must commit to demonstrating that it has accomplished (or is on track to accomplish) all of the watershed improvements it promised at Tier 1 before it stretches into Tier 2.
- Objector Friends of Panthertown's suggested remedy is that the Forest Service should strengthen water quality protections and ensure that all Outstanding Resource Waters are named and protected in the Forest Plan. Stream protection standards should meet or exceed those currently set for other Southern Appalachian National Forests such as the Chattahoochee, the Cherokee, and the Jefferson. Their suggested remedy is also to place the 4,000 acres of Matrix into the Forest Scenic Area designation in order to protect water quality.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Hydrology and Soils Issue 3: Protection of Drinking Water Sources for relevant law, regulation and policy citations.

### **Project Record**



FEIS, p. 5-12: NFsNC 2018. 2018 Forestry Best Management Practice Monitoring Report for the National Forests in North Carolina. Report submitted to the Forest Supervisor, and part of the project record.

North Carolina Forestry Best Management Practices Manual to Protect Water Quality as discussed in the FEIS.

FEIS, Appendix A, p. 29: Forestry Best Management Practices (BMPs) monitoring has been used to assess implementation and effectiveness of BMPs since the 1990's. This information has been used to address water quality issues related to forestry operations, and we have seen a dramatic improvement in the implementation and effectiveness of BMPs through the years. The summary of NFsNC BMP monitoring data, presented in each years' monitoring report is an accurate presentation of the data used to inform the analysis of timber management activities but has not been peer reviewed. In response to this comment, the Forest Service will submit the analysis protocol for comment to our FS research branch and consider the need for changes to future BMP monitoring documents.

Forest Plan, p. 45: AQS-G-01 Management activities should follow all applicable North Carolina and Federal Best Management Practices (BMPs) to meet relevant laws, regulations, and policies as described in the streamside zone and water resources sections. Exemptions to regulatory policies may be requested on a case-specific basis where application of the standard policy could result in greater resource damage. For example, the trout spawning moratorium on in-stream construction may be adjusted or waived if completing the project within restricted time period will have long-term benefits that outweigh short-term risks. Note that this type of process often requires communication with and documentation from partner agencies and organizations.

Forest Plan, p. 49: Management Approaches - The Forests monitor the implementation and effectiveness of Forestry Best Management Practices annually to document our status for meeting forest plan standards, North Carolina State water quality standards, and, ultimately, the Clean Water Act. Review of forest practice effectiveness occurs annually as part of our program of work, and a summary of monitoring findings is drafted. In response to monitoring results, less than effective practices are diligently corrected to meet management direction. A summary of monitoring results is presented bi-annually in the Forest Plan Monitoring and Evaluation Report.

Forest Plan, p. 72: Integrated Ecosystem and Wildlife Habitat Management Approaches - When prescribing management within WHAMAs for golden-winged warbler and cerulean warbler, follow recommended best management practices for these species. Note: BMPs source stated later p. 104.

Forest Plan, p. 92: TIM-S-07 documents the use of North Carolina Forest Practices Guidelines to Water Quality.

Forest Plan, p. 99: FR-S-03 Follow North Carolina Best Management Practices (BMP) manual fire management guidance to protect water quality.



Forest Plan, p. 100: Management Approaches - Refer to North Carolina Forestry Best Management Practices Manual to Protect Water Quality, Ch. 9 Fire Management (NC Division of Forest Resources 2006 or newer)

Forest Plan, p. 104: LSU-G-08 Low growing vegetation that does not interfere with overhead lines should be maintained within power line corridors to provide for wildlife habitat and other resource benefits, in accordance with appropriate best management practices.

Forest Plan, p. 108: TA-S-04 Roads shall be located and designed to minimize impacts to resources: ii. Erosion of and sediment movement away from all components of roadways during and after construction shall be controlled and mitigated using measures identified through storm drainage design and through the implementation of North Carolina Best Management Practices.

Forest Plan, p. 112: FAC-G-01 Facilities should be designed and maintained to minimize impacts to resources, including threatened and endangered species, heritage and cultural sites, watersheds, aquatic species, and vegetation. Where applicable, best management practices are implemented to reduce erosion and sedimentation.

Forest Plan, p. 119: Management Approaches - Implement sustainable recreation design using principles and guidelines set forth in the Forest Service Handbook and Manual. Implement best management practices, where applicable, to reduce erosion and sedimentation.

Forest Plan, p. 199: HW-GLS-06 The area is known to include outcroppings of acid-producing geological formations. Utilize Best Management Practices to minimize acidification of surface waters when ground-disturbing activities are necessary in acid rock areas to achieve forest management goals.

Forest Plan, p. 299: Monitoring Questions and Indicators for Tracking Best management Practices, MQ 8-1-T1 and MQ 8-2-T1.

## **Response**

The objector states there is an overreliance in the Forest Plan on BMPs and that they are not sufficient to meet the needs of the protection of water quality and ecosystem integrity. The Objector goes on to state the FEIS does not address other risks to water quality besides sedimentation.

The regulation at 36 CFR 219.8(a)(4) states that “The Chief shall establish requirements for national best management practices for water quality in the Forest Service Directive System. Plan components must ensure implementation of these practices.” These BMP requirements are in various stages of completion as shown on the Forest Service BMP Website: BPR Staff Program - Best Management Practices (BMP). What has been officially released to date is “The National Core BMP Technical Guide (Volume 1, FS-990a, April 2012)” which is the national framework for BMPs for numerous ground-disturbing activities the Forest Service implements. This document does not replace other BMPs such as those from North Carolina but is a supplement to them. This technical guide is referenced in the FEIS and Forest Plan and could be



more clearly referenced in the final documentation and included in the project record. In addition, the National Core BMPs should clearly be articulated as a part of the BMPs for the Forests in conjunction with the State BMPs.

BMPs are found in goals, standards, guidelines, and management approaches (see references in Project Record). Clarity could be gained by referring to BMPs in the same language throughout the FEIS and Forest Plan.

Objector states the BMP monitoring is flawed because it is wrongly scored, does not include impacts during implementation, and does not look at other activities such as fire impacts. In a response to comments on this issue (FEIS, Appendix A, p. 29), the Forest states that “Forestry Best Management Practices (BMPs) monitoring has been used to assess implementation and effectiveness of BMPs since the 1990’s.” The FEIS Soils and Water Resources section talks about and presents data for 1992-2000 and 2009-2013 (FEIS pp. 3-44, 3-45, 3-49, 3-58, 3-60 through 3-62, 3-68, 3-69); clarity could be gained by ensuring that the data sources for these references are included in the FEIS.

The Forest Service Best Management Program includes protocols for BMP monitoring of Forest Service activities. These protocols allow for consistent BMP monitoring across the nation. The FEIS relies on monitoring data to make the conclusion that what the Forests are doing is working and will continue in the future; clarity could be gained by providing a summary of monitoring methods used, along with the sources of the monitoring data presented in the FEIS. Consider including Forest Service BMP monitoring protocols into the existing monitoring protocols and methods. Monitoring data is used to justify continued use of BMPs in the future.

BMPS are identified for most activities in the Forest Plan. The specific BMPs (North Carolina BMPs, Forest Service BMPs, other BMPs) could be referenced clearer, as noted above.

**Instruction(s):**

**Clarification:** The many references in the Forest Plan should identify the best management practices being used, such as Forest Service BMPs, North Carolina BMPs, or others as appropriate. When using the same set of BMPs for multiple activities (such as North Carolina BMPs), refer to them using a common name to avoid confusion.

**Instruction:** Incorporate Forest Service BMPs (National Best Management Practices for Water Quality Management on National Forest System Lands, Volume 1: National Core BMP Technical Guide (2012)) into the LMP and include citation of the current technical guide in the final documentation.

**Instruction:** Include in the record the sources for monitoring data presented in the FEIS, as well as a description of the BMP monitoring methods used. Also ensure the FEIS includes citations for monitoring reports.

## **Issue 5: Chattooga River Water Quality, Log Jam and Sediment**



**Objector(s):** William (Bill) Floyd; Mary Ellis

Objector Floyd raises a number of concerns regarding sediment in the Chattooga River. His first assertion is that he believes that the Forest Service is planning to remove a large logjam (which was never disclosed to the public) that is holding back a large volume of sediment on the Chattooga River. The objector believes that the FEIS contends that the presence of large woody debris "is a bad thing which needs to be removed in order to enhance the watershed ranking..." citing the FEIS at p.3-55 and p. 3-520. The objector states that the implied future plans to remove this "one of a kind logjam" to get rid of the sediment would cause a large discharge downstream and would violate the anti-degradation mandate of the Clean Water Act.

With regard to the management of the river, Objector Floyd also asserts that the Chattooga River should be managed like the Tellico and must be managed going forward according to Standards and Desired Conditions which are similar to what the current Forest Plan specifies (See the current plan at p. 3-185 and p. 3-187). The objector believes that the Forest Service "cannot comply with the non-discretionary duties imposed by the second sentence of 16 U.S.C. §1281(a) and the anti-degradation mandate of the Clean Water Act without adopting this level of specificity about protecting the trout in the Desired Conditions and Standards for managing the North Carolina headwaters of the Chattooga River going forward." The objector asserts that the Forest Plan is deficient because it fails to incorporate a standard that explicitly prohibits any non-temporary degradation of the Chattooga's ORV water quality and has unlawfully removed the previous plan's "no visible sediment" standard, which removes the physical protection provided against improper discharge of sediments into the river, and that the new Forest Plan no longer contains an explicit standard regarding the construction of trails in riparian areas.

Objector Floyd also takes issue with the planning record, asserting that "Neither the 2022 LRMP nor the EIS inform the public about the legal importance of the administrative record associated with the river's reclassification as Outstanding Resource Waters." Specifically, he contends that neither the FEIS nor the Forest Plan explain the following:

- How the anti-degradation mandate of the Clean Water Act impacts the agency's management of the river;
- How Section 404(b) of the Water Quality Act of 1987 specifies that for any water body whose water quality "exceeds levels necessary to protect the designated use of such waters ... any water quality standards...or any other permitting standard maybe revised only if such revision is subject to and consistent with the anti-degradation policy established under this section." Objector Floyd interprets this to mean that the 2022 Plan cannot eliminate explicitly stated protections previously afforded to the Chattooga's trout by standards if elimination of the protection will cause further deterioration of the headwaters functional capacity for sustaining outstandingly remarkable numeric densities and biomass of naturally producing rainbow, brown and brook trout.
- How the Forest Service is in possession of copies of records that explain why these headwaters are unique from every other stream flowing through the Forests;
- How the public might gain access to these critical records in order to be fully informed about their legal significance;
- What the Forest Service must specifically do while managing these headwaters to comply with the Wild and Scenic designation and ORW classification.



The objector concludes that the planning documents "create a false impression that the Forest Service is free to do as it pleases in managing the North Carolina headwaters of the Chattooga - free of any plainly stated non-discretionary duties." He further notes that the FEIS and LMP failed to disclose the May 18, 2018, filing of a 60 Day Notice of Intent to Sue under the Citizen Suit provision of the Clean Water Act; this NOI summarized the agency's 13-year mismanagement of the headwaters of the Chattooga that resulted from the primary emphasis of developing and accommodating recreational use, specifically for whitewater creek boaters. The NOI alleged that the Forest Service failed to obtain Section 301 and Section 402 permits for discharging pollutants into the river that resulted from the construction and use of a paddler-created system of river launch sites, river evacuation points, and portage trails within the protected stream buffer. The NOI also alleged that "allowing whitewater creek boating to be pursued on these headwaters had resulted in the creation of point sources of pollution where sediments suspended in runoff are being unlawfully channeled into a body of water which lacks any capacity to assimilate any additional contributions of sediment." and charged that the Forest Service had violated the anti-degradation mandate of the Clean Water Act.

### **Remedy(s) proposed by Objectors**

- Leave the logjam in place and vacuum the sediment out of the river if needed.
- Proactively coordinate with another county, state and federal agencies to prevent human discharged sediments from getting impermissibly discharged into these headwaters or their upstream tributaries.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Hydrology and Soils Issue 3: Protection of Drinking Water Sources for relevant law, regulation and policy citations.

### **Project Record**

FEIS, p. 3-55: Attributes found to have the greatest adverse impact on watershed condition ranking in the WCF are associated with water quality problems, large woody debris, terrestrial invasive species, roads and trails, soil contamination and fire condition class.

FEIS, p. 3-67: Trends in large woody debris in stream channels are improving where a diversity of tree and understory species exists in the streamside area. However, in areas where vegetation composition is predominantly hemlock with an understory of rhododendron, trends in large woody debris are likely to have a short-term improvement, followed by a long-term decline. As the dead hemlocks decompose there would be an influx of new wood into the channel, thus a short-term improvement, but when these trees are gone the remaining rhododendron would henceforth dominant vegetation composition.



FEIS, p. 3-520: Activities conducted as part of priority watershed action plans could include improving water quality and habitat conditions, restoring acres of stream ecosystem, focusing on restoring floodplain connectivity, stream channel function (for example, large woody debris) and native riparian vegetation, performing road maintenance on roads hydrologically connected to the stream network, performing trail maintenance on activities within 100 feet of streams, decommissioning unneeded roads and partnering with nearby lands to accomplish shared objectives.

FEIS, Appendix A, Response to Comments, pp. 159-165, Comments specific to the Chattooga Wild and Scenic River.

Forest Plan, p. 42: WTR-DC-11 Large woody debris is frequent in occurrence and is incorporated into channel morphology as single pieces and larger woody debris jams that promote channel form diversity and floodplain inundation.

Forest Plan, p. 42: WTR-G-02 Incorporate large woody debris into stream restoration design as often as practically possible, except where there is a more effective long-term solution, such as when a hard boulder structure is needed to protect a system road from streamflow scour.

Forest Plan, p. 43: AQS-DC-03 Areas along streams and rivers and around ponds and reservoirs are dominated by native vegetation capable of influencing water temperature, adding large woody debris, hydrologic stability, aquatic habitat diversity, and nutrient input, such as leaves and other coarse organic material.

Forest Plan, p. 48: SZ-S-01 Vegetation management activities within streamside zones of perennial and intermittently flowing streams must contribute to ecosystem restoration and not compromise aquatic system and riparian structure and function with the exception of short-term impacts for long-term improvements. For example, water temperature regulation, sediment transport, streambank stability, and recruitment of large woody debris must exhibit natural dynamics after treatment. In these areas other objectives must be secondary to ecosystem restoration.

Forest Plan, p. 49: SZ-S-03 Do not remove large woody debris from streamside zones, unless it poses a significant risk to stream flow, water quality, aquatic or riparian habitat, or downstream infrastructure (e.g., bridges or other stream crossings). Need for removal of large woody debris in these zones is determined on a project-specific basis by a hydrologist or other aquatic specialist.

Forest Plan, p. 265: WSR-S-35 Above the Highway 28 Bridge, large woody debris removal without Agency approval is prohibited.

## **Response**

The objector believes that the FEIS contains statements that will lead to the Forests removing a large log jam on the Chattooga River. The phrase “large woody debris” is used generically as a shorthand for woody debris presence in streams and the continued recruitment of woody debris



into streams. Large woody debris is not normally an adverse impact on watershed condition ranking (FEIS, p. 3-55), but rather it is either a lack of current large woody debris in streams, reduced recruitment of large woody debris into streams in the future, or both. Similarly, the assumption is made that the presence of large woody debris is not a problem for stream channel function (FEIS, p. 3-420), but rather that the Forests want to increase large woody debris in streams to improve channel function due to a lack of large woody debris in streams. This interpretation would coincide with recruitment of woody debris statements in the Forest Plan (WTR-DC-11, WTR-G-02, AQS-DC-03, SZ-S-01, SZ-S-03).

The imprecise language in the areas the objector cited could be interpreted in the way that the objector is concerned. That was not the intent, as evidenced by the many examples in the Forest Plan for large woody debris retention and recruitment. Clarification would be helpful. The language on pp. 3-55 and 3-420 of the FEIS led the objector to believe the Forest wants to remove a log jam on the Chattooga River. This view is not supported in Forest Plan desired conditions, standards and guidelines.

The agency is not seeking to remove the log jam. The anti-degradation mandate of the Clean Water Act will not be violated. In addition, there are numerous plan components that address protection of water quality, as documented in the response to Hydrology and Soils Issues 3 and 4 and the response to Aquatic Species Issues 3 and 4. Other issues raised by the objector are addressed throughout this document.

**Instruction(s):**

**Clarification:** Reword FEIS, p. 3-55 to read “absence of large woody debris” or “lack of large woody debris” as an attribute impacting watershed condition. Edit FEIS, p. 3-520 to read “(for example, addition of large woody debris).”

## **Issue 6: Chattooga River Water Quality Impacts – Whitewater Boats**

**Objector(s):** William (Bill) Floyd

The objector is concerned that hard-bottom whitewater creek boats are being repeatedly "seal launched" from the tops of the river bank into the Chattooga River during high flows, which is known to impact the river's banks. Objector Floyd explains that seal launching into a river with high currents involves the paddler first climbing into the cockpit of a six foot, forty pound kayak, and then launching the weight of their body and the boat into the river by "propelling the bottom of the boat across the top of the bank while simultaneously using their hands or paddle to accelerate the force of that forward motion." The objector asserts that seal launching is "functionally analogous to a plow blade being pushed/pulled by a tractor across the fragile trout buffer" because it strips away the ground cover and exposes soils, which ultimately erode away and create a gully when it rains. The objector states that these areas become a chronic source of erosion into the stream system, which lacks the capacity to absorb this additional input of sediment. Objector believes that "the Forest Service's continuing promotion of creek boating has endorsed the unlawful creation of point sources of water pollution on the North Carolina



headwaters of the Chattooga River" in violation of the anti-degradation mandate of the Clean Water Act.

The objector then asserts that neither the FEIS or Forest Plan "make any effort to advise how hard bottomed plastic kayaks being seal launched into the river have caused the river bank to collapse causing the creation of point sources of water pollution." Objector also contends that the FEIS and Forest Plan fail to document the following: the number of chronic erosion sites that are point sources of pollution; the number of portage trails that have been "hacked through the thickets of rhododendron and mountain laurel which serve to hold highly erosive soils in place;" and any of the additional erosion sites caused by boating activities to the baseline number of erosion sites reported in the 2007 Biophysical Inventory.

### **Remedy(s) proposed by Objectors**

- Adopt a standard requiring the agency to monitor and report to the public each year the extent to which whitewater creek boaters use of the river has caused the creation of chronic erosion sites where displaced soils suspended in runoff get unlawfully channeled into a body of water carrying an ORW classification.
- Adopt a standard requiring the agency to undertake immediate action to fix and repair those locations where whitewater creek boaters repeatedly executing a "seal launch" into the river (at specific locations previously identified for you) have collapsed the bank causing the creation of point sources of water pollution where sediments suspended in runoff are being channeled into a body of water which lacks any assimilative capacity to absorb any additional inputs of sediment.
- Adopt a standard prohibiting the USFS from allowing any soils (displaced by the creation and use of unregulated boat launch sites, river evacuation points, and portage trails) from getting discharged into the river.
- Adopt a desired condition or standard which explicitly explains what the USFS must do while managing these ORW classified headwaters to comply with the anti-degradation mandate of the Clean Water Act.
- Adopt a desired condition or standard which precisely details what the USFS must do to comply with the non-discretionary duties imposed by 16 U.S.C. §1281(a).

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Hydrology and Soils Issue 3: Protection of Drinking Water Sources for relevant law, regulation and policy citations.

### **Project Record**

Forest Plan, pp. 264-266: Specific Direction for Wild and Scenic Rivers by Name: Chattooga River.



FEIS, Appendix A, Response to Comments, pp. 159-165, Comments specific to the Chattooga Wild and Scenic River.

## **Response**

The Forests have met and continue to meet applicable legal obligations with regard erosion. The Chattooga River is included in 3 Priority Watersheds (Forest Plan, p. 36). The Forest Plan includes WSR-S-31 (p. 265) which addresses floating on the Chattooga River, including date restrictions, location restrictions, and self-permitting that specifies boater put-in and take-out.

The response to comments also addressed many of the objector's concerns.

**Instruction(s):** None.

## **Issue 7: Impacts to Soils from Logging on Steep Slopes**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Center for Biological Diversity; MountainTrue; Southern Environmental Law Center et al.

Multiple objectors assert that the revised Plan will allow logging on steep slopes (over 40%), which they state will result in significantly more erosion and sedimentation, imperiling listed species (such as the spotfin chub, Appalachian elktoe, little-wing pearly mussel, and Eastern hellbender) and "clogging popular rivers and creeks that are beloved among anglers, paddlers, and other forest users."

Objector CBD articulates that the FEIS lacks adequate buffers to minimize erosion and sedimentation impacts to listed aquatic species. Objector CBD states that it is not clear where passive management would occur in the Interface and Matrix Management Areas based on slope, riparian, accessibility and old growth limitations, as they assert that "the Forest Plan provides considerable discretion when it comes to logging on steep slopes."

Objector CBD notes that while Standard ECO-S-06 calls for "a site-specific review to determine the appropriate logging systems for management on sustained slopes (>200 ft) over 40% slope" (Forest Plan at 92) and that the Plan also calls for the avoidance of "stacking" multiple skid roads on steep slopes and "to consider obliterating legacy skid roads on steep slopes where soil or water quality is a concern" (Forest Plan at 93), there are no other standards or guidelines that apply to logging on steep slopes, as the Plan provides a "general description of management approaches." Objector CBD lists examples of these, which include: "on slope gradients of 40 percent or more, the design of cut and fill slopes of road, log landings, or other excavations may include a debris hazard and risk assessment (Forest Plan at 34). Ditch and culvert maintenance should also be "emphasized" (but not required) to prevent blockages diverting surface flows onto fill slopes. Id." Objector CBD goes on to state that "Despite the numerous risks associated with logging and road construction/operation on steep slopes, the Plan does not require debris hazard risk assessments, the obliteration of skid roads, ditches and culverts to be maintained, and the maintenance backlog to be addressed before miles of new roads are built. There are also no standards or guidelines when comes to the type of equipment that must be used on slopes greater



than 40% to protect against erosion and landslides. These measures are critical to reducing the threats of erosion and it is therefore essential that the Forest Service provide a reasoned explanation for not making them mandatory requirements."

Objector CBD concludes by noting that "A "very severe" and "severe" hazard rating exists for a total of 74 percent of the area in these management areas if activities such as timber harvest and prescribed fire expose bare soil (FEIS at 3-43)" and that "Eighty-one percent (81%) of existing roads on the transportation system occur within soils having a "Severe" hazard rating (FEIS at 3-48)" and nearly 1/3 of all road construction/reconstruction occurs on slopes greater than 40%. They state that while the Forest Service concludes that the "application and maintenance of erosion control mitigation measures are essential to reducing erosion and maintaining soil quality." (FEIS at 3-48)," they believe that logging and road construction on steep slopes poses a significant risk to watersheds from erosion and sedimentation and that the Revised Forest Plan failed to provide for adequate protection of water resources.

Objector SELC raised similar concerns about logging on steep slopes, noting that under the old plan, skyline logging was the default for timber projects on slopes above 40%, unless it could be shown that another logging method would be similarly protective, which they state was generally successful. However, they also contend that project-level compliance was not perfect, citing the Buck, Crossover, Thunderstruck, and Big Cove Projects as evidence that there were units in these projects that were on slopes that required cable logging, but were inappropriately logged using ground-based methods.

Because of these past issues and the failure to include a similar standard in the revised Plan, Objector SELC is concerned that the Plan "leaves it entirely to project-level discretion to determine the "appropriate" method of logging on steep slopes, which leaves soils at risk and fails to comply with the Planning Rule's requirement to maintain and restore soils and soil productivity; they cite the standard TIM-S-06, which states "Conduct a site-specific review to determine the appropriate logging systems for management on sustained slopes (>200ft) over 40% slope" and they also note that a separate standard (Forest Plan at 93) calls for "avoiding" stacked skid roads on slopes rather than prohibiting them. Objector does not agree with the Forest Service's response to comments and rationale regarding lack of protection for logging on steep slopes (first, that it is not really a change; second, that new technologies could emerge during the Plan's life; and third that the new standard is based on monitoring), and contends that the default in the old plan was that a site-specific review would occur if it deviated from the standard, the new plan can be amended if new technologies emerge, and that the Forest Service has failed to provide data that shows ground-based logging on steep slopes is safe in some circumstances.

### **Remedy(s) proposed by Objectors**

- The Forest Plan Standard ECO-S-07 must specifically require debris hazard assessments where activities are planned on slopes greater than 40%.
- It must require the obliteration of skid roads and temporary roads and return to the area to grade upon completion of a logging project.
- It must require ditches and culverts to be maintained.



- The Forest Service should also prohibit any logging that is proposed on slopes greater than 40% unless it is reviewed and approved by an interdisciplinary team and the line officer, as other Forests in the Southeast require.
- Objector CBD suggests the following remedy: "The Forest Service must not just establish road decommissioning standards for unauthorized roads (Final Plan at 107), but also include specific standards that require maintenance of permanent roads, require the decommissioning of temporary roads when they are no longer needed for the purpose for which they were constructed, and require the Forest Service to reduce the maintenance backlog for the road system as a whole before new roads are constructed."
- Objector SELC suggests the following remedy: "The Plan should reinstate the default rule requiring cable logging on steep slopes, with an option to use other methods only with a finding that they would be as effective at protecting soils. This should not be a difficult request if, as the agency asserts, the standards were meant to be equivalent. If the agency is unwilling to make this change, then it must supplement its analysis to show that the old default standard is no longer necessary."

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.8(a)(2)(ii) The plan must include plan components, including standards or guidelines, to maintain or restore: Soils and soil productivity, including guidance to reduce soil erosion and sedimentation.

36 CFR 219.11(d)(2) Timber harvest would occur only where soil, slope, or other watershed conditions would not be irreversibly damaged;

FSH 1909.12, Chapter 20 - Standards place design or operational constraints on projects and activities, or prohibit the Forest Service from authorizing certain types of projects or activities to help achieve or maintain desired conditions, to avoid undesirable effects, or to meet applicable legal requirements.

### Project Record

FEIS, Appendix A, p. 28: Proposed plan standards address identified concerns about logging on steep slopes. Plan standards related to logging on steep slopes have been designed based on decades of monitoring by the Forest. The Forest follows NC Forestry Practices as well as additional Forest Plan measures to ensure that soil erosion is minimized. During project analysis, steep slopes are evaluated by the assessment team along with needs to restore the logging access system of roads. All soil disturbance, including temporary haul and skid roads, during and after logging is stabilized with approved Forestry BMPs to reduce the risk of erosion.

A standard in Plan's Terrestrial Ecosystems section states "Conduct a site-specific review to determine the appropriate logging systems for management on sustained slopes (> 200ft) over 40 % slope." Appropriate logging systems will be determined at the project level to account for future advances in logging technology and site-specific conditions, while ensuring management



that prevents erosion. Project-level environmental analysis will be performed to ensure there are no significant environmental impacts.”

Forest Plan, p. 91: TIM-S-04 Timber harvest shall occur only where: A site-specific finding determines that soil, slope, or watershed conditions would not be irreversibly damaged.

Forest Plan, p. 92: TIM-S-06 Conduct a site-specific review to determine the appropriate logging systems for management on sustained slopes (> 200ft) over 40 % slope.

Forest Plan, pp. 92-94: TIM-S-07 Design, construct and maintain erosion control features to meet soil and water quality standards. In particular: a. Follow North Carolina performance standards as outlined in Forest Practices Guidelines Related to Water Quality (NC FPGs) by implementing effective soil and water Best Management Practices, such as those outlined by the North Carolina Forest Service. b. Plan forest management activities to minimize detrimental soil disturbance, stream crossings and avoid springs, seeps, and hydric soils. h. In cable logging units, use cable that suspends at least one end of the log unless site-specific analysis determines that other logging methods meet soil and water protection standards. j. Avoid “stacking” multiple skid roads on steep slopes. Consider obliterating legacy skid roads on steep slopes where soil or water quality is a concern. k. The project or activity authorizing the temporary road or trail shall decommission the temporary access when no longer needed using techniques such as, but not limited to, removing drainage structures, re-contouring, and stabilizing the final slope. (See also TA-S-08)

Forest Plan, p. 95: TIM-G-01 for vegetation management treatments, road and skid trail locations least likely to cause damage to soil and water resources should be selected. Use existing roads when feasible.

Project Record, “All Things Timber,” Washington Office Ecosystem Management Coordination Deep Dive Call: This deep dive webinar hosted by the FS Washington Office to provide technical guidance to forests developing their plans specifically mentions that forests “do not have to specify slope values in standards,” and that units “need to ensure flexible language to consider ‘new’ technology over the life of the plan” (slide 29).

## **Response**

The objectors state there are not sufficient protections in the final Plan for logging on steep slopes. However, in compliance with both the regulation at 36 CFR 219.8(a)(2)(ii) and FSH 1909.12, Chapter 20, Forest Plan Standard TIM-S-04 prohibits the Forests from authorizing activities that would cause irreversible damage. TIM-S-07 has several constraints for timber harvesting including implementation of BMPs, using cable logging systems that suspend at least one end of the log, avoiding “stacking” of skid roads on steep slopes, and decommissioning of temporary access roads. TIM-G-01 states selection of road and trail locations that are least likely to cause damage. The term “stacking” of skid roads should be defined.

The Forest Plan also has standard TIM-S-06 that states “Conduct a site-specific review to determine the appropriate logging systems for management on sustained slopes (> 200ft) over 40



% slope.” Under this standard, appropriate logging systems will be determined at the project level to account for future advances in logging technology and site-specific conditions, while ensuring management that prevents erosion. Project-level environmental analysis will be performed to ensure there are no significant environmental impacts. Functionally, this does not differ from the approach under the current plan which objectors support, which allows projects to proceed with non-cable methods on steep slopes when projects demonstrate they are effective at protecting soils.

The Forest Plan provides several standards and a guideline designed to reduce damage on steep slopes. The term “stacking” of skid roads is not defined. Standard TIM-S-06 does not provide specific constraints on activities located on sustained steep slopes and is similar to TIM-S-07h.

**Instruction(s):**

**Clarification:** Define “stacking” of skid roads in plain language.

## **Issue 8: Inadequate Protection of Soils/Soil Impairment**

**Objector(s):** Friends of Panthertown; Southern Environmental Law Center et al.

Objectors assert that the Plan inadequately protects soils in four ways: (1) skyline logging is no longer required on steep slopes; (2) the 85/15 soil impairment standard is unsupported by the Best Available Science and is not based on current agency policy; (3) no requirements prevent degradation of soils vulnerable to base cation depletion; (4) plan components that address soils risk factors are too vague to be considered standards.

**Remedy(s) proposed by Objectors**

- Objector Friends of Panthertown’s suggested remedy is to improve road and trail maintenance to reduce erosion and sediment pollution.
- Objector SELC's suggested remedies are: (a) identify and adopt a protective standard that has been validated as maintaining or restoring soils and soil productivity; (b) supplement the FEIS with a serious analysis that fixes such a standard for our forests; or (c) commit to performing a quantitative (USLE) analysis at the project level to inform layout limitations. (d) Replace or justify the 85/15 rule for ground disturbance (e) identify and adopt a protective standard that has been validated as maintaining or restoring soils and soil productivity; (f) Supplement the FEIS with a determination of suitability that excludes areas vulnerable to base cation depletion or commit to assess vulnerability to base cation depletion for all areas where buffering capacity is "uncertain or unlikely to be attained" before proposing any timber harvest activities, and commit to avoiding areas where timber harvest would reduce buffering capacity below safe levels (g) Clarify the screening criteria and mitigation measures for landslide and highly erodible soil risks, either in the Plan itself or in a post-plan guidance document developed with expert and public input. (h) Revise TIM-S-06 to require skyline logging systems on sustained slopes over 40% unless another logging method is found, based on site-specific factors, to be equally protective of soil and water resources.



## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.7(e)(1)(iii) A standard is a mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

36 CFR 219.8(a)(2)(ii) The plan must include plan components, including standards or guidelines, to maintain or restore: Soils and soil productivity, including guidance to reduce soil erosion and sedimentation.

FSH 1909.12, 20, Standards place design or operational constraints on projects and activities or prohibit the Forest Service from authorizing certain types of projects or activities to help achieve or maintain desired conditions, to avoid undesirable effects, or to meet applicable legal requirements (see required topics for standards or guidelines in sec. 23, ex. 01 of this Handbook).

FSH 1909.12, 20, When designing plan components for soils and soil productivity to sustain the productive capability of the land, its ecological resources, and watershed functions, the Interdisciplinary Team should consider whether it would be appropriate for plan components to give direction regarding: h. Limiting potential effects on soil chemical properties, such as potential for nutrient depletion, acidification, or both.

FSH 1909.12, 20, The desired conditions of the plan can describe certain geologically hazardous areas to be avoided or mitigated. There may be plan objectives to modify infrastructure or manage certain lands to reduce risks associated with these areas. Suitability, standards, or guidelines may prescribe certain restrictions on uses, projects, or activities in or near these geologically hazardous areas.

### Project Record

FEIS Appendix A, p. 27: Soil Standard 2, SLS-S-02, was carried over from the previous plan without making any adjustments since soil disturbance monitoring indicates that the standard has been adequate to maintain an acceptable level of soil productivity while facilitating logging operations to meet project objectives. Layout of logging disturbances are approved by the Forest Service Sale Administrator, considering environmental concerns and limitations, for minimal disturbance and alteration of soil productivity. For example, old skid roads are reused when available and appropriate, and stream crossings are avoided. Therefore, there was no need for change. The Soils section in Chapter 3 of the EIS addresses impacts to soils from forest management activities and soil quality monitoring shows that the level of detrimental soil disturbance is minimized during operations and is often well below the 15% guidance (data ranges from 0.3% to 16.3% with an average detrimental soil disturbance of 6.9%).

Forest Plan, p. 34: GEO-S-02 The location of proposed roads, trails, facilities, and management activities shall be screened for the presence of geological hazards relevant to the geologic setting.



If geologic hazards are present, then location and design measures shall be provided for management activities that may affect or be affected by the geologic hazards.

Forest Plan, p. 37: WSD-O-03 Tier 1: Annually, conduct a site-specific analysis of base cations in 1 to 2 project locations where there is a concern for base cation depletion. Develop mitigation or restoration strategies when these strategies are necessary to restore or protect at-risk water, soils, flora, and fauna.

Forest Plan, p. 39: SLS-S-01 Vegetation management activities, road and trail design, and other proposed infrastructure projects shall be screened for the presence of highly erodible soils. If present, then location and design measures shall be provided to reduce erosion potential and effects to natural resources.

Forest Plan, p. 39: SLS-S-02 On all soils dedicated to growing vegetation, at least 85% of the activity area will be able to grow vegetation without Substantial Soil Impairment. Reforestation shall be accomplished within five years.

Forest Plan, p. 291. MQ-1-2-T1 What is the status of acid neutralizing capacity threshold in the watersheds selected for analysis? Indicator: Sulfur and nitrogen deposition levels.

## **Response**

With regard to the assertion that skyline logging is no longer required on steep slopes, see the response to Hydrology and Soils, Issue 7: Impacts to Soils from Logging on Steep Slopes.

Objectors contend that the 85/15 soil impairment standard is unsupported by the Best Available Science and is not based on current agency policy. The Forests provided a response to this issue (FEIS Appendix A, p. 27) by saying the 85/15 soil standard was carried over from the current LMP because soil monitoring indicates the Forest does a good job in meeting the 15% disturbance threshold. The FEIS discusses soil monitoring on pp. 3-45 to 3-47. This discussion includes tables that present soil monitoring results and talks about actions taken when monitoring showed disturbance greater than 15% resulting in subsoiling of compacted roads and skid trails.

There is no law, regulation, or policy that says the Forests cannot use the 85/15 soil disturbance criteria as guidance to address soil quality. The Forests are using the 85/15 soil disturbance standard to protect soil quality through soil monitoring and taking corrective actions to address those areas where more than 15% disturbance is found. The standard as written in the LMP is missing the accompanying notes for superscripts 6 and 7.

With the assertion that there are no requirements prevent the degradation of soils vulnerable to base cation depletion, the Forest Service Handbook states the following regarding cation depletion (FSH 1909.12, 20): “When designing plan components for soils and soil productivity to sustain the productive capacity of the land, its ecological resources, and watershed functions, the Interdisciplinary Team should consider whether it would be appropriate for plan components to give direction regarding h. Limiting potential effects on soil chemical properties, such as the potential for nutrient depletion, acidification or both.”



Soil acidification and cation depletion are discussed on FEIS p. 3-43. The Forest Plan (p. 37) has WSD-O-03 “Tier 1: Annually, conduct a site-specific analysis of base cations in 1 to 2 project locations where there is a concern for base cation depletion. Develop mitigation or restoration strategies when these strategies are necessary to restore or protect at-risk water, soils, flora, and fauna.” Additionally, the Forest Plan monitoring program includes a monitoring question to evaluate the status of the acid neutralizing capacity threshold in selected watersheds, using the indicators of sulfur and nitrogen deposition levels.

The Forest added an objective regarding cation depletion in the Forest Plan that outlines a way to obtain current information regarding cations in areas where it may be a concern and to develop mitigation and restoration strategies as needed related to cation depletion.

With regard to the objector’s assertion that Plan components that address soils risk factors are too vague to be considered standards, this objection is related to the following two standards:

GEO-S-02 The location of proposed roads, trails, facilities, and management activities shall be screened for the presence of geological hazards relevant to the geologic setting.<sup>5</sup> If geologic hazards are present, then location and design measures shall be provided for management activities that may affect or be affected by the geologic hazards.

SLS-S-01 Vegetation management activities, road and trail design, and other proposed infrastructure projects shall be screened for the presence of highly erodible soils. If present, then location and design measures shall be provided to reduce erosion potential and effects to natural resources.

These standards state that screening shall be conducted and mitigation methods developed as needed. The Responsible Official presents the reasoning for including the 85/15 disturbance rule in the FEIS. The Forests address cation depletion in an objective that describes a way to obtain current cation information and develops ways to mitigate it if needed.

#### **Instruction(s):**

**Instruction:** Superscripts 6 and 7 in SLS-S-02 are missing from p. 39 of the Forest Plan and need to be added.

**Clarification:** Clarify the mitigation measures that could result from ALS-S-01 in the management approaches section.

## **ROAD SYSTEM**

### **Issue 1: Number of Roads on the Forests**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Center for Biological Diversity; MountainTrue; Graham County; Richard Melvin; Southern Environmental Law Center et al.

One objector believes that more roaded areas should be made available. Their suggested remedy is to keep or increase the amount of open road miles proposed in the current version of the plan.



In contrast, multiple objectors believe that the Forest Service has provided no justification for adding 300 miles of additional roads to the road system. They point out that the plan authorizes the construction of 300 miles of additional logging roads (10 miles per year), noting that roads are the largest contributor to the sedimentation of streams and rivers in the forest (which can impact fish and aquatic habitat by decreasing fry emergence, decreasing juvenile densities, and reduce macro-invertebrate populations), and can impact the hydrology and geomorphology of a forest system.

Objectors CBD, I Heart Pisgah, and Friends of Big Ivy further elaborate on the potential impact of roads, stating that roads "act as barriers to species migration, cause direct mortality to terrestrial and avian species, fragment habitat, serve as a vector for non-native, invasive species, increase human presence in remote areas threatening sensitive resources and lead to an increased risk of wildfires" from ORVs, as well as change the hydrology and geomorphology of a forest system.

Objectors assert that the FEIS failed to:

- adequately examine the direct, indirect, and cumulative effects of the increased number and mileage of roads that will be constructed to accommodate additional logging;
- discuss where these roads would be constructed;
- discuss how they will impact fish and wildlife,
- discuss if old logging roads will be properly decommissioned,
- include more detail as to how roads will be decommissioned; and
- discuss whether new roads can be constructed and maintained to withstand the impacts of more intense storms and rainfall events fueled by climate change.

Objectors also contend that climate change can have an additional impact as roads designed for storms and water flows typical of the past may be unable to handle the effects of more extreme weather events such as increased flood severity, more frequent landslides, and changes in sedimentation rates and delivery processes.

Objectors believe that the proposed increase in road mileage is "unsustainable and unjustifiable" given that the Forest Service cannot adequately maintain its existing road infrastructure. Objectors conclude that "Committing to hundreds of miles of additional roads over the life of the plan fails to meet the plan's state goal of ecological integrity and violates the 2012 Planning Rule."

Objector SELC questions the analysis in the FEIS, which shows that Alternative C would require more road construction than Alternative E, but notes that Alternative C harvests the same amount of timber on a smaller land base. Similarly, Objector SELC questions the amount of road building under Alternative E, noting that currently, the 3.1 miles of road are constructed per year to harvest approximately 800 acres of timber, but that harvesting 2,200 acres per year under Tier 1 would require 8.5 miles of road construction; under Tier 2, 4,700 acres of harvest would require an addition 9.7 miles of road. They assert that over the life of the plan, this would add up to requiring 364 miles of road construction, which is higher than the FEIS estimate of 104 miles. As such, Objector SELC states that by expanding the suitable timber base by over 100,000 acres,



most of which is in lands that were in the wilderness inventory areas and are inaccessible, a significant expansion of the road network would be required and that this was not accurately analyzed in the FEIS.

### **Remedy(s) proposed by Objectors**

- The Forest Service must determine whether the provision of roads in the plan components achieve species persistence under the 2012 Planning Rule at 219.9;
- Select an alternative that calls for substantially less regeneration harvests and that reduces the amount of new roads. The further expansion of the road system, coupled with the Forest Service's failure to reduce its road maintenance backlog, results in ecological issues that threaten the viability of species of conservation concern and the recovery of federally listed species. These issues need to be addressed in the Forest Plan to comply with the 2012 Planning Rule;
- Establish specific standards that require maintenance of permanent roads and require the decommissioning of temporary roads when they are no longer needed for the purpose for which they were constructed;
- Require the Forest Service to reduce the maintenance backlog for the road system as a whole before new roads are constructed.
- The FEIS must discuss how the annual addition of up to 10 miles of roads would impact the ecological integrity and diversity of the Forests if historical trends continue and the road maintenance backlog is not reduced.
- The FEIS and Forest Plan must discuss the specific "decommissioning" activities that will occur on the forest and how these activities will mitigate environmental impacts occurring throughout the Forests.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Travel Management and Planning Sections of Forest Service Manual/Forest Service Handbook (FSM 7700, FSH 7709.55 & 7709.59) lay out agency policy and guidance for managing and maintaining roads on Forest Service land.

Both the Forest Service Handbook (FSH 2409.18) and Manual (FSM 2432.34b) address temporary road construction and use as well. Temporary roads are not constructed to serve long-term uses and must be closed prior to the closure of the timber sale (FSH 2409.18, Ch 43.2).

36 CFR 219.6 – Assessment – consideration of transportation plans; inclusion of infrastructure, such as transportation corridors as part of the content of the assessment.

36 CFR 219.10 – Multiple use – consider plan components for the Appropriate placement and sustainable management of infrastructure, such as recreational facilities and transportation and utility corridors.

### **Project Record**



Forest Plan, p. 19 and FEIS p. 1-6: “Manage roads given the reality of limited maintenance funds combined with the public’s desire for motorized access to the forest; Manage a sustainable road system that includes road construction and reconstruction as well as direction for closing out unneeded roads, including temporary roads and roads in environmentally or geologically hazardous locations; Address the public’s desire to access the National Forest.”

Forest Plan, p. 85: OGN-S-03: “In patches identified as part of the old growth forest network, allow new road construction only after all feasible and prudent alternatives have been analyzed in the NEPA process and all impacts to old growth characteristics are minimized.”

Forest Plan, p. 88: FHL-S-03: “Do not use non-native invasive plant species in revegetation or planting efforts, such as when seeding temporary openings or following road construction or reconstruction.”

Forest Plan, p. 88: FHL-S-05: “Survey for and treat NNIS before and after vegetation management and other ground disturbing activities.”

Forest Plan, pp. 106-110 - Transportation and Access section in its entirety; this section includes numerous plan components that address road maintenance and road decommissioning (TA-O-04; TA-O-06).

Forest Plan, p. 217 – Backcountry Management Area (new road construction and reconstruction are limited. Unneeded system roads are prioritized for decommissioning, while unauthorized roads are prioritized for obliteration).

Forest Plan, pp. 220-221 – Backcountry Transportation and Access in its entirety.

Forest Plan, p. 226 – Special Interest Areas - SIA-S-06: “Allow new road construction only when justified by site-specific analysis and when biological values of the area can be protected and scenic values protected in the Forest Scenic Areas.”

Forest Plan, p. 233 – Research Natural Areas – RNA-S-11: “Do not allow road construction or reconstruction or maintenance of historic roads.”

Forest Plan, p. 263 – Wild and Scenic Rivers – WSR-S-16: “Within Recreation and Scenic classified segments, road construction or reconstruction including bridges and river access points must maintain the rivers’ free flowing condition and Outstandingly Remarkable Values.”

Forest Plan, p. 263 – Wild and Scenic Rivers – WSR-S-18: “Within Wild classified segments, new road construction or other facility construction is not permitted.”

FEIS, pp. ix-x – Identification of Access as an issue.

FEIS, p. 1-13 – Description of Access as an issue.



FEIS, p. 2-16 – Response to Issue 3-Access and Issue 4-Recreation: “Alternative A would continue to provide both motorized and non-motorized access to the Forests. This alternative projects constructing and reconstructing about 31 miles of road per year, with about 66 percent of road construction occurring on slopes less than 40 percent” and “Alternative A includes an emphasis on semi-primitive, backcountry recreation with approximately 117,000 acres of land allocated to Backcountry MA and an additional 68,100 acres in other management areas that limit road construction and timber harvest.”

FEIS Chapter 3 Effects Analysis, pp. 3-36, 3-40, 3-49, 3-50, 3-51, 3-52, 3-58, 3-60, 3-73, 3-116, 3-192, 3-246, 3-249, 3-385, 3-449, 3-436, 3-437, 3-439, 3-468, 3-476, 3-490 through 3-497, 3-521, 3-524, 3-542, 3-543, 3-554, 3-555, and 3-556.

FEIS Appendix A, Response to Comments, pp. 19, 20, 90-98, 149, 170, and 174.

## **Response**

The response to comments addressed the objector’s concern regarding construction of new roads as well as their remedy of minimizing or prohibiting new road building on the forests. Specifically, FEIS Appendix A, p. 89 states that “The Forest Plan does not identify an objective for road building because road construction is not an objective in and of itself. Road construction will likely be needed to accomplish other objectives of the plan, and the effects of road construction on other resources are analyzed in the EIS. The EIS estimates how road building could occur in the future and includes estimates for the next 200 years to ensure potential effects of resources are analyzed; however, it does not authorize this activity. Decisions regarding individual roads are made at the project level. Plan standard TA-S-03 is clear that construction of new travel resources shall only be planned, constructed, and designated following public involvement and site-specific environmental analysis; standard TA-S-07 explains that travel analysis is required when changes are considered to the transportation system. The EIS Transportation and Access section explains that historically, 20 percent of new system road construction occurs on new corridors, and 80 percent occurs as temporary roads or new system roads on existing corridors.”

The FEIS, Appendix A, p. 89 goes on to note that “The plan includes direction to ensure that the transportation system reflects the expected levels of use and public desires while having minimal impacts on resources. Several plan components ensure that roads will be located to minimize impacts to resources (in the transportation and access, water, soils, geological resources and plant and animal diversity sections of the plan). The plan also includes monitoring of changes to the transportation system.”

Finally, the FEIS, Appendix A p. 89 documents that “Road construction is not permitted in all management areas. New road construction will primarily occur in the Matrix and Interface MAs. Specific locations of new road construction will be informed through a Transportation Analysis Process and analyzed at the project level. Large, contiguous blocks of unroaded forest are provided for within Backcountry, Inventoried Roadless Areas, Recommended Wilderness, Wilderness Study Areas, and designated wilderness, which do not allow for new road construction. To respond to those who seek a larger or smaller road network, the alternatives



vary in the percentage of land where road construction is permitted and the percent of the forest where road access is prioritized.”

The effects analysis of the FEIS (pp. 3-36, 3-40, 3-49, 3-50, 3-51, 3-52, 3-58, 3-60, 3-73, 3-116, 3-192, 3-246, 3-249, 3-385, 3-449, 3-436, 3-437, 3-439, 3-468, 3-476, 3-490 through 3-497, 3-521, 3-524, 3-542, 3-543, 3-554, 3-555, and 3-556) document the potential impacts of new road construction, including but not limited to the effects on fish and wildlife; as for the objector’s assertion that the FEIS does not identify the location of roads, that is a project-level decision. The Forest Plan does contain adequate plan components as noted above to direct where roads can and cannot be constructed during project-level planning.

The revised plan includes a section on transportation and access which includes plan components to ensure that “construction of new travel routes shall only be planned, constructed, and designated following public involvement and site-specific environmental analysis” (TA-S-03) and that “roads shall be located and designed to minimize impacts to resources” (TA-S-04). Several plan components address the location and design of roads to minimize the impact on forest waters and associated aquatic habitat. (Plan, pp. 44-45, 48-49, 92-93, 106-110). See also the responses to Hydrology and Soils Issue 1 and Issue 4 regarding protection of streams during road construction. While the revised plan does not propose road construction as part of plan components it does require decommissioning as documented with objectives TA-O-04 and TA-O-06.

The objector’s request that the FEIS and Forest Plan identify specific road decommissioning activities that will occur on the Forests and how these activities will mitigate environmental impacts is a project-level decision. Road decommissioning is adequately addressed in the FEIS (3-180, 3-339, 3-436, 3-490 through 3-497, and more). The Forest Plan includes a desired condition that “unneeded roads are removed from the system and decommissioned, following public involvement and site-specific environmental analysis.”

The Forest Plan, p. 40, also considered the impacts of climate change on road construction and maintenance, documenting that the Forests will “Prepare for intense storms and fluctuations in base flow using methods that maintain forest health and diversity, including controlling soil erosion, relocating high risk roads and trails, and constructing appropriately sized culverts and stream crossings while retaining stream connectivity.”

The Forest Plan, p. 109, includes standard TA-S-08 that requires temporary roads to be located and constructed to minimize impacts throughout their use, and requires them to be decommissioned when no longer needed. By their nature, temporary roads have a life cycle according to their permitted use, usually in the form of a timber sale and its various contractual documents. Through these timber sale documents, these temporary roads have a beginning when the road is designed and built and an end when the timber sale is closed and the land is returned to its presale, hydrologically stable state. Because the disposition of temporary roads is guided by both timber sale contracts and Forest Service policy, no additional direction in the Forest Plan is needed beyond the standard already proposed. As stated above, both the Forest Service Handbook (FSH 2409.18) and Manual (FSM 2432.34b) address temporary road construction and



use as well. Temporary roads are not constructed to serve long-term uses and must be closed prior to the closure of the timber sale (FSH 2409.18, Ch 43.2).

As for the objector's request that more roads be opened back up to the public, the current annual maintenance budget does not allow for the increased maintenance needed to allow for more passenger car access (i.e., increasing maintenance from a high-clearance road to a passenger car road).

**Instruction(s):** None.

## **Issue 2: Insufficient Analysis of Road System**

**Objector(s):** Southern Environmental Law Center et al.

Objector SELC states that the Forest Service failed to meet Planning Rule requirements by deferring travel analysis to the TAP Minimum Road System process. Objector states the plan has a no net gain of roads assumption that is flawed because some system miles will have to be added to meet objectives, but removal of an equal number of miles will not always be possible. Objector asserts that the FEIS has not sufficiently disclosed road impacts, considered alternatives, or used the best available scientific information in analyzing the road network and impacts of the proposed plan.

### **Remedy(s) proposed by Objectors**

- Objector SELC's implied remedy is to reanalyze the road system as part of the plan, using more data and different assumptions, and complete travel management subparts A and B.

## **REVIEW FINDINGS**

### **Law, Regulation and/or Policy**

Travel Management and Planning Sections of Forest Service Manual/Forest Service Handbook (FSM 7700, FSH 7709.55 & 7709.59) lay out agency policy and guidance for managing and maintaining roads on Forest Service land.

36 CFR 212.5(b)(1) describes Travel Management and the Administration of Forest Service roads (including travel analysis process or TAP). Subpart B of this same CFR also explains the designation of roads, trails, and areas for motor vehicle use on a Motor Vehicle Use Map (MVUM) for National Forest System lands. All of the MVUMs for the National Forests in North Carolina are currently posted on the external forest website in the "Maps" section of the forest website.

### **Project Record**

Draft ROD, pp. 78-79 – Travel Management Rule discussion – "The Nantahala and Pisgah NFs had each begun the travel analysis process when forest plan revision began. The Forest



Supervisor, in coordination with the Regional Forester, decided not to finalize the travel analysis report using the 1994 plan as amended and to instead use the revised plan, when completed. An objective was added to the forest plan to re-evaluate and update the Travel Analysis Report within three years of plan approval (Plan Objective TA-O-02):

Tier 1: Re-evaluate and update the Travel Analysis Report (TAR) report within three years of plan approval. This process will identify opportunities to adjust the Forests road system so that it considers access for public and forest management activities, minimizes road- and trail-associated environmental impacts and public safety risks, considers site-specific priorities and opportunities for road improvements and decommissioning and can be maintained within budget constraints. Future development and implementation of Travel Analysis Report recommendations and best available FS data will identify a minimum road system. (Transportation and Access-Objective-02).

The output of this analysis will be a report that identifies, among other things, the minimum road system needed, which is the system needed to meet adopted resource management objectives, applicable statutory and regulatory requirements, long-term funding expectations, and to minimize adverse environmental impacts from road activities (36 CFR 212.5(b)(1)). The TAR process will identify and analyze issues, risks, benefits, and opportunities for possible future changes to the road system. Recommendations made in TARs may be carried forward in NEPA projects. Future projects shall be informed by the TAR and, where practicable, may result in altering road management objectives, decommissioning unneeded roads, adding system roads to support management objectives, or transferring maintenance responsibilities to other entities.”

Forest Plan, p. 107 – Transportation and Access – TA-O-01: “Tier 1: Maintain 280 miles of roads to standard annually across the Nantahala and Pisgah by performing maintenance, reducing road maintenance level, or decommissioning unneeded roads. Tier 2: Reduce the maintenance backlog by an additional 10% annually.”

Forest Plan, p. 107 – Transportation and Access - TA-O-02: “Tier 1: Re-evaluate and update the Travel Analysis Report (TAR) report within three years of plan approval. This process will identify opportunities to adjust the Forests road system so that it considers access for public and Forests management activities, minimizes road- and trail-associated environmental impacts and public safety risks, considers site-specific priorities and opportunities for road improvements and decommissioning and can be maintained within budget constraints. Future development and implementation of Travel Analysis Report recommendations and best available FS data will identify a minimum road system.”

Forest Plan, p. 107 – Transportation and Access – T-O-03: - “Tier 1: Develop and implement a forestwide road maintenance plan that identifies priority maintenance activities, funding sources, and performance responsibilities over the life of the plan. The work presented in this plan is prioritized to promote public safety, prevent erosion and sedimentation, protect water quality, and maintain access to the Forests with an emphasis on priority watersheds.”

Forest Plan, p. 107 – Transportation and Access - TA-O-04: “Tier 1: Unauthorized road and trail miles within priority watersheds and Inventoried Roadless Areas will be identified and



prioritized for obliteration to minimize erosion and sedimentation. A minimum of 20 miles of unauthorized roads and 30 miles of unauthorized trails will be restored to natural contours during the life of the plan.”

Forest Plan, p. 108 – Transportation and Access – TA-O-06: “Tier 1- No net decrease in the miles of open roads in Interface and Matrix over the life of the plan. Tier 2 - Increase mileage of seasonally open roads in Interface and Matrix by 5-10% over the life of the plan, prioritizing recreational access, such as hunting and fishing. Determine the amount of unneeded roads in Backcountry and decommission 10% over the life of the plan.”

Forest Plan, p. 108 – Transportation and Access – TA-S-02: “Cross-country motorized use off of open and designated roads and trails is prohibited except in the case of emergency, such as wildland fire or search and rescue.

Forest Plan, p. 108 – Transportation and Access – TA-S-04 in its entirety.

Forest Plan, p. 109 – Transportation and Access – TA-S-07: “Travel analysis is required when changes are considered to the transportation system, such as changes in vehicle class, traffic patterns and road standards. This can be accomplished either at the broadscale level via a forestwide analysis or at the project level. Until a forestwide TAR is complete, site specific analysis must be done; after the forestwide TAR is complete, responsible officials may determine whether travel analysis is needed in the project analysis area.

Forest Plan, p. 109 – Transportation and Access – TA-S-08: “Temporary roads are located and constructed to minimize impacts to resources while providing short-term, single-purpose access, and are decommissioned when no longer needed, using techniques such as, but not limited to, removing drainage structures, re-contouring, and stabilizing the final slope.”

Forest Plan, pp. 109-110 – Transportation and Access – Management approaches in their entirety.

## **Response**

The objector’s assertion of “no net gain of roads” is not what the FEIS reflects. In contrast, the FEIS, p. 3-495 states that “The plan does not propose road building as part of plan components, although road building may be needed to achieve other plan objectives. For this reason, the EIS considers the potential impact of road construction on several resources described in other sections of this EIS (soils, water, cultural resources, etc.).”

The draft ROD, p. 78 documented the Forests decision and rationale for completing the travel analysis process within 3 years of plan approval, as documented by the plan component TA-O-02. This plan component specifically states that “This process will identify opportunities to adjust the Forests road system so that it considers access for public and forest management activities, minimizes road- and trail-associated environmental impacts and public safety risks, considers site-specific priorities and opportunities for road improvements and decommissioning and can be maintained within budget constraints. Future development and implementation of



Travel Analysis Report recommendations and best available FS data will identify a minimum road system. (Transportation and Access-Objective-02).”

The draft ROD, p. 79 also noted that “Additionally, a standard in the Transportation and Access section states: Travel analysis is required when changes are considered to the transportation system, such as changes in vehicle class, traffic patterns, and road standards. This can be accomplished either at the broadscale level via a forestwide analysis or at the project level. Until a forestwide TAR is complete, site specific analysis must be done; after the forestwide TAR is complete, responsible officials may determine whether travel analysis is needed in the project analysis area. (Transportation and Access-Standard-07)” also noting that “Other plan components in the Transportation and Access section of the Plan support the Travel Management Rule’s intent is to identify a transportation system that is environmentally and financially sustainable while meeting public needs.”

As for Subpart B, the draft ROD, p. 79 documents that “For consistency with Subpart B of the Travel Management Rule, each unit must designate specific roads, areas, and trails for the use of motor vehicles (which includes off-road vehicles) that are displayed on the motorized vehicle use maps (MVUM). These maps for the Nantahala and Pisgah NFs were completed prior to plan revision. This programmatic plan decision does not authorize additional motor vehicle use, or prohibit existing motor vehicles uses, therefore this decision does not result in an MVUM change.” As such, subpart B of the forest-wide Travel Analysis has been completed in the form of Motor Vehicle Use Maps (MVUM) and those results are posted on the Forests external website for each district; these maps are updated annually as various updates to motor vehicle use classes change.

For a response to the objector’s assertion that the FEIS has not sufficiently disclosed road impacts, see Road System Issue 1: Number of Roads on the Forests above.

**Instruction(s):** None.

### **Issue 3: Plan Should Ensure Less Road Impacts**

**Objector(s):** Greg Warren; Southern Environmental Law Center et al.

Objector Warren asserts that the most important restoration need on the forest is roads. Objector Warren's suggested remedy is to restore roads in established semi-primitive non-motorized areas. Objector SELC believe that plan components will compel the Forest Service to add temporary roads, which are not held to the same management standards, and may therefore have additional resource impacts. Their suggested remedy is to adapt the management area allocations the Partnership recommended, which would instead add system roads.

Objector SELC also contends that the Forest Service insufficiently analyzed road system stream crossing, which impact water and riparian resources, leading to a violation of the Clean Water Act, NEPA, and APA. Their suggested remedies are: the plan should ensure progress on removing stream crossings, especially on roads with limited use; placing WIAs in management areas that allow for disinvestment; committing to correct backlogged issues before adding to the



road system; and developing a guidance document, with public input, to promote understanding of aquatic species' passage needs and how to meet them.

### **Remedy(s) proposed by Objectors**

- In order to remedy these legal errors, the Forest Service should adopt the MA allocations recommended by the Partnership, which for present purposes are very similar to Alternative C. Development of permanent infrastructure on Alternative E's suitable land base, which contains 100,000 acres of largely unroaded WIAs, cannot be accomplished without a commensurate expansion of the road system, which is not within the Forests' fiscal capability. In addition, the Forest Service should commit that it will reduce the maintenance backlog before expanding the road network.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Road System Issue 1: Number of Roads on the Forests and Road System Issue 2: Insufficient Analysis of Road System for a list of relevant laws, regulation and policy.

### **Project Record**

See Road System Issue 1: Number of Roads on the Forests for a comprehensive list of citations to the project record.

### **Response**

See the responses to Road System Issue 1: Number of Roads on the Forests, Road System Issue 2: Insufficient Analysis of Road System, and Road System Issue 4: Road Maintenance for additional information on how roads were considered. See also Hydrology and Soils Issue 1: Number of Roads on Forest, Hydrology and Soils Issue 3: Protection of Drinking Water Sources and Hydrology and Soils Issue 4: Water Quality Impacts and Reliance on BMPs regarding protection of streams.

**Instruction(s):** None.

## **Issue 4: Road Maintenance**

**Objector(s):** Nantahala Pisgah Forest Partnership; Southern Environmental Law Center et al.

Objector SELC raises numerous concerns over the road system and the backlog of road maintenance on the Forests. The objector states that while the FEIS acknowledges that the road system is "the greatest threat to water quality on the Forests," and that roads are barriers to aquatic organism passage, the objector states that the risks increase when road maintenance is lacking and the budgets to maintain those roads are "chronically inadequate."



Objector SELC asserts that lack of maintenance means that roads are more likely to have failing BMPs that impact water quality, noting that the "planning record shows unmistakably that sediment impacts in violation of mandatory state BMP performance standards are ubiquitous on the Forests' most neglected roads (namely, the low-service, usually dead-end roads in wilderness inventory areas). As noted above, a 2015 survey of roads in wilderness inventory areas showed that 40% of stream crossings and other BMPs directly affecting intermittent or perennial streams violated the prohibitions on accelerated erosion in a stream crossing or visible sediment directly entering the stream."

Objector SELC goes on to state that chronic lack of maintenance can lead to acute failures during storm events and that the "location of those failures is unpredictable, which means that chronic lack of maintenance must be remedied systematically, not merely in priority watersheds or with post-failure mitigation."

Objector SELC cites the Forests' draft TARs, which show that the Forests "have profound road funding deficits—they have approximately 12.5% and 14% of the funding needed to maintain their road systems to standard, respectively—and a backlog that is extraordinarily high even compared to other national forests."

Objector SELC then contends that "the FEIS does not disclose the extent of the backlog or attempt to characterize the degree to which the current road system is negatively impacting environmental resources, despite that information being available to the agency in the planning record and highly relevant to the decision."

Objector SELC states that while the Plan includes workable desired conditions, they believe that "Without components to improve sustainability of the road system as a whole, the Plan's other components will certainly move the Forests in the wrong direction. In the Matrix and Interface MAs, which occupy 610,434 acres (58.8%) of the forests, the Plan forbids a net decrease in open road access and calls for a 10% increase in open roads at Tier 2. TA-O-06. To be sure, this does not compel a net increase in total road mileage, but because open roads are more expensive to maintain, it would increase the maintenance backlog unless offset by a greater number of closed roads to be miles downgraded or decommissioned. Such an offset will not occur because the Plan makes no provision for disinvesting in closed roads in the Matrix and Interface MAs. To the contrary, the Plan's resource management objectives will require significant additions to the road system. The FEIS admits that additional road construction will occur, although it does not explain or support its assumptions about how much."

Objector SELC believes that the Revised Forest Plan's objectives, standards and guidelines would not make progress toward the stated desired conditions because of the inability to maintain existing roads due to lack of funding. They state that the Forest Plan proposes to maintain 280 miles of roads annually (TA-O-01) out of the 2,320 total miles of system roads and assert that this maintenance will not be distributed across the Forests evenly and will primarily occur on the 868 miles of open roads that require frequent maintenance; closed roads will not be maintained on a regular basis.



Objector SELC then points out that the effects analysis in the FEIS relied upon "unprecedented levels of road maintenance that are not reflected in the Plan." Objector SELC asserts that "The FEIS artfully obscures impacts by relying on desired conditions and theoretical improvements for the preferred alternative, in contrast to its pessimistic realism for the current plan. Compare FEIS at 3-73 (claiming the action alternatives would improve water quality because roads would be "a priority for reducing sedimentation") and 3-495 (promising a host of improvements from implementing a road maintenance plan) with 3-494 (stating that under Alternative A, "road maintenance issues would continue to persist on a transportation system that has a backlog of deferred maintenance")."

Objector SELC again states that while budgets to maintain the road system are chronically inadequate, and the Plan includes no components that would change this, all of the theoretical improves in the Plan are dependent on funding - See EIS at 3-493 ("In order to provide a safe and efficient transportation system that minimizes environmental impacts, new sources of funding must be identified or required maintenance must be reduced, either by reducing mileage or reducing existing maintenance levels").

### **Remedy(s) proposed by Objectors**

- The Forest Service must reduce its maintenance backlog.
- The Plan must ensure that future projects do not degrade aquatic ecosystems.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Travel Management and Planning Sections of Forest Service Manual/Forest Service Handbook (FSM 7700, FSH 7709.55 & 7709.59) lay out agency policy and guidance for managing and maintaining roads on Forest Service land.

### **Project Record**

Forest Plan, p. 106 – Transportation and Access – TA-DC-05: “The transportation system’s size and type are able to be maintained to Forest Service standards using resources available to the Forests.”

Forest Plan, p. 107 – Transportation and Access - TA-O-01: “Tier 1: Maintain 280 miles of roads to standard annually across the Nantahala and Pisgah by performing maintenance, reducing road maintenance level, or decommissioning unneeded roads. Tier 2: Reduce the maintenance backlog by an additional 10% annually.”

FEIS Appendix A, Response to Comments, pp. 90-99.

### **Response**



The United States Congress determines the budget for the Forest Service, including how that budget will be spent by allocating dollars to agency programs. The status of road maintenance budgets has been a challenge, as the agency works to minimize the accrual of deferred maintenance. However, new Federal and Forest Service programs have recently been started or revitalized to help with the overall accrual of deferred maintenance by adding needed funding for various projects involving the agency's transportation system.

The Forests specifically include objectives of maintaining 280 miles of road to standard annually and included the Tier 2 objective of reducing the maintenance backlog by an additional 10% annually; these objectives will enable the Forests to take advantage of additional funding that is likely to help with the deferred maintenance backlog.

See the responses to Road System Issue 1: Number of Roads on the Forests and Road System Issue 2: Insufficient Analysis of Road System for additional information on how roads were considered. See also Hydrology and Soils Issue 1: Number of Roads on Forest, Hydrology and Soils Issue 3: Protection of Drinking Water Sources and Hydrology and Soils Issue 4: Water Quality Impacts and Reliance on BMPs regarding protection of streams.

**Instruction(s):** None.

## AQUATIC SPECIES

### Issue 1: Federally Listed Aquatic Species

**Objector(s):** Center for Biological Diversity; Friends of Panthertown; Southern Environmental Law Center et al.

Objectors CBD and SELC state that the Appalachian elktoe, littlewing pearly mussel, Eastern hellbender salamander, and spotfin chub are federally listed aquatic species which were omitted from fine-filter plan components despite being highly sensitive to specialized threats that were not addressed at the coarse filter analysis, and that where the Forest Plan does mentions these species, Objector CBD states that it "inappropriately provides that the Forest Service is to merely "maintain species presence within currently occupies habitat" of the Forests.

Objectors CBD and SELC also both contend that one of the most critical threats to the persistence of these species is from sedimentation and siltation, particularly related to logging and roads. They assert that the discussions of BMPs that reduce sediment are "inadequate to assure protection of these species" and that the species are not resilient enough to withstand failure of BMPs, which objectors believe are overstated in terms of their success rate. The objectors also state that the road-density estimates omit sedimentation for the analysis entirely. Objectors maintain that the FEIS conclusion that these species will persist and their populations may increase under the proposed planning framework is arbitrary and capricious because it lacks a rational explanation from the Forest Service.

Multiple objectors assert that the revised Forest Plan does not provide any buffers or protections for ephemeral streams, stating that species of rare and endangered species, salamanders and



snails depend on ephemeral streams during their life cycles and that failure to provide any buffers or protections for ephemeral streams is a violation of the Endangered Species Act and a failure of the Plan to provide persistence/recovery of listed species and species of conservation concern. Objector Friends of Panthertown states, "These buffers prevent stream banks from being degraded, provide shade, and reduce sediment pollution due to timber harvesting, road building, and other development. When these protective buffers are removed, water temperatures increase and sediment makes its way into streams and rivers. That excess sediment suffocates aquatic habitats and reduces populations of species such as trout, freshwater mussels, and hellbenders."

Objector CBD asserts that the 2012 Planning Rule at 36 CFR 219.9(b) requires the Forest Service to "determine whether or not the plan components...provide the ecological conditions necessary to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area." Objector CBD goes on to say that neither the FEIS nor the Plan have specific plan components that will contribute to species recovery, which is a "glaring omission" given the "Forest Service states in its cumulative effects discussion that because of threats throughout the landscape, the recovery of the Appalachian elktoe and the littlewing pearly mussel "may be at risk without additional conservation efforts" (FEIS pp. 3-316, 3-322).

### **Remedy(s) proposed by Objectors**

- Objector SELC's suggested remedy is for the Final Plan to include standards which require higher streamside buffers and safety measures beyond BMPs in known habitat of imperiled aquatic species.
- Objector CBDs suggested remedy includes the following:
- The Forest Service cannot assume existing and future roads will be decommissioned and the agency needs to consider how increased sedimentation and siltation may impact these species.
- The Forest Service must analyze the direct, indirect, and cumulative impacts forestry activities will have on these species, particularly as a result of sedimentation.
- The Forest Service must also perform a rigorous fine-filter analysis so that it can provide the ecological conditions necessary to contribute to the recovery of these endangered and threatened species.
- Plan components should also call for habitat and population surveys, the identification of suitable habitat within the NF, and specific measures to protect these habitats from siltation to contribute to the species' recovery. One such measure would be to prohibit logging and manage for old growth where suitable habitat occurs, such as in Natural Heritage Areas.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**



Endangered Species Act (1973) - Section 7. (a) Federal Agency Actions and Consultations - (1) The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act. Based on the language in the preamble of the Endangered Species Act, the word conservation means recovery.

36 CFR 219.9 - Contributing to the recovery of Threatened and Endangered Species: Planning requirements to “provide the ecological conditions to ... contribute to the recovery of federally listed threatened and endangered species” are found at 36 CFR 219.9(a) and 36 CFR 219.9(b) and elaborated upon at FSH 1909.12, 23.13. In addition to meeting substantive Endangered Species Act requirements, this policy requires that plan components provide ecological conditions to contribute toward the recovery of any threatened or endangered species in the plan area. The Rule [36 CFR 219.9(b)] motivates an evaluation of the adequacy of plan components to provide ecological conditions to “contribute to the recovery of federally listed threatened and endangered species... within the plan area” as further described at FSH 1909.12, 23.13. This evaluation discloses the relationship between the species ecology (e.g., threats, limiting factors, and important ecological conditions), plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9.

FSM 2600 (Wildlife, Fish, and Sensitive Plant Habitat Management); Chapter 2670 (Threatened, Endangered and Sensitive Plants and Animals), specifically FSM 2670.12 - U.S. Department of Agriculture Directives -Departmental Regulation 9500-4. This regulation directs the Forest Service to:

1. Manage "habitats for all existing native and desired nonnative plants, fish, and wildlife species in order to maintain at least viable populations of such species."
2. Conduct activities and programs "to assist in the identification and recovery of threatened and endangered plant and animal species."
3. Avoid actions "which may cause a species to become threatened or endangered."

FSM 2670.2 – Objectives, specifically FSM 2670.21 - Threatened and Endangered Species:

1. Manage National Forest System habitats and activities for threatened and endangered species to achieve recovery objectives so that special protection measures provided under the Endangered Species Act are no longer necessary.
2. Promote recovery efforts through Research and Development and State and Private Forestry programs.

FSM 2670.3 – Policy, specifically FSM 2670.31 - Threatened and Endangered Species:

1. Place top priority on conservation and recovery of endangered, threatened, and proposed species and their habitats through relevant National Forest System, State and Private Forestry, and Research and Development activities and programs.
2. Establish, through the Forest planning process, objectives for habitat management and/or recovery of populations, in cooperation with states, the Department of the Interior, Fish and Wildlife Service (FWS) or the Department of Commerce, National Oceanic and



Atmospheric Administration Fisheries Service (NOAA Fisheries), and other federal agencies.

3. Review, through the biological evaluation process, actions and programs authorized, funded, or carried out by the Forest Service to determine their potential for effect on threatened and endangered species and species proposed for listing.
4. Avoid all adverse impacts on threatened and endangered species and their habitats, except when it is possible to compensate adverse effects totally through alternatives identified in a biological opinion rendered by the Department of the Interior, Fish and Wildlife Service (FWS) or Department of Commerce, National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries); when an exemption has been granted under the act; or when the FWS or NOAA Fisheries biological opinion recognizes an incidental taking. Avoid adverse impacts on species proposed for listing during the conference period and while their federal status is being determined.
5. Initiate consultation or conference with the FWS or NOAA Fisheries when the Forest Service determines that proposed activities may have an effect on threatened or endangered species; are likely to jeopardize the continued existence of a proposed species; or result in the destruction or adverse modification of critical or proposed critical habitat.
6. Identify and prescribe measures to prevent adverse modification or destruction of critical habitat and other habitats essential for the conservation of endangered, threatened, and proposed species. Protect individual organisms or populations from harm or harassment as appropriate.

## **Project Record**

The FEIS included a coarse filter analysis using the Ecological Sustainability Evaluation (ESE) modeling tool to analyze the effects of plan components on aquatic species and numerous other species (FEIS, Appendix C). The ESE modeling tool was utilized “To help comply with Section 7(1) a of the Endangered Species Act, each of these species was evaluated to assure conditions for recovery are provided (emphasis added) (FEIS p. 3-105).” Note, that the correct section in the ESA is Section 7(a)(1).

The FEIS specifically included a fine filter analysis for the Appalachian elktoe, littlewing pearly mussel, and spotfin chub in Section 3.3.4.6 Aquatic Wildlife Species of the FEIS. For each of these species the findings were similar:

“This analysis concludes that Appalachian elktoe, as represented by potential effects of the proposed planning framework on species’ habitat conditions analyzed with the ESE, will continue to persist on Forest Service lands. Improved habitat conditions may lead to population increases on the Forests, although this is limited due to land ownership patterns. Because ownership patterns are generally fragmented, and much of the species’ estimated range is not under Forest Service stewardship, it is possible that habitat for and populations of Appalachian elktoe may continue to persist range-wide, although at lower densities than can effectively contribute to species’ recovery at this larger scale. It should be noted that species propagation and population augmentation continue to be a priority for the USFWS, NCWRC, and the Forests.



These partners continue to inventory new habitats and monitor existing populations as part of species recovery efforts (FEIS, p. 3-318).”

“This analysis concludes that little-wing pearl mussel, as represented by potential effects of the proposed planning framework on species’ habitat conditions analyzed with the ESE, will continue to persist on Forest Service lands—if it does still exist in western North Carolina. However, because ownership patterns are generally fragmented, and much of the species’ estimated range is not under Forest Service stewardship, it is possible that habitat for and populations of little-wing pearl mussel may continue to persist range-wide. Because of extremely low numbers and known occurrences, it is critical that inventory for this species continue to be a priority for the USFWS, NCWRC, and the Forests. These partners continue to inventory new habitats and monitor existing populations as part of species recovery efforts (FEIS, p. 3-323).”

“This analysis concludes that spotfin chub, as represented by potential effects of the proposed planning framework on species’ habitat conditions analyzed with the ESE, will continue to persist on Forest Service lands. Improved habitat conditions may lead to population increases on the Forests. However, it is important to remember that ownership patterns are generally fragmented, and much of the species’ estimated range is not under Forest Service stewardship.

USFWS status assessments indicate that spotfin chub continue to persist and are contribute to species’ recovery at this larger scale. It should be noted that species propagation and population augmentation continue to be a priority for the USFWS, NCWRC, and the Forests (FEIS, p. 3-328).”

The Forest Plan includes plan components that address species recovery (Forest Plan, pp. 44, 74, and 80).

The potential effects of sediment were considered in the analysis, including road density, and there are at least 18 plan components that specifically address sediment and sedimentation.

The Forest Plan provides for species surveys when appropriate (Forest Plan, p. 80).

ESA Section 7 Consultation – Programmatic Biological Opinion on the Revised Forest Plan for the Pisgah and Nantahala National Forests; Log No. 22-399. US Fish and Wildlife Service, Asheville Ecological Services Office. 82 pgs.

## **Response**

The analysis of aquatic ESA-listed species, specifically the coarse filter and fine filter analysis, was adequate. The coarse filter analysis took into consideration five threats to aquatic sensitive species, including sediment. The FEIS also provides for a fine filter analysis on aquatic ESA-listed species. The programmatic analysis on sediment was adequate, and the Plan has at least 18 components that specifically address sediment and sedimentation. The Plan sets out when species surveys would be, or would not be, required.



Aquatic ESA-Species Analyzed in FEIS: The FEIS analyzed effects on three ESA-listed aquatic species: a mussel called the Appalachian elktoe (*Alasmidonta raveneliana*), a mussel called the little-wing pearl mussel (*Pegias fabula*), and a fish called the spotfin chub (*Erimonax monachus*). In addition, the FEIS analyzed effects on a mussel species that is currently being evaluated by the US Fish and Wildlife Service called the longsolid (*Fusconaia subrotunda*). See Tables 81 and 82 in the FEIS (pp. 3-257 and 3-258).

The objector(s) also include the eastern hellbender as an ESA-listed species. The FEIS did not include an analysis on the eastern hellbender as an ESA-listed species because the Distinct Population Segment (DPS) that occurs on the North Carolina forests (*Cryptobranchus alleganiensis alleganiensis*) is not listed (Federal Register Vol. 84, No. 65, April 4, 2019). The FEIS did include an analysis on the eastern hellbender as a Species of Conservation Concern (SCC). See Appendix C of the FEIS.

The analysis is consistent with the requirements of Section 7(a)(1) of the Endangered Species Act. The Nantahala and Pisgah National Forests developed a Biological Assessment (BA) and consulted on the Revised Forest Plan with the U.S. Fish and Wildlife Service (USFWS). The USFWS prepared a Biological Opinion (BO) that was signed on June 2, 2022. The USFWS concurred with the Forests effect determination of “not likely to adversely affect” the Appalachian elktoe, the little-wing pearl mussel, and the spotfin chub (BO, p. 1). In addition, the BO concluded that the Revised Forest Plan, as proposed, is not likely to jeopardize the continued existence of the longsolid due to the geographical extent of the species and minimal adverse impacts associated with implementation of the Revised Forest Plan (BO, p. 2).

Coarse Filter Analysis: The objectors contend that the “Appalachian elktoe, littlewing pearl mussel, Eastern hellbender salamander, and spotfin chub are federally listed aquatic species which were omitted from fine-filter plan components despite being highly sensitive to specialized threats that were not addressed at the coarse filter analysis...” Objector CBD proposed a remedy of performing a rigorous fine-filter analysis so that it can provide the ecological conditions necessary to contribute to the recovery of these endangered and threatened species.

The Forests used the Ecological Sustainability Evaluation (ESE) modeling tool to analyze the effects of plan components on these species and numerous others (FEIS, Appendix C). Appendix C and the project record provide detailed descriptions of the associated indicators and values for each analysis as well as species associated with each species group. Each species list is not all-inclusive but rather a compilation of federally listed species, species of conservation concern, focal species, and other closely associated species (FEIS, p. 3-92). The FEIS (pp. 3-105 and 3-106) provides a list of the species groups analyzed and states that in addition to Threatened and Endangered species and Species of Conservation Concern, an additional 689 plant and animal species (Appendix C) were included in this analysis based on the request of the public or other species experts involved in the development of the plan and EIS.

The ESE analysis is organized by the following categories to identify the impacts of proposed plan direction on multiple species groups (FEIS, p. 3-91). This includes species associated with aquatic ecosystems, such as Stream Associates, Small River Associates, Medium and Large



River Associates and Pond, Lake, and Reservoir Associates. It also includes species sensitive to threats, such as Aquatic Species Sensitive to Sediment, Aquatic Species Sensitive to Nonpoint Source Pollution, Aquatic Species Sensitive to Point Source Pollution, Aquatic Species Sensitive to Invasive Species (Aquatic Community Health), and Aquatic Species Sensitive to Hydrologic Modification.

**Fine Filter Analysis:** The aquatic ESA-listed species were not omitted from a fine filter analysis as the objectors contend. In the FEIS, the fine filter analysis provides for specific habitat needs that are not met by the coarse filter. The Plant and Animal Diversity section primarily serves as the fine filter in that it focuses on plan components that meet the needs of specific species or species groups where their needs are not covered by the coarse filter alone (Forest Plan, p. 74).

A fine filter analysis for the Appalachian elktoe, littlewing pearly mussel, and spotfin chub is specifically provided in Section 3.3.4.6 Aquatic Wildlife Species of the FEIS. This section described the five indicators that would be used to analyze the effects of the proposed action on these species (FEIS pp. 3-310-11):

1. Percent of watershed in agricultural or urban land uses. This indicator represents potential for nonpoint source pollution such as sedimentation and other toxics across the watershed, regardless of ownership.
2. Percent of riparian areas in forested land uses. This indicator represent potential for changes in thermal regime across the watershed, regardless of ownership.
3. Number of permitted discharges. This indicator represents potential for point source pollution within the watershed, regardless of ownership.
4. Riparian road and trail density (open/designated routes). This indicator represents potential for sedimentation of aquatic habitats resulting from forest management. This threat (sedimentation) is long recognized as a primary stressor on aquatic populations. The revised forest plan specifically addresses this threat through identification of priority watersheds for resource restoration and numerous plan components to mitigate potential effects of forest management.
5. Stream crossing and dam density. This indicator represents hydrologic connectivity as it relates potential versus occupied aquatic habitat within the watershed. This threat (habitat connectivity) is long recognized as a primary stressor on aquatic populations. The revised forest plan specifically addresses this threat through identification of priority watersheds for resource restoration and emphasis on providing aquatic organism passage.

This provides an opportunity to assess the Forest's ability to affect overall species persistence across the landscape in the long-term on a landscape with fragmented ownership (FEIS p. 3-311).

**Findings and ESA-listed Species Recovery:** The objector's implication that the Forests believe that maintaining persistence is all that is required by the Endangered Species Act is not accurate, as the objectors are not using the full context of the findings and conclusions for these species. The full conclusion statements can be found in the section above for each aquatic ESA-listed species. These conclusions disclose that habitat for these species is fragmented and that most of the species' range is located off-forest. The conclusions in the FEIS state that it should be noted that species propagation and population augmentation continue to be a priority for the USFWS,



NCWRC, and the Forest Service. This shows that the Forests understand, and are actively engaged in, expanding the species ranges and populations.

In addition, the Aquatic Systems and the Plant and Animal Diversity section, both have plan components that seek to “expand” the range of ESA-listed species and maintain consistency with recovery plans. These include:

AQS-O-02 – Tier 1: Maintain and expand the occupied range of freshwater mussels and other aquatic species of conservation concern and federally-listed species across the Forests. Additionally, maintain or increase populations within this range over the life of the plan (Forest Plan, p. 44).

PAD-DC-01 – Habitats are consistent with recovery plans and Biological Opinions for federally listed and proposed species in order to contribute to recovery of these species (Forest Plan, p. 74).

PAD-S-01 – Continue to work with the USFWS to expand known range, increase the population size, and enhance/restore suitable habitat for federally listed species on the Forests and within western North Carolina (Forest Plan, p. 80).

The aquatic ESA-listed species brought up by the objector(s) are covered in the Plant and Animal Diversity section in the Forest Plan (see Table 5 Aquatic Species, p. 75). This table indicates that the contribution to species recovery is to “Maintain species presence within currently occupied habitat on the NP.”

Finally, consultation with the US Fish and Wildlife Service has been completed for listed species. In that consultation, the US Fish and Wildlife Service concurred with the Forest Service findings.

Programmatic Sediment Analysis: The FEIS includes extensive sediment/sedimentation programmatic analyses. This includes the ESE that specifically analyzed road and trail density (FEIS, p. 3-92; FEIS, p. 3-310; Appendix C). These indicators represent the potential for sedimentation of aquatic habitats resulting from forest management. The ESE also analyzed agricultural or urban land uses (FEIS, p. 3-310). This indicator represents the potential for nonpoint source pollution such as sedimentation and other potential toxins across the watershed, regardless of ownership.

Objector CBD’s propose remedies regarding sedimentation based on existing and future road decommissioned are addressed based on the Forest’s commitment to decommissioning roads as previously noted. In addition, the Forest Plan includes monitoring to determine if desired conditions and objectives are being achieved.

The Forest Plan provides management approaches to emphasize road decommissioning, and obliteration. In the Backcountry Management Area, unneeded system roads are prioritized for decommissioning, while unauthorized roads are prioritized for obliteration (Forest Plan, pp. 217-221).

The Forest Plan recognized that roads and trails can affect aquatic systems (i.e., sedimentation) and places emphasis on decommissioning roads. Transportation and Access objectives TA-O-04



sets out that a minimum of 20 miles of unauthorized roads will be restored to natural contours during the life of the plan. In addition, there are at least 18 plan components that specifically address sediment and sedimentation (those with an asterisk also address road and trail decommissioning). These include:

Desired Conditions: SLS-DC-02; WTR-DC-07; AQS-DC-08; SZ-DC-02; MIN-DC-01

Objectives: TA-O-03; TA-O-04

Standards: WTR-S-01; TIM-S-07\*; TA-S-04; SR-S-22

Guidelines: SZ-G-01\*; TA-G-01; FAC-G-01; WSR-G-13

Goals: BLM-GLS-10; EE-GLS-10; PL-GLS-09

Plan components specific to road or trail decommissioning include:

Desired Conditions: TA-DC-07; REC-DC-24

Objectives: TA-O-01; TA-O-02; TA-O-04; TA-O-06

Standards: TA-S-08; REC-S-08; REC-S-15; REC-S-19; REC-S-27

Guidelines: TA-G-01

Monitoring is fully addressed in the response to Planning Issue 9: Monitoring Program. Chapter 5 (Monitoring and Adaptive Management) of the Forest Plan, MON-Table 7 has a specific monitoring question that would track how many miles of road are decommissioned annually (Forest Plan, p. 298).

Objector CBD suggests that the Forest Service must analyze the direct, indirect, and cumulative impacts forestry activities will have on these species, particularly as a result of sedimentation. The FEIS included an analysis on the direct, indirect, and cumulative effects on aquatic species at the programmatic level. It is inferred from the objector's letter that the analysis they seek is the type of analysis that occurs at the project level, not at the programmatic level. The FEIS addressed the effects of sediment from a variety of management activities (FEIS section 3.3.1 and 3.3.4.6; Appendix C). The revised land management plan is a programmatic level planning document that does not directly authorize any ground-disturbing activities or projects. Future ground-disturbing activities and projects will be consistent with the revised land management plan and subject to additional site-specific public involvement, environmental analysis, and pre-decisional review processes in compliance with the Act and CEQ's NEPA regulations. (Draft ROD, p.76). In addition, this programmatic assessment does not alleviate the ESA requirements to document project-specific potential effects (FEIS, p. 3-304). This is in reference to the spruce-fir moss spider but is applicable to all ESA-listed species.

The FEIS analyzed environmental effects using 5 indicators (FEIS, p. 3-310). This included stream crossing density and open road and trail (riparian) density for Forest Service lands only (i.e., not on private land) since those indicators best reflect threats from forest management and serve as a gauge of the Forests' ability to influence overall watershed condition (FEIS, p. 3-92). In addition, the FEIS analyzed the effects of vegetation management on the persistence of rare animals (FEIS, p. 3-336). The FEIS (p. 3-339) states that aquatic species, such as the Hiwassee Headwaters Crayfish are susceptible to sedimentation of occupied habitats from runoff associated with forest management. Research demonstrates that when referring to vegetation management and timber harvest, most runoff is associated with roads and access rather than vegetation removal. The revised forest plan contains plan components to reduce or eliminate this



threat. Additionally, laws such as the Clean Water Act and North Carolina Sediment and Pollution Control Act and the North Carolina Forest Practice Guidelines Related to Water Quality guide management activities. All of this guidance is incorporated into all alternatives of the revised forest plan (FEIS, p. 3-339).

Surveys: Objector CBD proposed a remedy that Plan components should also call for habitat and population surveys, the identification of suitable habitat within the NF, and specific measures to protect these habitats from siltation to contribute to the species' recovery. The Forest Plan has a standard regarding surveys in the Plant and Animal Diversity that addresses this proposed remedy, PAD-S-03, which states that "Project-level field surveys for population and habitat of federally listed species or SCC shall be commensurate with the risk of potential activities, using the following consistent and efficient approach" (Forest Plan p. 80). The standard states that:

- "Field surveys may not be conducted if any of the following are true and are documented in the project record:
- Proposed activities will not affect species or their habitats, or will have beneficial effects, or
- Adequate inventory following accepted protocols is available that can be used, or
- Information on number and location of individuals or habitat conditions would not allow better assessment of effects to the population or improve design or mitigations more than assuming presence and analyzing expected effects."

The Forest Plan standard also notes that "Field surveys shall be conducted when all of the following conditions are met:

- The proposed treatment area has a potential for occupancy, and
- Project activities may affect the population or habitat of a federally listed species or SCC, and
- Adequate population inventory information is unavailable, and
- Information on the number and location of individuals and habitat conditions would improve project design, the application of mitigations to reduce adverse effects or the assessment of effects of the population.

Objector SELC's suggested remedy is for the Final Plan to include standards that require more than higher streamside buffers and safety measures beyond BMPs in the known habitat of imperiled aquatic species. The Forest Plan includes standards beyond higher streamside buffers (SZ-S-01). See all the plan components discussed in this response. See also the response to Hydrology and Soils, Issue 4: Water Quality Impacts and Reliance on BMPs.

#### **Instruction(s):**

**Clarification:** Review FEIS and Forest Plan to ensure that the correct sections of the ESA are being used. Section 7(a)(1) is described above. Section 7(a)(2) is the section that requires Federal agencies to consult with the Services on projects.

**Clarification:** Add additional explanation to Appendix C to improve its useability. Explain the information provided in the tables and how these tables demonstrate that plan components are ensuring habitat will be provided and rare species will be protected. Reference the ESE tool



outputs and ensure they are included in the project record. Provide an explanation for each SCC species group and how specific plan content provides for species' persistence.

## **Issue 2: Salamanders and Amphibians**

**Objector(s):** Forest Keeper; Hugh and Janice Irwin; Center for Biological Diversity; I Heart Pisgah; Friends of Big Ivy; Southern Environmental Law Center et al.

Objector CBD asserts that "The fine filter analysis for salamanders and other amphibians is deficient and there must be stronger protections for ephemeral streams and limitations on logging during the breeding season" noting that there are "29 species of salamanders that occur within old growth forests on the Pisgah and Nantahala" and details the species along with their habitat needs in their objection.

Objector CBD contends that impacts to amphibians from clear-cuts can last 50-70 years or even longer, asserting that other management practices, such as group selection, shelterwood harvest, road construction and operation can impact both population growth and habitat. They point out roads can divide breeding and feeding behaviors, increase mortality from migrating/dispersing amphibians, and disrupt population dynamics, potentially isolating populations. Objector CBD states that "there is only a single sentence about how roads lead to the crushing of salamanders, particularly as they move to areas to breed. There is no discussion of how more roads will further threaten these species. (FEIS at pp. 3-340 and 341). To the extent the Forest Service relies on TA-DC-08 and TA-S-04 to mitigate road impacts, these standards are vague and inadequate. The FEIS and Forest Plan do not explain when roads would "contribute to migration stress" for these animals and what specific measures would be undertaken to avoid this from occurring."

Objector CBD contends that "the Final Plan's coarse-filter analysis fails to capture these impacts and essentially treats all impacts to this species group the same, regardless of their location on the forests," noting that many salamanders occur in small patches, isolated geographic areas, and even only in a single county. Objector CBD states that many of these areas have never been surveyed, may contain old growth patches that are not currently part of the old growth network, and that many species of salamanders could be at risk if these areas are not protected from regeneration harvest. Objector CBD states that "There is only passing mention of how salamanders are susceptible to changes in forest floor microclimate and drying out of the forest floor (FEIS at p. 3-334) and no discussion of how the Forest Plan will minimize or mitigate these impacts of regeneration harvest."

Objector CBD also contends that "the Forest Service has engaged in a deficient fine-filter analysis, yielding few protections for these species. Many species of salamanders depend on ephemeral water sources for breeding; yet the Final Plan (unlike the Cherokee National Forest Plan, for example) does not require any buffers for ephemeral streams and no seasonal restrictions on harvests to avoid impacting the breeding season." Objector CBD notes that while BMPs were developed to protect both perennial and intermittent streams, there are few protections for ephemeral streams, which are important to salamander communities (particularly dusky salamanders) and are at high risk during timber harvest. Objector states that these impacts were not addressed in the FEIS and that the Revised Forest Plan contains no standards or



guidelines that are specifically aimed at protecting these species and their ephemeral stream habitats. Objector CBD notes that while the Forest Service added language to the FEIS and Plan acknowledging the importance of ephemeral streams, the "Forest Service failed to explain why protections for these ephemeral streams are not warranted or how other aspects of the Plan will adequately protect these important resources (FEIS at 2-11; 3-75; 3-91)." Objector CBD notes that "WTR-DC-06 states that the Forest Service is to "emphasize the protection of all stream channels" and "protect the integrity of perennial, intermittent, and ephemeral stream channels including their bed and banks" (Final Plan at 42)" but that there are still no standards for ephemeral streams. Objector CBD states that "The only language in Plan that comes remotely close to addressing this issue is under "management approaches," which provides that the Forest Service is to "manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management" but that this does not explain the specific steps that will be taken to minimize impacts.

Objector CBD asserts that "The Forest Service's discussion not only falls short of meeting the fine filter analysis requirements under the 2012 Planning Rule, but it also runs afoul of the APA and NEPA. In this instance, the Forest Service has utterly failed to examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made."

Objector CBD states that "the FEIS also does not examine the use of herbicides before and after timber harvests and how these practices can impact these species. Many researchers have studied the impacts of pesticides and herbicides on amphibians and other aquatic organisms yet the impacts of these activities go unexamined in the FEIS and the Plan does not contain any standards to mitigate the impacts."

Objector CBD holds that while "stream crossings may help mitigate impacts for salamanders traveling from upland to riparian areas, they do not address the impacts of roads fragmenting upland salamander habitat or minimize roadkill in these upland areas. (Forest Plan at 106; 108-109). They also do not help salamanders access ephemeral streams because these important breeding areas remain unprotected under the Plan."

Objector CBD specifically asserts that the fine filter analysis for the green salamander is deficient and that there must be stronger protections for the species. Objector CBD states that the Final Plan at 82 calls for a 300-foot buffer for the species, but notes that this could create "tiny islands of shrinking habitat." Objector CBD believes that the FEIS did not consider the dispersal limitations of the species and the potential cumulative effects of isolating these populations from multiple timber sales.

Objector SELC believes that the Forest Service failed to use the best available science for modeling salamander habitat and connectivity needs. Objector SELC states that the analysis of salamander habitat impacted by sedimentation due to logging and roadbuilding was "calculated by comparing modeled core salamander habitat areas that intersected with matrix and interface outside of old growth designations" and found that Alternative E would impact 15,500 acres more than Alternative C. Objector SELC then goes on to explain that the FEIS "nonsensically indicates that Alternative C would be worse for salamanders because it would provide fewer



opportunities for habitat mitigation techniques: "In general, because it places fewer acres in MA Group 1, Alternative C would probably result in the least frequency to apply project specific standards to support salamander habitat than the other alternatives." FEIS at 3-359." Objector SELC states that they "fail to see how having fewer opportunities for salamander habitat mitigation because there is less destruction of salamander habitat in the first place would be a problem for these species."

Objector SELC concludes that the FEISs comparison between the impacts of the alternatives on salamanders "unequivocally fails under NEPA" because it: fails to detect differences the objectors have shown to be present; fails to disclose effects to the public, and misunderstands or obscures differences between potential impacts of agency actions on salamander populations.

### **Remedy(s) proposed by Objectors**

- The FEIS must closely examine the alternatives impacts to unique habitat features of amphibians.
- Establish buffers for ephemeral streams and protect habitat features near these streams to protect the integrity of the stream channel and bank microhabitat.
- Establish the six proposed Priority Amphibian and Reptile Conservation Areas (PARCAs) and prohibit timber harvests in these areas.
- In other suitable salamander habitat, use group selection harvests rather than regeneration harvests to retain a large percentage of the overstory, maintain shade and leaf litter, and provide refuge and recolonization opportunities.
- In addition to avoiding old growth stands, designate "no harvest areas" on the landscape that could serve as sources for repopulating nearby harvest units.
- Increase the rotation length to help ensure that a portion of the area contains large trees, high accumulations of large diameter CWD, and other structural characteristics associated with late-seral forest.
- Establish a forest-wide standard aimed at preventing the fragmentation of salamander habitat by prohibiting timber harvests and road construction from creating barriers to the movement of groups of salamanders at the individual or population level.
- Monitor disturbances and commit to mitigating their impacts by adjusting management levels if unexpected levels of disturbance are occurring during implementation.
- Specific to the green salamander, the Forest Service must analyze impacts and identify an alternative that prohibits logging within known and suitable green salamander habitat.

Objector SELCs suggested remedies include:

- The Forest Service must reallocate SCC salamander habitat outside of Matrix and Interface or else rectify errors in salamander impact analysis done at the coarse and fine filter scale.
- The Forest Service must explain why it found no meaningful difference in Alternatives (C and E) which place a much different acreages of such habitat into Matrix. An analysis which is not sensitive enough to detect obvious differences between alternatives does not satisfy NEPA.
- The Forest Service must account for all salamander microclimate needs in Plan standards; relying on coarse woody debris only in recently harvested stands is not credible to meet



the habitat requirements for salamanders, which require both CWD, appropriate moisture regimes, and canopy cover.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.8(a)(3)(ii): Plans must establish width(s) for riparian management zones around all lakes, perennial and intermittent streams, and open water wetlands, within which the plan components required by paragraph (a)(3)(i) of this section will apply, giving special attention to land and vegetation for approximately 100 feet from the edges of all perennial streams and lakes.

36 CFR 219.9(b)(1): The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area. If the responsible official determines that the plan components required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.

### **Project Record**

Forest Plan, p. 43 - AQS-DC-02 Habitat in streams, rivers, and lakes provides opportunities for fish and other aquatic organisms (e.g., crayfish, mussels, insects, turtles, and salamanders) to hide, spawn, and forage.

Forest Plan, p. 47 - WTR-DC-06 Emphasize the protection of all stream channels. Protect the integrity of perennial, intermittent, and ephemeral stream channels including their bed and banks. In streams that flow only ephemeral, the streamside zone differs from perennial and intermittently flowing streams due to the lack of development of riparian and aquatic habitat features. The Forests recognize that ephemeral flowing streams are often headwater channels, connecting to a network of streams that support an abundance of aquatic life and other beneficial uses of water. Ephemeral water bodies are managed to retain their ability to filter sediment from upslope soil disturbances. Constructed drainage features, such as system road drainage ditches or ditches within parking areas, are not considered ephemeral channels. Channels caused as a result of increased storm runoff from man-made features (e.g., roads, trails, parking lots, etc.) are considered ephemeral channels only when they connect to the downstream stream network after leaving the constructed feature. Similarly, isolated areas or segments of ephemeral soil scour are not considered ephemeral channels, because they do not connect to the downstream stream network.

Forest Plan, p. 49 - SZ-S-01 Vegetation management activities within streamside zones of perennial and intermittently flowing streams must contribute to ecosystem restoration and not compromise aquatic system and riparian structure and function with the exception of short term impacts for long-term improvements. For example, water temperature regulation, sediment



transport, streambank stability, and recruitment of large woody debris must exhibit natural dynamics after treatment. In these areas other objectives must be secondary to ecosystem restoration. Streamside zones are delineated as:

- Within 100 feet of either side of (or perimeter around) perennial waterbodies (streams, ponds, and reservoirs);
- Within 100 feet of perennial springs, bogs, and other wetlands;
- Within 50 feet of either side of (or perimeter around) intermittent streams

Forest Plan, p. 49 - Streamside Zones Management Approaches – Manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management. For example, temporary road and skid trail crossings are allowed but minimized, and timber is managed while minimizing soil disturbance and retaining vegetation for slope stability.

Forest Plan, p. 65 - WLF-DC-04 Mature forests, including late seral stages and old growth conditions, provide habitat and forage for species such as black bear, wild turkey, white-tailed deer, cerulean warbler, wood thrush, other species of migratory and resident birds, terrestrial salamanders, bats, and reptiles.

Forest Plan, p. 67 - WLF-DC-06 Habitat components at finer scales provide for wildlife occupancy, are present in sufficient amounts, and distributed across all ecozones. For example, snags provide roosting and nesting habitat for bats and cavity nesting birds, especially along the edge of openings, and foraging habitat for insectivores such as woodpeckers. Larger diameter live or dead trees provide habitat for black bear and other species requiring cavity or denning conditions, while smaller live or dead trees with crevices provide critical nesting and roosting habitat for flying squirrels and bats. Coarse wood on the forest floor, in a variety of sizes and shapes, provides habitat for salamanders and other cover and moisture-associated wildlife, nesting areas for some migratory birds (e.g., black and white warbler), as well as drumming logs for ruffed grouse.

Forest Plan, p. 69 - WLF-S-01 When identifying wildlife habitat diversity elements for retention during vegetation management activities: Emphasize retention of downed woody debris of various sizes, where available, and include pieces that are at least 10" DBH and 10' long to provide habitat for salamanders and other cover- and moisture-associated wildlife and drumming logs for ruffed grouse. Consider leaving new logging slash.

Forest Plan, p. 82 - PAD-S-14 Within the documented range of green salamanders, shaded rocks greater than 36 square feet in size shall be surveyed for species' presence during project-level planning. These surveys shall occur prior to project design to inform project implementation. If present, project activities shall be designed to avoid direct and indirect disturbance of the species and habitat, to protect thermal and moisture characteristics of the rocks (e.g., when appropriate, identification of a 300 foot no canopy tree removal buffer or other mitigations) and provide for habitat connectivity and dispersal. If the rocks are determined to be unoccupied, design activities to maintain suitable habitat.



Forest Plan, p. 82 - PAD-S-14 Within the documented range of green salamanders, shaded rocks greater than 36 square feet in size shall be surveyed for species' presence during project-level planning. These surveys shall occur prior to project design to inform project implementation. If present, project activities shall be designed to avoid direct and indirect disturbance of the species and habitat, to protect thermal and moisture characteristics of the rocks (e.g., when appropriate, identification of a 300 foot no canopy tree removal buffer or other mitigations) and provide for habitat connectivity and dispersal. If the rocks are determined to be unoccupied, design activities to maintain suitable habitat.

Forest Plan, pp. 92-93 - TIM-S-07 Design, construct and maintain erosion control features to meet soil and water quality standards. In particular: When yarding through streamside zones, the entire log shall be suspended. When needed, create skyline corridors not to exceed 20 feet in width through streamside zones by cutting the overstory to prevent uprooting of trees. These logs can be harvested unless they would benefit the streamside zone (e.g., provide salamander cover, ruffed grouse drumming logs, or large wood sources for streams).

Forest Plan, p. 106 - TA-DC-08 Roads do not contribute to migration stress of small ranging wildlife species, such as terrestrial salamanders, and barriers are mitigated where needed.

Forest Plan, p. 109 - Transportation and Access Management Approaches – When there are opportunities to change or improve the transportation system, the road system should be designed with these principles: i. Minimize the number of perennial, intermittent, and ephemeral stream crossings.

Forest Plan, p. 218 - BAC-DC-04 Wildlife habitat conditions support rare species and game species (such as veery, hermit thrush, Swainson's thrush, wood thrush, cerulean warbler, Kentucky warblers, salamanders, and black bear) that respond to larger blocks of older forest.

Forest Plan, p. 293 - MON-Table 3. Monitoring Questions and Indicators for the Status of Focal Species to Assess Ecological Conditions MQ 3-4-T2: What is the status of cerulean warbler, wood thrush, salamanders, and bats to evaluate successional stages, especially mature (late and old growth) forest?

FEIS, pp. 3-334 through 3-344 – Rare Animal Species Persistence and Recovery.

FEIS, p. 3-356 and 3-357 addresses PARCAs.

FEIS, pp. 3-359 through 3-361 - Specific analysis for the green salamander.

FEIS, pp. 3-355 through 3-361 – Terrestrial Salamanders Analysis.

## **Response**

To address the vulnerability of rare salamanders to the effects of forest management on forest floor and microclimate conditions, the proposed plan includes plan components to maintain coarse woody debris and protect streamside forests under all alternatives (AQS-DC-03, WTR-G-



02, SZ-S-03, WLF-S-01). The Forest Plan also includes a standard that requires project-specific surveys for rare species when existing data and knowledge is insufficient to make sound management decisions (PAD-S-03). Effects to terrestrial salamanders are also addressed in FEIS section 3.3.5.4. (FEIS p. 3-338).

All but two of the rare salamanders considered in this analysis are vulnerable to the effects of recreation on species' persistence because these species are generally less mobile and unable to escape direct threats. Salamanders are also susceptible to over-collection (from angler bait collection, personal collections, or for the pet trade), and roadkill (some species migrate across roads, especially at night, during breeding season). To address the over-collection threat, the plan includes PAD-S-02 to restrict collection of federally listed species or SCC except for approved scientific purposes and after coordinating with the USFWS. Plan direction in the transportation and access section addresses mitigating road impacts (TA-DC-08, TA-S-04). (See the sections on terrestrial salamanders 3.3.5.4.) (FEIS p. 3-341).

The regulation at 36 CFR 219.8(a)(3)(ii) requires widths along perennial and intermittent streams. The Forest Plan includes a desired condition that clarifies the role of ephemeral streams in sediment transport and adds plan management approaches to manage ephemeral stream channels and their areas of impact to reduce the risk of erosion and sedimentation by minimizing disturbance during management. The plan language explains that streamside zones are not an equipment or management exclusion zone, but that activities must contribute to ecosystem restoration and not compromise long term aquatic system and riparian function (FEIS p. 3-91).

There are 33 amphibians, including the green salamander, that were analyzed using the ESE modeling tool (FEIS Appendix C). Thirty-two of these species are salamanders and one is a frog. Twelve of those salamanders are Species of Conservation Concern (SCC). Two of the salamander species listed in the objector letter, both of which breed in ponds. The spotted salamander breeds in shallow freshwater pools, often in ephemeral wetlands, while the mole salamander inhabits floodplain forests near swampy areas or upland forests near bodies of water that are used as breeding ponds. Objector also highlighted the mountain chorus frog; their eggs and larvae develop in pools in or adjacent to woods, in spring pools, flooded ditches, pools along streams, and woodland ponds.

The Forest Plan, p. 47, states that ephemeral watercourses are always above the water table and have short periods of flow in direct response to precipitation or snowmelt runoff, and they have enough energy to remove leaf litter, organic matter, and soil down to mineral soil. They do not contain riparian vegetation, fish, or aquatic insects with multiple-year larval life cycle phases.

The semi-aquatic amphibians (Genera *Ambystoma* and *Pseudacris*) that the objectors highlight all undergo a metamorphosis in freshwater that takes from 4 weeks to 4 months. If an ephemeral pool/pond had water long enough to provide for successful metamorphosis, it is more likely than not that the waterbody has riparian vegetation and does not meet the definition of an ephemeral waterway, which is defined by the Forest Plan (p. 328) as "A stream that flows only in direct response to precipitation in the immediate locality (watershed or catchment basin), and whose channel is at all other times above the zone of saturation."



For amphibians that use vernal pools (i.e., pools that hold water for weeks to months but not perennially) for portions of their life cycle, they would receive the protective measures provided by Forest Plan components (SZ-S-01) because these systems would be considered “intermittent” since they would likely be below the zone of saturation and have riparian vegetation.

The FEIS, section 3.3.5.4, pp. 3-355 through 3-361 discusses the affected environment and environmental consequences for terrestrial salamanders. The FEIS, pp. 3-356 and 3-356 specifically address PARCAs, stating that “In response to the need for identification of discrete areas on the landscape that provide exceptional herpetofaunal diversity, PARC developed Priority Amphibian and Reptile Conservation Areas (PARCAs). These areas are intended to meet the following criteria: 1) capable of supporting viable amphibian and reptile populations; 2) occupied by rare, imperiled, or at-risk species; and 3) rich in species diversity or endemism (Sutherland and deMaynadier 2012).” The FEIS goes on to note that “There are six PARCAs that occur wholly or partially on the Nantahala and Pisgah NFs (Figure 98). While these areas are important to the conservation of amphibians in Western North Carolina, a review of known occurrences of rare amphibians and consultation with species group experts in Western North Carolina revealed that these areas alone will not offer conservation value to all terrestrial salamanders (i.e., several areas of known importance to amphibians, and specifically terrestrial salamanders, are not within an identified PARCA). Therefore, this approach to summarizing potential effects by alternative on terrestrial salamanders was not used.”

The revised Forest Plan met the requirements of 36 CFR 219.9(b)(1) by developing 10 plan components that address protections for amphibians. One of those plan components is specific to the green salamander which provides a species-specific component to provide for the required ecological conditions for this species.

**Instruction(s):** None.

### **Issue 3: Chattooga River Trout Habitat**

**Objector(s):** William (Bill) Floyd; Nick Holshouser; Southern Environmental Law Center et al.

Objector Bill Floyd raises numerous concerns regarding the health and viability of trout populations on the Chattooga River that he asserts have been adversely impacted by excess sediment that has accumulated in the streambed. He sets forth the following assertions regarding sediment and trout productivity:

- The densities and biomass of the trout, especially young-of-the-year trout, have suffered a catastrophic non-temporary collapse because of too much sediment accumulation on the stream bed and neither the FEIS nor Forest Plan mentions the best available scientific information regarding this. He asserts that this sedimentation "would seem to be a hazard which the NFMA contemplates should be defended against by adopting sufficiently specific Desired Conditions, and sufficiently protective Standards within the forthcoming LRMP."
- The Forest Service failed to disclose how fine particle sized sandy sediments have clogged the interstitial spaces in the stream bed in such quantities that exceed thresholds



for allowing successful spawning and survival of trout, and the Forest Service failed to disclose how this water pollution problem was first brought to the agency's attention in 2014.

- For over 5 years the Forest Service "has intentionally and repeatedly refused to employ appropriate monitoring of the river's trout populations" which is in conflict with relevant standards in the current Forest Plan, as well as the non-discretionary management duty imposed by the national Wild and Scenic Rivers Act and the antidegradation mandate of the Clean Water Act.
- Neither the Forest Plan nor the 2022 EIS make any mention of the results of the North Carolina Department of Environmental Quality (NCDEQ) 2016 study of the Chattooga's trout populations, nor do they mention the five-year baseline study of trout populations which was undertaken between 1992-1996 by USFS officials in coordination with the North Carolina Wildlife Resources Commission ("NCWRC").
- The FEIS and Forest Plan failed to include the results of the NCDEQ's electro-fishing effort along the river in September 2016 in the planning record; he notes that the effort failed to capture a single rainbow or brook trout, and only captured and released 181 brown trout of all ages.
- The FEIS and Forest Plan failed to acknowledge how the baseline excellent trout stream productivity of these headwaters was corroborated by a five-year study of the trout populations undertaken by Forest Service employees in coordination with the North Carolina Wildlife Resources Commission ("NCWRC") between 1992-1996.
- The FEIS and Forest Plan failed to acknowledge the expertise of the three scientists whose written consultations about the Chattooga were placed into the administrative record; they include Dr. Phil Kaufmann, Mr. Roger Nelson, retired USFS fisheries biologist, and Dr. William McLarney; and studies/scientific papers published by Bryce, Lomnický, and Kaufmann; Bryce, Lomnický, Kauffman, McAllister, & Ernst; and Suttle, Power, Levine & McNeely, and the agency also failed to consider research by the agency's own Pacific Southwest Research Station.
- The 2022 Forest Plan fails to provide a specific enough action plan for enhancing the reproductive suitability of the in-stream habitat to reestablish the stream's biological capacity for sustaining outstanding densities, biomass and species assemblage of naturally reproducing populations of trout.
- The FEIS and Forest Plan fail to document how the North Carolina headwaters of the Chattooga River constitute a unique cold water Class B Trout Stream which must be managed much more intensely than what the USFS currently suggests, as the 2022 Forest Plan Standards and Desired Conditions do not afford any specific protections for the trout, and instead withdraw protections which were supposed to have been provided to the Chattooga's trout in the current Forest Plan, including a standard that required the agency to manage habitat primarily for trout and improve habitat of wild trout streams as a first priority.

Another objector states that "the failure to include Public Mountain Trout Waters recognized by the North Carolina Wildlife Resource Commission [NCWRC] is quite curious, considering the NCWRC is a USFS partner. The NCWRC maps 2,505 miles of trout waters within the lands of the suitable base. These perennial flowing waters are critical to ensuring wild and stocked trout habitat and serve an important recreation purpose that contributes significant income to the



region. The trout waters alone represent over 60,000 acres of perennial buffer. Consider that the plan identified only 47,000 acres of both perennial and intermittent buffers." The objector contends that by underestimating the miles of streams and the acreage of stream buffers, the environmental consequences section of the FEIS will underestimate impacts, particularly to riparian related species such as salamanders because the FEIS will not have disclosed the accurate number of road/stream crossings which can be barriers for these species.

Objector SELC also asserts that 100% of aquatic species are sensitive to sediment and point source pollution associated with management activities.

### **Remedy(s) proposed by Objectors**

Objector Bill Floyd offers the following remedies:

- The agency must begin undertaking annual counts of the densities and biomass of the trout residing on the North Carolina headwaters of the Chattooga River and must not focus on monitoring cars at parking lots as rationale to determine whether or not the current way in which the agency is managing these headwaters properly discharges their non-discretionary duties.
- The agency must adopt a desired condition which requires the agency to implement a time certain and fully funded plan for using proven technologies to vacuum up the massive plume of small particle sized sediments which have accumulated within the de facto sediment catch basin located in front of the logjam at latitude 35.033897 longitude - 83.128544.
- The agency must adopt a standard which requires the use of vacuum technologies for removing the excess sediment which clogs the interstitial spaces lying between the small cobble and gravels which need to be kept clear for mature trout to spawn successfully and which need to be kept clear to enhance the early life cycle survival of newly hatched alevin.
- The agency should consider the capabilities and experience of organizations such as Streamside Systems, Inc., who has worked with government agencies in using such technologies in removing sediments and restoring the suitability of a stream bed for supporting successful spawning by mature trout.
- The agency must begin enhancing the suitability of the stream bed for successful spawning by mature trout.
- The agency must begin physically placing additional appropriately sized gravels on the stream bed at locations where the normal water flows and the physical in stream habitat are most suitable for successful spawning by trout.
- Remedies suggested by others include accurately mapping the streams and their buffers, and protecting closed canopy and old growth conditions, as well as mitigating sedimentation and pollution of waterways.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**



36 CFR 219.7(f)(1) requires land managers to identify watersheds that are a priority for maintenance or restoration.

36 CFR 219.12(a)(1) requires the development of a monitoring program for the area and included it in the plan.

FSM 2600, Wildlife, Fish, and Sensitive Plant Habitat Management, FSM 2610.3 describes Forest Service policy under Cooperative Relations:

1. Recognize the role of the States to manage wildlife and fish populations within their jurisdictions and the responsibility of the Fish and Wildlife Service to manage fish and wildlife resources within its authority.
2. Recognize the State fish and wildlife agencies as a public agency with management responsibilities for wildlife on the National Forests and include them as partners in planning and implementation of activities that effect wildlife and fish.
3. Provide leadership in habitat management on National Forest System lands to meet resource objectives of the Forest Service and its cooperators.

## **Project Record**

The plan includes objectives to maintain or expand the occupied range of brook trout, freshwater mussels and other aquatic species of conservation concern and aquatic federally listed species (AQS-O-01, AQS-O-2), and working with partnerships to complete the assessment of aquatic organism passage needs and replace impaired stream crossings (AQS-O-03). A standard constrains management activities to avoid, minimize or mitigate negative impacts to aquatic habitats and species unless the management objective is to protect a native species from encroachment by a non-native species (AQS-S-01) (FEIS p. 3-90).

Guidelines clarify management activities to follow applicable North Carolina and Federal Best Management Practices to meet laws, regulations, and policies, and provide management constraints on the use of pesticides and herbicides, installation of new stream crossings, and aquatic organism passage projects. Management approaches recognize aquatic ecosystem restoration and enhancement that the FS does with partners to achieve shared goals (FEIS p. 3-91).

Additionally, geographic area goals identify opportunities across the Forests to improve aquatic ecosystems and partner with others, under the plan's theme of Clean and Abundant Water. Two hundred forty-five plan components directly or indirectly support healthy and resilient aquatic habitats on the Forests. Providing clean and abundant water is a primary theme of the revised forest plan, which includes needs for healthy aquatic habitats. These plan components can be summarized from data presented in Appendix C (FEIS p. 3-91).

The National Forests in North Carolina maintain an active program of designing and implementing stream sedimentation minimization features during all land management activities that are often more conservative than what is required by state, federal, and local law, regulation, and policy. Forest Service monitoring of Best Management Practice application and



implementation shows that over 93% of the time, no visible sediment is reaching stream channels-- that design features are planned and implementing correctly (exceeding required standards), resulting in the reduction or elimination of sediment transport to local streams during project implementation (NFs in NC 2018) (FEIS p. 3-97).

There are at least 18 plan components that specifically address sediment and sedimentation (those with an asterisk also address road and trail decommissioning). These include:

Desired Conditions: SLS-DC-02; WTR-DC-07; AQS-DC-08; SZ-DC-02; MIN-DC-01

Objectives: TA-O-03; TA-O-04

Standards: WTR-S-01; TIM-S-07\*; TA-S-04; SR-S-22

Guidelines: SZ-G-01\*; TA-G-01; FAC-G-01; WSR-G-13

Goals: BLM-GLS-10; EE-GLS-10; PL-GLS-09

There are 17 plan components that specifically address trout and/or brook trout and/or the Chattooga River, including:

Desired Conditions: AQS-DC-01

Objectives: AQS-O-01; AQS-O-03

Standards: AQS-S-01

Guidelines: AQS-G-03

Goals: BAM-GLS-06; PL-GLS-07; HD-GLS-07; HD-GLS-08; HD-GLS-09; HD-GLS-17; HD-GLS-22; GB-GLS-10; NM-GLS-08; NM-GLS-21; NG-GLS-06; FL-GLS-07; FL-GLS-15; UM-GLS-07; UM-GLS-30

There are additional specific plan components for the Chattooga Wild and Scenic River that help protect trout and their habitat, including:

Desired Conditions: WSR-DC-16

Standards: WSR-S-29; WSR-S-30; WSR-S-31; WSR-S-32; WSR-S-33; WSR-S-35

Guidelines: WSR-G-15

In response to comments received on the proposed plan, for Alternative E, edits were made to the wording of several aquatics plan components and an additional management approach was added that speaks to sustaining and improving aquatic habitat to benefit native aquatic species including brook trout (FEIS p. 3-91).

With regard to monitoring, the Forest Plan contains a monitoring and adaptive management section (Forest Plan Chapter 5). The plan's monitoring program sets out the plan monitoring questions and associated indicators (36 CFR 219.12(a)(2)). In Chapter 5 of the Forest Plan, there are two monitoring questions and indicators that are specific to brook trout, MQ 1-4-T2 (Forest Plan p. 290), and MQ 3-1-T2 (Forest Plan p. 292). There is one monitoring question (MQ-6-7-T2) that tracks changes that may be due to climate change and includes brook trout as an indicator of cold-water streams.

The FEIS provides numerous scientific references in Section 3.3.1 Aquatic Systems including the North Carolina Wildlife Resources Commission (NCWRC) and the Eastern Brook Trout Joint Venture (EBTJV 2006: Status and Threats). The EBTJV is a partnership to conserve brook trout and is comprised of: fish and wildlife agencies from 17 states; Federal support from U.S



Geological Survey, U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, and Office of Surface Mining; Conservation organizations including Association of Fish and Wildlife Agencies, Trout Unlimited, Izaak Walton League of America, Trust for Public Land, and the Nature Conservancy; Academic institutions including Virginia Tech and James Madison University (EBTJV 2006).

FEIS, Appendix A, Response to Comments pp. 159-166, comments and responses specific to the Chattooga River.

## **Response**

The development of the revised plan was an iterative process utilizing best available scientific information, regional guidance, internal feedback, and collaboration with a wide variety of government agencies, federally recognized tribes, non-governmental organizations, and interested citizens (Forest Plan, p. 3). The North Carolina state agencies referenced by the objectors provided input during the process (Forest Plan, pp. 15 and 16) and their understanding of the existing conditions was taken into consideration during the planning process.

The FEIS contains sufficient analysis regarding brook trout, as noted below, and the FEIS, final plan and draft decision are consistent with law, regulation, and policy based on the following assessment. The objector's primary issues are with the disclosure of effects due to sediment and sedimentation, trout monitoring, disclosure of other agency monitoring, and that the forest plan does not have an adequate "action plan" that would respond to concerns about trout in the Chattooga River. The development of an action plan is not something the Forest Service would undertake on its own. These plans are an effort that is undertaken with partners, which may include the state fish and wildlife agency, the US Fish and Wildlife Service if the species is ESA-listed, the Forest Service, academia, and non-governmental organizations, such as the Eastern Brook Trout Joint Venture (EBTJV).

The Forest Service takes the importance of brook trout seriously, describing range-wide and local trends specifically for brook trout (FEIS, p. 3-81 through 3-86). The FEIS describes the value of aquatic systems on the Forests. It states that the southeastern United States supports the highest aquatic species diversity in the entire United States (Burr and Mayden 1992, Taylor et al. 1996, Warren et al. 2000, Williams et al. 1993), with southeastern fishes comprising 62% of the United States fauna, and nearly 50% of the North American fish fauna (Burr and Mayden 1992) (FEIS p. 3-78).

As for sediment, the FEIS, p. 3-78 discloses that sedimentation is a factor impacting trout, among other aquatic fauna, stating that "In North Carolina, water quality has improved over the last several decades in many waters that were historically polluted primarily by point-source discharges; however, overall habitat degradation continues to threaten the health of aquatic communities."

The FEIS, p. 3-97 also states that "For aquatic species requiring larger substrate particles and associated interstitial spaces, management activities designed to mitigate or eliminate stream sedimentation are critical to native aquatic species persistence. For example, loss of habitat



quality and quantity resulting from stream sedimentation is identified as one of the largest threats to native brook trout persistence by the Eastern Brook Trout Joint Venture (EBTJV 2018).”

Th FEIS, p. 3-98 recognizes that “Sediment is the largest contributor to nonpoint source pollution. For aquatic species requiring larger substrate particles and associated interstitial spaces, management activities designed to mitigate or eliminate stream sedimentation are critical to native aquatic species persistence. For example, loss of habitat quality and quantity resulting from stream sedimentation is identified as one of the largest threats to native brook trout persistence by the Eastern Brook Trout Joint Venture (EBTJV 2018).”

As for disclosure of scientific information regarding sediment, Objector Floyd is concerned that the FEIS did not use the specific studies or literature he has mentioned, and is concerned that young-of-the-year trout have been adversely impacted by sediment; while the FEIS and Forest Plan do not dispute the effects that sediment has had on trout, the project record clearly shows that the Forests disclosed and acknowledged the impact that fine sediment can have on trout species, especially brook trout. Additionally, there are 18 Forest Plan components noted above that specifically address sediment and sedimentation. The FEIS cited the EBTJV (2006) which is a partnership to conserve brook trout and includes the fish and wildlife agencies from 17 states (including North Carolina). The FEIS provides sufficient information on the status and threats facing brook trout and addresses the environmental concerns brought up by the objector.

The analysis on aquatic species used the ESE modeling tool to conduct a coarse filter analysis on numerous species, including brook trout (FEIS Appendix C). In addition, Section 3.3.1 Aquatic Systems provided information on the trends of trout on the Forests when describing the existing conditions on the two forests. The FEIS describes that population stability is largely influenced by the availability of suitable spawning habitat and the recruitment of new age classes (i.e., young-of-year, (YOY)). The FEIS states that “Trout populations across the Nantahala and Pisgah National Forests have been stable to slightly increasing since 1990, although this trend is difficult to see given the natural variability of trout populations,” citing Figure 26, then noting that “Trout populations on non-Forest Service lands generally exhibit the same trends, although several streams have seen measurable declines” citing Figure 27. FEIS pp. 3-83 and 3-84.

The objector contends that the components in the Forest Plan do not afford specific protections for trout. The project record shows that there are numerous plan components as noted above that specifically address trout and/or brook trout; in addition, there are two hundred forty-five plan components that directly or indirectly support healthy and resilient aquatic habitats on the Forests.

The objector is especially concerned about the Chattooga River. For the Highland Domes Geographic Area, the Forest Plan documents that the Headwaters Chattooga, Upper Chattooga River, and Headwaters West Fork Chattooga River are all considered “priority watersheds” as required by the 2012 Planning Rule (Forest Plan, p. 174). These priority watersheds and their proposed activities will concentrate on the explicit goal of maintaining or improving the Watershed Condition Framework (WCF) watershed condition class, which identifies each 6th-level watershed as properly functioning, functioning at risk, or impaired. The intent of this identification is to (1) protect high-value watersheds in good condition, (2) maintain the



condition of watersheds to keep them from becoming threatened, and (3) improve impaired watersheds. Forest Plan p. 35.

The FEIS discloses that “other than the stream productivity and habitat-limiting factors discussed in the analysis (i.e., temperature, pH, and underlying geology), the availability of suitable spawning habitat (i.e., clean, silt-free gravel) limits trout population density in southern Appalachian streams (Schmitt et al. 1993, Raleigh et al. 1984, Raleigh et al. 1986). This is particularly true where brook trout occur with other trout species. Therefore, it is critical that spawning habitat and juvenile age classes be monitored in future efforts.” FEIS p. 3-81.

The FEIS goes on to note that “Long-term trout population monitoring conducted by the NCWRC and Forest Service from 1989 until 1996 (Borawa et al. 2001) enabled managers to visualize local trout population dynamics. Results of this effort are summarized in FEIS figures 26 and 27.” FEIS p. 3-84. Further, the FEIS notes that “Since 2001, the NCWRC and Forest Service have focused monitoring efforts on species’ genetics accurately defining the distribution of the species across Western North Carolina.” FEIS p. 3-83.

Forest Service policy regarding management of fish and wildlife populations is guided by the Forest Service Manual (FSM) 2610.3. Based on this policy, the Forest Service recognizes that it is the role and jurisdiction of the states to manage fish and wildlife resources within their authority. The Forest Service cooperates with the states in management responsibilities and includes them as partners in planning and implementation of activities that potentially impact wildlife and fish. The Forest Service provides leadership in habitat management on National Forest System lands to meet resource objectives of the Forest Service and its cooperators.

As such, the policy means that the states manage the fish and wildlife populations, the Forest Service manages the habitat, and that the two entities cooperate with each other in doing so. When it comes to monitoring and how much the Forest Service can accomplish and what methodology to use, the 2012 Planning Rule (36 CFR 219.12(a)(1)) sets forth the requirements for monitoring, which is based on the Forest’s capacity in terms of both staffing and budget. Objector’s suggested remedy to start “undertaking annual counts of the densities and biomass of the trout residing on the North Carolina headwaters of the Chattooga River” is under the jurisdiction of the state, as noted above.

Three additional remedies describe using vacuum technology to remove fine sediments from streams and rivers, and specifically mentions a logjam with latitude and longitude coordinates. In addition, the objector suggests a specific “organization” Streamside Systems, Inc. These are project-level remedies and are too prescriptive for a programmatic analysis. Using a piece of equipment to vacuum up fine sediments would require a much more specific analysis of the effects on aquatic organisms in that specific reach, analysis of the effects to water quality, and would likely require Clean Water Act permits, Endangered Species Act Section 7(a)(2) consultation if there are listed species present, and a Wild and Scenic River Section 7 analysis if designated. This is project-level analysis and work that is not addressed during Forest Planning. See also the response to Hydrology and Soils Issue 5: Chattooga River Water Quality, Log Jam and Sediment and Hydrology and Soils Issue 6: Chattooga River Water Quality Impacts for more information.



The final two remedies suggested are project-level stream enhancements that would add appropriately sized gravels on the stream bed at locations where the normal water flows and the physical in stream habitat are most suitable for successful spawning by trout. As described above, a much more specific analysis is required for this type of project. A programmatic analysis at the forest plan level would not be specific enough to determine specific effects.

**Instruction(s):** None.

## **Issue 4: Chattooga River Trout and Outstanding Resource Water Management**

**Objector(s):** William (Bill) Floyd

The objector asserts that the Forest Service is not managing the Chattooga River properly, noting that it is a Wild and Scenic River with Outstandingly Remarkable Values of fisheries, and is an Outstanding Resource Water (ORW) as well. He makes the following assertions:

- The FEIS and LMP mislead the public about the Chattooga's trout because they fail to explain how the USFS must manage the North Carolina headwaters of the Chattooga River by placing primary emphasis on protecting the scientific feature of the Chattooga River, which is "excellent trout stream productivity."
- Neither the 2022 EIS nor the LRMP provide any kind of explanation about how the antidegradation mandate is intended to apply to the management of the ORW classified Chattooga. Consequently, the 2022 LRMP is fatally flawed.
- Neither the 2022 LRMP nor the EIS explain how it was the Rabun County, Georgia, Chapter of Trout Unlimited who petitioned to have the Chattooga River reclassified as Outstanding Resource Waters in 1987 and neither planning document disclosed the rationale behind the petition, which includes that "[1] There is outstanding native trout habitat and fisheries; including Eastern Brook trout, Rainbow trout and Brown Trout...[2] A wild and remote trout stream with the size, beauty and water quality of the Chattooga River is unique in the Eastern United States..."
- Both the 2022 LRMP and the EIS are misleading because they fail to explain the legal duties imposed upon the USFS as a consequence of the Chattooga's ORW classification or how this classification impacts what the Forest Service must do or must not do in managing the day-to-day beneficial uses of the Chattooga River.
  - Neither planning document tells the truth about the specific subcategorized designated use of the river's ORW water quality which must not be allowed to suffer any non-temporary deterioration in the full attainment of this designated use.
- Neither document explains how preserving the physical quality of the in-stream trout habitat and that habitat's biological capacity for sustaining outstanding densities of naturally reproducing assemblages of trout constitutes the subcategorized designated use the Chattooga's ORW water quality.
  - Neither document explains how the USFS must prevent any non-temporary diminishment in this subcategorized designated use of the river's ORW water quality.



- Neither planning document tells the truth about why the river's ORW classification requires that the Forest Service manage the North Carolina headwaters of the Chattooga so as to prevent any non-temporary degradation in the reproductive quality of the in-stream trout habitat and that habitat's biological capacity for sustaining outstanding densities and biomass of naturally reproducing populations of trout.
- Both planning documents fail to admit how the 1971 Chattooga Study demonstrated by description how these headwaters possessed a unique trout stream productivity (a fishery) which was one of the most remarkable biological ORVs present on these headwaters prior to WSR designation. Objector asserts that the agency disregards the importance of the fisheries ORV and the 2022 LRMP obfuscates how the 1971 Chattooga Study's Chapter 5 (Description of the River) purposely drew a sharp distinction between the "Fisheries" ORV and the "Recreation Opportunities" ORV, noting that the 2022 EIS and 2022 LRMP attempt to rewrite what Congress was told by equating two separate ORVs as somehow being a part of the same recreational ORV. He asserts that this intentional obfuscation wrongfully conceals "the administratively indisputable importance of the outstanding reproductive quality of the instream trout habitat and that habitat's unique biological capacity for sustaining excellent densities of spawning trout."
- Both of these planning documents refuse to acknowledge that these headwaters were administratively memorialized to possess an outstanding trout stream productivity which was understood to equate to a remarkably unique scientific feature of these headwaters.
- The LMPs stated goal to "Maintain and enhance unique tannic, sandy bottom stream habitat within...upper Chattooga River, and Savannah River watersheds to provide quality habitat for native brook trout and other native aquatic species" manipulates "into oblivion the legal importance of the administrative histories underlying these headwaters designation as a national Wild and Scenic River and their subsequent reclassification as Outstanding Resource Waters." He asserts that this goal focusing on providing quality habitat for "native aquatic species" constitutes a "camouflaged attempt to vitiate and marginalize the non-discretionary protections that the USFS is obligated to provide to the non-native but naturally reproducing populations of rainbow and brown trout that were administratively memorialized as being present in the main stem of the headwaters of the Chattooga River and certain select tributaries prior to WSR designation and ORW classification. This attempt to camouflage the watering down of the protections owed to the rainbow and brown trout is unlawful."

### **Remedy(s) proposed by Objectors**

- The LMP must incorporate sufficiently intense Desired Conditions and Standards while providing specific direction for how the North Carolina headwaters of the Chattooga River shall be managed going forward.
- The LMP must incorporate sufficiently specific Desired Conditions and Standards in order to ensure that the USFS can discharge properly the unique protections owed to the trout residing on the North Carolina headwaters of the Chattooga River.
- The LMP must incorporate Desired Conditions and obligatory Standards which inform on how the USFS plans to manage the headwaters by placing "primary emphasis" on "protecting" and "enhancing" the single "scientific feature" which the 1971 Chattooga



Study tacitly told Congress was unique to the Chattooga's headwaters in North Carolina. 16 U.S.C. §1281(a).

- The 2022 LRMP does not afford the requisite intensity of non-discretionary protections and physical enhancements to the reproductive suitability of the in stream trout habitat on the North Carolina headwaters of the Chattooga River; as such the USFS must undertake significant habitat enhancement projects as required to restore this stream's biological capacity for sustaining outstanding densities, biomass, and species assemblage of naturally reproducing populations of trout.
- The USFS must cease placing primary emphasis on delivering legally unentitled but extraordinary recreational use favors to a small group of politically influential individuals in lieu of discharging the non-discretionary duties imposed upon the agency to place primary emphasis on protecting the trout that reside on these headwaters.

## REVIEW FINDINGS

### Law, Regulation and Policy

Clean Water Act of 1972

National Wild and Scenic Rivers Act

Federal Antidegradation Regulation at 40 CFR 131.12:

- States must have both an “antidegradation policy” and “methods for implementing” the policy.
- Tier 1: “Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.”
  - Tier 1 is the “bottom line” rule in antidegradation. Under no circumstances should the condition of any water body deteriorate to such a degree that one or more of the existing uses can no longer be supported. EPA, territories, authorized tribes, and state water agencies should not allow (e.g., by issuing an NPDES permit) any activity that would result in the loss of any existing use. This reflects an overall policy of “locking in” uses and the level of water quality necessary to meet those uses, once they have been attained.
- Tier 2: Where “quality of the waters exceed levels necessary,” degradation allowed only after:
  - Demonstrating activity is “necessary to accommodate important economic or social development in area where waters are located.
  - Intergovernmental coordination and public participation.
  - Achieving “highest statutory and regulatory requirements” for point sources and “all cost effective and reasonable” BMPs for nonpoint sources.
  - Protection of water body uses/water quality criteria (Tier 1).
  - Tier 2 is aimed at preventing “freefall” of ambient water quality—that is, having the water quality decline, from being considerably better than the baseline water quality criteria down to just barely meeting those criteria. Note the stipulations required for allowing activities that degrade water quality: you must ensure that point sources and nonpoint sources are appropriately controlled; you must



accommodate public and governmental agency input; and you must assess potential alternatives that would prevent or preclude water quality degradation and perform a socioeconomic evaluation on the alternatives.

- Tier 3: No degradation of ONRWs allowed.
  - Tier 3 states that water quality must be maintained and protected without exception for those waters specially designated by a state, territory, or tribe. EPA regulations refer to such waters as Outstanding National Resource Waters (ONRW); states often use the term Outstanding Resource Waters. The “candidate” water body types (e.g., wild and scenic rivers, waters in national and state parks) are merely suggestions that EPA has provided regarding the kinds of water bodies that states, tribes, and territories might choose to designate for Tier 3 level protection. It is generally recognized that some minor, temporary degradation in ONRWs might occur—for example, during road paving work in a national park. Nevertheless, Tier 3 requires that such degradation be minimized, and that water quality return to the previous level after the activity is completed. The ONRW designation process varies considerably among states. Some states have documented procedures for adding waters to the ONRW list—including those proposed by the public—but others do not.

## **Project Record**

Refer to Aquatic Species Issue 3 for a list of what is in the Project Record Regarding Chattooga River Trout, as they apply to this issue as well.

WSD-DC-01 - Watersheds are resilient and stable, supporting the quality, quantity, and timing of water necessary to protect ecological functions and support beneficial water uses including clean domestic and municipal water use, wildlife and fish habitat, and water-based recreation (Forest Plan p. 36).

Management Approaches - During project planning, consider the management needs of classified waters (e.g., Outstanding Resource Waters and High Quality Waters). (Forest Plan, p. 38).

WTR-DC-02 – Water quality meets state and federal water quality standards, including those in the Clean Water Act, and supports designated protected uses and native and desired non-native aquatic species. Short-term exceedance of water quality standards (i.e., temporary period of declining water quality) due to management activity occurs only in the anticipation of long-term improvement of watershed condition and water quality (Forest Plan, p. 41).

AQS-DC-01 - Aquatic ecosystems are diverse with properly functioning streams providing high quality habitat for all native and desired non-native (e.g., brown and rainbow trout) aquatic species, resulting in populations that are robust and resilient. In areas where trout populations are present, native brook trout are emphasized when possible (Forest Plan, p. 43).

Response to Comments, Appendix A, Response to Comments p. 22, states that “The Forest Plan includes plan components to manage all streams consistent with the Clean Water Act and to meet



state and federal water quality standards (WTR-DC-02). In response to this comment, a management approach has been added to the Water section of the final plan to consider state classified waters during project planning. The list of state ORWs is dynamic and therefore including a list in the Forest Plan would not account for changes to the ORWs over time.”

## **Response**

In response to the objector’s assertions that the planning documents do not address the importance of the Chattooga River, the Forest Service clearly acknowledges the importance of the river but planning documents need not explain the entire history of the Chattooga River as the objector might seem to suggest.

As for the 1971 Study Report which the objector states that the Plan omits mention of, page 5 of the report states that the river possesses outstanding scenic, recreational, geological, biological, historical, and related values and assets. The Forest Plan reflects this outstandingly remarkable values and provides plan direction to ensure they are sustained (pp. 254, 259-260, 264-267).

The Forest Plan acknowledges the importance of the upper Chattooga River. The Highland Domes Geographic Area indicates that the Headwaters Chattooga, Upper Chattooga River, and Headwaters West Fork Chattooga River are all considered “priority watersheds” (Forest Plan, p. 174). The 2012 Planning Rule requires land managers to identify watersheds that are a priority for maintenance or restoration (36 CFR 219.7(f)(1)). These priority watersheds and their proposed activities will concentrate on the explicit goal of maintaining or improving the Watershed Condition Framework (WCF) watershed condition class, which identifies each 6th-level watershed as properly functioning, functioning at risk, or impaired. The intent of this identification is to (1) protect high-value watersheds in good condition, (2) maintain the condition of watersheds to keep them from becoming threatened, and (3) improve impaired watersheds. One aspect of the WCF is “Aquatic Biota” which rates the condition of fish populations. The goal of the plan component is to improve the condition class.

The objector claims that “neither the 2022 EIS nor the Forest Plan provide any kind of explanation about how the antidegradation mandate is intended to apply to the management of the ORW classified Chattooga.” As for disclosing how the Agency intends to apply the classification, it is the State who is responsible for developing the policy and provides the methodology, therefore it is not necessary for the Forest Service to disclose this information in the FEIS or Forest Plan. (Federal Antidegradation Regulation, 40 CFR 131.12). In addition, the 1971 Study report (p. 59) clearly notes that the State water quality organizations share with the Environmental Protection Agency the joint responsibility for setting and enforcing water quality standards and for monitoring water quality of interstate rivers.

As noted above, in response to comments, FEIS, Appendix A, p. 22, states that “The Forest Plan includes plan components to manage all streams consistent with the Clean Water Act and to meet state and federal water quality standards (WTR-DC-02). In response to this comment, a management approach has been added to the Water section of the final plan to consider state classified waters during project planning. The list of state ORWs is dynamic and therefore including a list in the Forest Plan would not account for changes to the ORWs over time.”



Regarding native trout versus non-native trout species, the FEIS pp. 3-99 and 3-100 states that “For aquatic species sensitive to the presence of exotic, often invasive, species, general awareness and reasonable management actions are vital to native species’ persistence” and clearly notes that “Of the exotic nonindigenous aquatic species, Asian clam (*Corbicula fluminea*) and brown trout (*Salmo trutta*) have exerted the most pressure on native mussel and trout communities across the Forests.” The FEIS p. 3-100 documents that “Similarly, although native to the U.S., rainbow trout (*Oncorhynchus mykiss*), rusty crayfish (*Faxonius rusticus*) and virile crayfish (*Faxonius virilis*) have exerted extreme pressure on native trout and crayfish communities.” As noted above, the plan component AQS-DC-01 provides for native and desired non-native aquatic species, and emphasizes the importance of brook trout (Forest Plan p. 43).

**Instruction(s):** None.

## **THREATENED & ENDANGERED, SENSITIVE SPECIES, AND SPECIES OF CONSERVATION CONCERN**

### **Issue 1: US Fish & Wildlife Service Consultation**

**Objector(s):** Southern Environmental Law Center et al.

The objector states that US Fish and Wildlife Service (USFWS) consultation is incomplete and that consultation is based on misleading information (inaccurate coarse filter habitat mapping, especially for salamanders). The implied remedy is to revise habitat mapping and analysis, and reinstate consultation with USFWS, completing consultation before finalizing the plan, EIS, and ROD.

#### **Remedy(s) proposed by Objectors**

- Objector urges the Forest Service in the strongest terms to correct the misleading information that they identify in their objection and to fulfill the agency's obligation to present best available information about Plan impacts to USFWS.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

Endangered Species Act (ESA) of 1973, (Pub. L. 93–205, §2, Dec. 28, 1973, 87 Stat. 884,) as amended, including Threatened and Endangered Species (T&E) and their Designated Critical Habitat (CH) is codified at 16 U.S.C. §1531-1544.

16 U.S.C 1536(a) establishes federal agency responsibility under ESA: “(1) . . . All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this chapter by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 1533 of this title.”



50 CFR 402.01: “(a). . . directs Federal agencies, in consultation with and with the assistance of the Secretary of the Interior or of Commerce, as appropriate, to utilize their authorities to further the purposes of the Act by carrying out conservation programs for listed species...”

Forest Service Policy FSM 2670.11 echoes the law and regulation above.

36 CFR 219.9 - Contributing to the recovery of Threatened and Endangered Species: Planning requirements to “provide the ecological conditions to ... contribute to the recovery of federally listed threatened and endangered species” are found at 36 CFR 219.9(a) and 36 CFR 219.9(b) and elaborated upon at FSH 1909.12, 23.13. In addition to meeting substantive Endangered Species Act requirements, this policy requires that plan components provide ecological conditions to contribute toward recovery of any threatened or endangered species in the plan area. The Rule [36 CFR 219.9(b)] motivates an evaluation of the adequacy of plan components to provide ecological conditions to “contribute to recovery of federally listed threatened and endangered species... within the plan area” as further described at FSH 1909.12, 23.13. This evaluation discloses the relationship between the species ecology (e.g., threats, limiting factors, and important ecological conditions), plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9.

## **Project Record**

The project record contains notes from a May 2021 meeting during which the Forests provided an overview of the proposed revised forest plan. In June 2021, the Forests sent a letter to USFWS to communicate the selection of federally listed species on which to consult with USFWS for the proposed forest plan revision.

The Forests completed a Biological Assessment (BA) for Threatened, Endangered, and Proposed Species for the Nantahala and Pisgah National Forests Revised Forest Plan on January 18, 2022, and was submitted to the USFWS the following day. The USFWS responded on January 31, 2022, and stated that they expect to provide a Biological Opinion (BO) no later than June 3, 2022. The draft FEIS includes a summary of effects to federally endangered or threatened animal species in Chapter 3 (section 3.3.4).

## **Response**

At the time of the objection filing period, the Biological Opinion had not been completed by the US Fish and Wildlife Service, however, it was issued June 2022. The Biological Opinion has been posted to the website for the Forest Plan. The Biological Opinion was reviewed to ensure the final plan had incorporated all terms and conditions. The FEIS, Biological Assessment, and consultation documents meet the requirements of law, policy, and regulation. The concern over misleading information is addressed in response to Issues 3 and 4 of this section.

## **Instruction(s):**



**Instruction:** Include the Biological Opinion and USFWS letter of concurrence in the project record.

## **Issue 2: Standards and Guidelines, Desired Conditions**

**Objector(s):** Center for Biological Diversity; MountainTrue; Friends of Big Ivy; Southern Environmental Law Center et al.

Objector CBD states that the final Forest Plan "falls short of ensuring viability of vulnerable wildlife and contributing to species recovery." They state that the three to nearly four-fold increase of regeneration harvest (over current levels) to create more young forests will have significant, adverse impacts to several listed species, and that the final Forest Plan does not address or account for this problem, and thus does not contain standards or guidelines to ensure viability, thus rendering the Forest Plan inconsistent with the 2012 Planning Rule. Objector CBD believes that the Forest Service "needs to depend less on regeneration treatments to achieve desired conditions, improve aquatic resources across the forest, and develop standards that ensure species recovery."

Objector CBD further contends there are no specific guidelines relative to Species of Conservation Concern (SCC), management approaches applicable to all species groups and vague and lack specific direction that ensures SCC will continue to exist, and the existing standards and guidelines for species protections are vague and insufficient to mitigate the impacts resulting from plan components that are designed to facilitate a "significant" increase in early seral conditions.

Objector CBD argues that the Forest Plan contains many desired conditions that conflict with species recovery and fails to include standards and guidelines that adequately address the recovery needs of these species. The objector also adds that logging to create early seral habitat threatens listed species and that the Final Forest Plan must contain specific standards and guidelines for recovering species that depend on closed-canopy, old growth conditions, and that these standards and guidelines should be based on measures identified in species recovery plans. Objector CBD goes on to elaborate that the Final Plan fails to include specific standards to safeguard TES, SCC and rare species from the impacts of regeneration harvests, and fails to identify the specific measures that will be taken to contribute to species recovery.

Objector CBD asserts that the FEIS "does not contain a "discussion" of threatened and endangered species but rather a mere listing of species followed by vaguely worded statements about documenting the occurrence of a species within the forest and maintaining their presence within currently occupied habitat. These statements are often repeated for multiple species, with little attention paid to each species' unique conservation needs."

Objectors CBD and SELC conclude that the Forest Service failed to complete a rigorous analysis of the potential impacts of forest activities on listed species, SCC and other sensitive species, and as such, did not satisfy the requirements of NEPA. Objector CBD states that the Forest Service "cannot accurately state that sufficient species-specific habitat elements will be retained on the landscape to ensure that the Plan will maintain the diversity of plant and animal communities and



the persistence of native species in the plan area. Further, the Forest Service cannot ensure that its actions are contributing to the conservation (i.e., recovery) of listed species as required by the 2012 Planning Rule, as well as Section 7 of the Endangered Species Act."

### **Remedy(s) proposed by Objectors**

- The Forest Service needs to depend less on regeneration treatments to achieve desired conditions, improve aquatic resources across the forest, and develop standards that ensure species recovery.
- Provide in the Forest Plan that the Forest Service will contribute to the recovery of every federally listed species (not just maintain their persistence) and establish specific standards and guidelines to protect listed species that would be impacted by regeneration harvests.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219: Planning requirements to "provide the ecological conditions to ... contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area." are found at 36 CFR 219.9(a) and 36 CFR 219.9(b) and elaborated upon at FSH 1909.12, 23.13. In addition to meeting substantive Endangered Species Act requirements, this policy requires that plan components provide ecological conditions to contribute toward recovery of any threatened, endangered, or species of conservation concern species in the plan area. The Rule [36 CFR 219.9(b)] motivates an evaluation of the adequacy of plan components to provide ecological conditions to "contribute to recovery of federally listed threatened and endangered species... maintain a viable population of each species of conservation concern within the plan area" as further described at FSH 1909.12, 23.13. This evaluation discloses the relationship between the species ecology (e.g., threats, limiting factors, and important ecological conditions), plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9.

36 CFR 219: Species of conservation concern. a species of conservation concern is defined in 36 CFR 219.9 as species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area.

36 CFR 219.7 - Plan Components: This portion of the Rule describes the types of plan components and their use in a plan. This section compliments 36 CFR 219.9 described above by outlining the types of plan components that may be employed to meet the intent of 219.8 and 219.9 specifically provide Standards and Guidelines since they are noted by the objector.

Designations of standards and guidelines is discretionary. The 2012 Planning Rule 219.7(e)(1)(iii) & (iv) defines standards and guidelines.



(iii) Standards. A standard is a mandatory constraint on project and activity decision-making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

(iv) Guidelines. A guideline is a constraint on project and activity decision-making that allows for departure from its terms, so long as the purpose of the guideline is met. (§ 219.15(d)(3)). Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

36 CFR 219.12: The 2012 Planning Rule requires the plan monitoring program contain at least one monitoring question and associated indicator to address each of eight topics (36 CFR 219.12(a)(5)) including: “The status of select ecological conditions that contribute to the recovery of threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern (species of conservation concern).”

FSH 1909.12, Chapter 30 addresses monitoring. The handbook specifies that “Monitoring plans and strategies are constrained by the fiscal and technical capabilities of the Agency,” and therefore outlines a framework for targeted monitoring focused on outcomes influenced by agency management. (FSH 1909.12, 31). The Responsible Official has discretion to set the scope, scale, and priorities for plan monitoring within the financial and technical capabilities of the administrative unit, (FSH 1909.12, 32.1) while meeting the requirement outlined above for monitoring associated with at-risk species.

## **Project Record**

FEIS, Appendix A: This issue was fully addressed in the FEIS, Appendix A, Response to Comments (pp. 35, 55, 61, 62, and 63).

Forest Plan includes plan components for Terrestrial Ecosystems (pp. 50-73) and Plant and Animal Diversity (pp.74-83). Plan components are both broad for ecosystems and specific to species, including the following examples:

- AQS-DC-02 addresses providing aquatic habitat for organisms including salamanders (LMP, p. 43).
- WLF-DC-04 addresses providing mature forests to provide habitat and forage for wildlife species including salamanders and bats (LMP, p. 65).
- WLF-DC-06 and WLF-S-01 address fine scale habitat components including coarse wood for salamanders (LMP, pp.67-69).
- PAD-S-14 provides a standard for surveying for the green salamander on the project level and protecting this species if it occurs (LMP, p. 82).

Draft ROD: The Forests used the Ecological Sustainability (ESE) Tool to evaluate effects of the proposed plan revision (ROD, p. 62) on the following species: Federally listed species (T&E); Species of Conservation Concern (SCC); Regional Forester’s Sensitive Species (RFSS); Proposed Focal Species (FS); species identified as Species of Greatest Conservation Need (SGCN) in the North Carolina Wildlife Action plan (NCWAP); species identified as Federal



Species of Concern (FSC), Candidate (C), Bird of Conservation Concern (BCC), or Species at Risk (SAR) by the USFWS; species petitioned for federal listing, and currently in the review process; species identified as Threatened or Endangered by the State of North Carolina; species identified as “rare,” including some watch list species, tracked by the NC Natural Heritage Program; species identified by the Eastern Band of Cherokee Indians as culturally important, and species receiving attention due to environmental sensitivity, general rarity, or other conservation perspective from regional and range-wide scientific Collaboratives such as the Partners for Amphibian and Reptile Conservation, Appalachian Mountain Joint Venture, Partners in Flight, and The American Fisheries Society; the Nantahala and Pisgah Species of Conservation Concern list.

FEIS Appendix C contains the tables with the information from the Ecological Sustainability Analysis, including a cross walk to the plan components and the species groups with include the federally listed and SCC species (FEIS Appendix C).

Appendix C. Ecological Sustainability Analysis describes the analysis process in further detail, with more information on individual analyses available in the project record. Table C-3 (Appendix C, pp. C-73 to C-119) identifies the ecosystem group(s) for each species evaluated. Indicators were identified based on factors influencing habitat quality and quantity on the forests that are relevant to each ecosystem or species group, weighted, and scored (Tables C-4 and C-5, Appendix C, pp. C-120 to C-128). The result is an overall ecological sustainability score for each alternative, specific to each ecosystem or species group.

The Draft ROD, pp. 26-27, acknowledges 36 CFR 219.9 Diversity of plant and animal communities: “The plan contains fine filter direction that provides for specific habitat needs that are not met by the coarse filter. The plan section titled Plant and Animal Diversity section of the plan (Chapter 2) primarily serves as the fine filter in that it focuses on plan components that meet needs of specific species or species groups where their needs are not covered by the coarse filter alone. However, some plan components that appear in sections described above also include fine filter plan components. Plan direction in the Plant and Animal Diversity Section includes standards and guidelines to:

- Maintain characteristics required by threatened and endangered species;
- Maintain or restore unique habitats found on the Forests; and
- Provide additional support or promote species whose needs may not be met by ecosystem level plan components for the following species groups: rocky habitat associates, federally listed bats, bald and golden eagles, green salamanders, spruce fir moss spider, and rock gnome lichen.

“As described in the plan, the FS will partner with NCNHP, NCWRC, and USFWS in the identification of plant and animal species and their associated habitat needs, proactively working to maintain, enhance, and restore plant and animal diversity. The Southern Region Regional Forester identified 339 species of conservation concern on the Forests. Species of conservation concern are species known to occur in the plan area and for which there is substantial concern for their persistence. Most habitat needs for these species are met through the plan components for aquatic and terrestrial ecosystems and those that promote the key ecosystem characteristics



required by each species. For some species or species groups, plan components to meet species-specific habitat needs are included in accordance with 36 CFR 219.9(b). A crosswalk of species with the plan components that support them is available in EIS Appendix C.”

Draft ROD, p. 62 states “A comprehensive list of plant and animal species was compiled to assess the impacts of the proposed plan on species diversity. The 2012 National Forest Planning Rule requires that the Regional Forester identify Species of Conservation Concern (SCC) that are “known to occur in the plan area” for which “the best available scientific information indicates substantial concern about the species’ capability to persist over the long term in the plan area.” To identify SCC, during the plan revision assessment phase, a team consisting of a botanist/ecologist and a wildlife/aquatic biologist developed a comprehensive list of plant, wildlife, and aquatic species with the potential to occur on the Nantahala and Pisgah NFs. This list was developed via coordination with state, federal, tribal academic and nongovernmental organizations and was based on a variety of sources, including the existing Regional Forester’s Sensitive Species list and input from a diverse group of species and species group experts. This resulted in 338 Species of Conservation Concern identified for the Nantahala and Pisgah NFs. The list incorporated information from NatureServe, widely considered the authority for species of conservation concern (SCC) status assessments and resulting global status ranks.”

“To evaluate potential alternative impacts on species in the plan area, the forest employed the Ecological Sustainability Evaluation (ESE) tool, a strategic conservation planning tool used by the US Forest Service Southern Region for forest planning. This analysis tool is based on the structure of the Open Standards for the Practice of Conservation (CMP 2018) planning tool and utilizes a standardized process that is adaptable to forest specific priorities and needs. The ESE tool employs prioritization algorithms utilizing rank, importance rating, attributes and indicators, stressors and threats, scope and severity ratings, and management opportunities to assist and support management decisions. The ESE tool includes the following species: Federally listed species (T&E); Species of Conservation Concern (SCC); Regional Forester’s Sensitive Species (RFSS); Proposed Focal Species (FS); species identified as Species of Greatest Conservation Need (SGCN) in the North Carolina Wildlife Action plan (NCWAP); species identified as Federal Species of Concern (FSC), Candidate (C), Bird of Conservation Concern (BCC), or Species at Risk (SAR) by the USFWS; species petitioned for federal listing, and currently in the review process; species identified as Threatened or Endangered by the State of North Carolina; species identified as “rare,” including some watch list species, tracked by the NC Natural Heritage Program; species identified by the Eastern Band of Cherokee Indians as culturally important, and species receiving attention due to environmental sensitivity, general rarity, or other conservation perspective from regional and range-wide scientific collaboratives such as the Partners for Amphibian and Reptile Conservation, Appalachian Mountain Joint Venture, Partners in Flight, and The American Fisheries Society; the Nantahala and Pisgah Species of Conservation Concern list. The tool includes a process record with documentation for assumptions made within the tool.”

FEIS, Chapter 3 evaluates the effects of the alternatives on species and habitats.

The Biological Assessment contains the detail analysis for each of the Federally Listed Species. The USFWS issued a Biological Opinion for the Forest Plan revision in June 2022. The



Biological Opinion (p. 2, 8, and 53) confirms the broad-scale, program-level analysis of the Forest Plan.

## Response

As the FEIS states on p. 2-21, “Objectives would double annual young forest timber harvest practices under Tier 1 (from 650 to 1,200) and accomplish even more with the help of partners or additional resources in Tier 2 (up to 3,200 acres).” Additionally, the FEIS discloses that approximately 120,000 acres in Tier 1 objectives and 270,000 acres in Tier 2 objectives would be managed in a mosaic of young, mid, and late seral states to meet objectives in the forest plan for young forests (FEIS, Appendix A, p. 39). The response to comments notes that “This is accomplished by having multiple regeneration actions on the same land unit over time and thereby allowing a large proportion of the forest to age over time. The Forest Plan was built using the Ecological Sustainability Evaluation tool to ensure that both coarse filter and fine filter protections are provided for all species on the forest” (FEIS, Appendix A, p. 61). In addition, the response notes that “The Ecological Sustainability Evaluation includes species (fine filter) associations with numerous ecosystems and species groups (coarse filter). When plan components associated with coarse filter elements fail to address individual species needs, species-specific components are included (Ibid). Every species included in the Ecological Sustainability Evaluation is associated with at least one, and often several, coarse filter elements.” FEIS, Appendix A, p. 61. Appendix C explains how the Ecological Sustainability Evaluation (ESE) tool was used; during the administrative review process, it was noted that clarifications could be made to Appendix C to provide the reader with more information as to how the tables demonstrate that plan components will adequately protect listed species.

To address the objector issue that more standards and guidelines are needed, the responsible official has discretion regarding the application of objectives, standards, and guidelines to meet 36 CFR 219.9. If the review of plan components written to provide ecological integrity (36 CFR 219.8) provide ecological conditions to contribute to recovery of the federally listed and maintain the persistence of SCC species, and if other responsibilities under the endangered species act are met through those plan components, no additional plan components are required (36 CFR 219.9(b)(1)). Plan components work together to ensure conservation outcomes for federally listed and SCC species. Therefore, the evaluation of plan components required by 36 CFR 219.9(b)(1) does not rely on the nature of any individual plan component but instead the environmental outcome of all plan components influencing the ecological conditions. For example, there are approximately 539 plan components that are directly or indirectly related to maintaining, restoring, or enhancing habitat for bats and other federally listed and SCC species (Biological Opinion, p. 24). These plan components range from very broad direction applicable to the whole forest or ecozone to specific direction for habitat elements associated with multiple federally listed and SCC species.

As for objector’s assertion that the Forest Service failed to complete a rigorous analysis of the potential impacts of forest activities on listed species, SCC and other sensitive species, the Biological Assessment has additional analysis for all the federally listed species. Additionally, the Biological Opinion (pp. 2, 8, and 53) confirms the broad-scale, program-level analysis of the



Forest Plan and that the Forests are required under the ESA to consult on future projects that may affect listed species.

See the responses to Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 3 for Threatened and Endangered Species, Lack of Species Level Protection; Issue 4 for Coarse Filter, Fine Filter Approach; Issue 6 for Carolina Northern Flying Squirrel; Issue 8 for Bats; Issue 9 for Noontday Globe; Issue 12 for Slugs, Snails, and Snakes; See also the responses to Aquatic Species Issue 1: Federally Listed Aquatic Species and Issue 2: Salamanders and Amphibians, which all relate to this issue as well.

As for the suggested remedies, there are multiple plan components which work together to ensure conservation outcomes for federally listed and SCC species. Therefore, the evaluation of plan components required by 36 CFR 219.9(b)(1) does not rely on the nature of any individual plan component but instead the environmental outcome of all plan components that influence ecological conditions.

#### **Instruction(s):**

**Clarification:** Add additional explanation to Appendix C to improve its useability. Explain the information provided in the tables and how these tables demonstrate that plan components are ensuring habitat will be provided and rare species will be protected. Reference the ESE tool outputs and ensure they are included in the project record. Provide an explanation for each SCC species group and how specific plan content provides for species' persistence.

Instruction: Include the Biological Opinion and USFWS letter of concurrence in the project record.

### **Issue 3: Threatened and Endangered Species, Lack of Species Level Protection**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Friends of Big Ivy; Southern Environmental Law Center et al.

Numerous objectors assert that the revised Forest Plan, including Alternative E, would not provide adequate species-level protection for threatened, endangered and sensitive species (TES) or species of conservation concern (SCC). Objectors state that the revised Forest Plan will quadruple timber harvest, but that the FEIS "inaccurately and unjustifiably claims that this massive increase in timber harvests will have no negative impact on any of the federally listed species or 339 species of conservation concern." Objectors believe that the revised Forest Plan fails to protect federally listed species and SCC and degrades biological diversity across the forest.

Objectors state that the coarse-filter analysis was inadequate and did not address the specific needs of endemic or dispersal-limited species, noting that "at least 20 rare species have most of their habitat placed in logging-priority designations under alternative E."

#### **Remedy(s) proposed by Objectors**



- Objectors suggested remedy is to include species-specific plans as well as robust, enforceable protections for their habitat.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Aquatic Species Issue 1: Federally Listed Aquatic Species and Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant law, regulation and policy.

### **Project Record**

See the project record section in Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 2: Standards and Guidelines, Desired Conditions above for relevant citations to the project record.

### **Response**

Objectors expressed concern about the level of analysis and protections for wildlife species in the Forest Plan revision. Plan components noted throughout this response document ensure habitat will be provided and rare species will be protected. Projects will tier to the Forest Plan which includes components that protect species at risk.

The Forest Plan, FEIS, Biological Assessment, and consultation documents meet the requirements of law, policy, and regulation. Site-specific project design elements to meet the Forest Plan direction would be included in the project level analysis. Project-level Biological Assessments will analyze effects to listed species and the Forests will conduct consultation with USFWS if there may be effects.

Additionally, see the response to Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 2: Standards and Guidelines, Desired Conditions above.

### **Instruction(s):**

See Appendix C clarifications from Issue 2: Standards and Guidelines, Desired Conditions above.

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

## **Issue 4: Coarse Filter, Fine Filter Approach**



**Objector(s):** I Heart Pisgah; Center for Biological Diversity; Friends of Big Ivy; Southern Environmental Law Center et al.

Multiple objectors feel strongly that the Revised Forest Plan's coarse filter fails to meet the needs of many listed species and species of conservation concern (particularly those associated with old growth forests) because it does not "recognize the complex and nuanced relationships many species have within the forest and across the larger landscape." In particular, they assert that many species are dispersal limited and have isolated populations across the forest and that logging in these areas could interfere with gene flow, fragment corridors, destroy unique microclimates, and lead to extirpation of these species.

Objector CBD holds that while "the Final Plan purports to adopt a coarse filter that identifies conditions to maintain or restore ecological integrity and resilience of ecosystems to account for the needs of most native species," it fall short in accomplishing this objective because it relies on the Ecological Sustainability Evaluation (ESE) tool to develop the coarse filter components citing the Forest Plan at 3-307, which explains the Forest Service's approach to evaluating ecological sustainability and species diversity. Objector CBD explains that the coarse filter is based on an assessment of eleven ecozones that were identified by key characteristics such as variation, canopy, shrub layer, herbaceous layer, elevation, ecological processes, disturbance in gap size, community patch size and example wildlife species associated with the ecozone. They further explain the coarse filter identified restoration priorities based on ecozone composition and structure and the habitat conditions across all ecozones, then integrated the ecosystem and wildlife habitat objectives and management approach.

Objector CBD asserts the ESE tool only takes a landscape-level approach because it looks to whether the forests are moving toward NRV to determine whether the plan components will meet species' needs. Objector CBD states that the approach does not consider the connections between the unique habitat elements of listed and SOCC species, nor does it consider the unique threats posted by management disturbances to certain species such as the Carolina northern flying squirrel.

Objector CBD goes on to include that the "coarse filter approach essentially treats all stands within an ecozone the same-as fungible units-to justify a broad-brush approach to managing these lands through predominately regeneration harvests. The coarse filter assumes that so long as certain forest composition and structure needs are met, the needs of most wildlife will be met, even if that means a three-to fourfold annual increase in regeneration harvests regardless of the location. This approach may have significant consequences for species like the CNFS that occur in isolated "islands" throughout the Forests as well as dispersal limited species (such as salamanders) that only occupy specific areas of the forest and have limited ability to move elsewhere. For these dispersal limited species, how well an entire ecozone is trending toward the NRV may not be a reliable indicator of whether the Plan is maintaining their viability or contributing to their recovery." Objector SELC raises similar concerns, explaining that the acres within the Forests are not "ecologically interchangeable" or "fungible" and that the coarse filter analysis conducted by the Forest Service presumes that all acres of the same ecozone are interchangeable, which is both scientifically inaccurate and goes against the weight of the agency's own analysis. Objector SELC states that the ESE approach taken by the Forest



Service's means that any acre, anywhere, within the forest type and age class is "worth" the same in the model and does not account for areas of known biodiversity, which Objector SELC states fails to protect rare species and areas of confirmed biodiversity.

Objector SELC further asserts that the Forest Service failed to complete the second part of the coarse filter analysis that would protect rare communities by failing to protect state-delineated Natural Heritage Areas, existing old growth, and tens of thousands of wilderness inventory areas. Objector SELC believes that "without specific and clear diversity requirements to analyze, the FEIS analysis struggles to provide a basis for concluding that plan-area wildlife will be adequately protected. As a result, the FEIS makes assumptions for limiting protections that do not correspond to plan components." Objector SELC asserts that the Forest Plan "provides no direction to treat these areas any differently than any other acres when they are in suitable MAs. The Forest Service must either start its analysis over from scratch, or it must add protections (both allocation changes and plan components) to ensure that its analytical conclusions are justifiable." Objector SELC also states that Wilderness Inventory Areas are an important component of the coarse filter approach and that North Carolina Mountain Treasures and other WIAs should have more protective designations in order to protect imperiled species and to help justify the Forest Service's conclusion that the Forest Plan protects all species.

Objector SELC states that the Forest Service is "required to include plan components which "maintain or restore the diversity of ecosystems and habitat types" alongside "rare aquatic terrestrial plant and animal communities." 36 C.F.R. § 219.9(a)(2)," which means that diversity must be maintained where it exists and restored where it does not. Objector SELC states that the 2012 Planning Rule "does not authorize the agency to degrade existing rare habitats and hope to restore them elsewhere, especially for dispersal-limited species. Yet that is exactly what the Plan proposes." Objector SELC states that the current revised Forest Plan "does not account for many sensitive and specialized old growth associate species, because it allows logging in existing old growth (and in exemplary forests that are regaining old growth characteristics) while attempting to offset the loss by claiming that other portions of the forest will continue aging. No effort is made to show that these "new" old forest stands will provide the same quality of habitat or, more important, actually be occupied by these often highly dispersal limited species. Consequently, the Plan does not provide for the maintenance and restoration of old growth and closed canopy associates."

Objector CBD further asserts that both the coarse-filters and fine filters are insufficient to fully capture and respond to the sensitivities, needs, and threats of many species of conservation concern, particularly those occurring within old growth forests, such as salamanders, birds, terrestrial snails, and plants. Objector CBD states that the coarse filter's treatment of SOCC is "cursory" and that most SOCC were not identified in the Final Plan, noting that the reader must consult Appendix C for this information, and that the section on plant and animal diversity only identifies desired conditions for SOCC, followed by a short list of objectives and standards that apply to all species groups.

Multiple objectors also believe that the fine-filter analysis is also deficient because the Final Plan and the FEIS do not adequately mitigate the impacts to listed species from the proposed regeneration harvest of mid to late aged forests to young forest, noting that the FEIS does not



discuss how these silvicultural practices may uniquely impact these species by fragmenting habitat (for species such as the Carolina northern flying squirrel), removing important roosting habitat for bats, degrading water quality for listed aquatic species, and failing to protect important habitat for the threatened plants.

Objector SELC contends that "instead of strengthening listed species protections in the Revised Plan, the Forest Service actually removed a protective standard about preserving imperiled species' habitat. PAD- S-03, which contains standards about project-level surveys for listed species, once also directed that "[i]n areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species." Compare Draft Plan at p.88, to the Revised Plan p. 80. As their stated rationale, the Forest Service said, "we do not currently always do this." Whether or not the Forest Service currently complies with the law is irrelevant to the agency's obligations under the statute. The Forest Service is legally obligated to contribute to the recovery of listed species and maintain the viability of SCC. Maintaining key habitat characteristics necessary for species persistence in known areas of species occupation seems an essential part of that duty."

### **Remedy(s) proposed by Objectors**

- The Forest Service needs to use a more rigorous coarse filter/fine-filter analysis so that it can more fully capture the impacts to listed and sensitive species and develop mitigation measures that are tailored to achieving viability and recovery goals.
- The Forest Service must employ coarse-filter and fine-filter analyses that are much more sensitive to and responsive to the unique needs of federally listed species and species of conservation concern, particularly those that are dispersal-limited.
- The Forest Service must reinstate PAD-S-03 in full.
- The coarse filter analysis must include NHNAs.
- The Forest Service should reclassify old growth conditions, the Rich Subtype of Rich Cove Forest, the Rich Subtype of Northern Hardwoods Forest, and the Basic Subtype of Montane Oak Hickory Forest to the list of rare habitats for Pisgah and Nantahala National Forests. This would provide necessary protection for sensitive, dispersal-limited old-growth species left behind by the current coarse filter analysis.
- If the Forest Service does not make these reallocations, it must include fine filter components for bark and leaf epiphytes, identifying and protecting suitable habitat for those species, including standards and guidelines on buffers to prevent edge effects such as desiccation from increased light and temperature. These plan components would be particularly important for cove and northern hardwood ecozones.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant laws, regulations and policies.



**Species of Conservation Concern.** A species of conservation concern is defined in 36 CFR 219.9 as species, other than a federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area.

**Plan Components:** 36 CFR 219.7: This portion of the Rule describes the types of plan components and their use in a plan. This section compliments 36 CFR 219.9 described above by outlining the types of plan components that may be employed to meet the intent of 219.8 and 219.9.

## **Project Record**

FEIS, Appendix A, p. 61 - Explanation on the use of coarse and fine filters.

FEIS, p. 3-103 - NHNAs explanation on why it was not analyzed in the ESE tool as a separate indicator was included in the FEIS. FEIS

FEIS, Appendix C contains the tables with the information from the Ecological Sustainability Analysis, including a cross walk to the plan components and the species groups with include the dispersal-limited Species.

Forest Plan - plan components specific to species (NG-GLS-02, SB-DC-14, PAD-S-01, PAD-S-08, etc.) and developed through the fine filters and some of which are broad and cover multiple species in the coarse filter approach (PAD-O-02, PAD-DC-05, PAD-S-03, PAD-G-01, WLF-DC-04, WLF-DC-06, etc.).

Biological Opinion (pp. 2, 8, and 53) - confirms the broad-scale, program-level analysis of the Forest Plan and that the Forests retain their responsibility under the ESA to consult on future projects that may affect listed species regardless of the project's consistency with the Proposed Action considered in the BO.

See also the project record references from Issue 2: Standards and Guidelines, Desired Conditions, above.

## **Response**

This issue was addressed in the FEIS, Appendix A, Response to Comments (p. 61). As the response stated, some changes were made between the draft and final, including clarification on the relationship between forest health and species, addition of the wildlife habitat section, and addition of the plant and animal diversity section. Additionally, the Biological Opinion (pp. 2, 8, and 53) confirms the broad-scale, programmatic-level analysis of the Forest Plan and that the Forests retain their responsibility under the ESA to consult on future projects that may affect listed species. For specifics on Carolina Northern Flying Squirrel, Noonday Globe, and Bats, see the response to those issues below.



The objectors included several remedies for their issues. They request that the Forests include a rigorous coarse filter/fine-filter analysis. This was done in the FEIS and included in Appendix C and therefore the Forests meet the 2012 Planning Rule requirements (36 CFR 219.9).

In response to the request that the Forests must include NHNAs in the coarse filter analysis, the FEIS (p. 3-106), provides an explanation for why NHNAs were not analyzed in the ESE tool as a separate indicator.

In response to treating basic subtypes of rich cove, mesic oak, and northern hardwood forests as unique habitats, the Forests updated their analysis between the draft and final EIS. Data was used from the NC Natural Heritage Program (NCNHP) and forest personnel locating sites dispersed across the Forests. All three of the types have more than 30 sites documented across the Forests with over 55 for basic mesic oak and rich montane rich cove forests. All three of these subtypes have a state rank of S3 as determined by the NCNHP. Often when species or communities are ranked S3 or higher, they are not treated as rare.

In response to the request that the Forests provided necessary protection for sensitive, dispersal-limited species not covered by coarse filter analysis, the Forests added a dispersal-limited species group to the ESE tool between draft and final EIS. Table C-5, FEIS Appendix C, pp. C-122 through C-127 shows the necessary protection for sensitive, dispersal-limited old-growth species in the Ecological Sustainability Evaluation and carries that through to the plan components meeting the 2012 Planning Rule requirements at 36 CFR 219.9.

In response to the objector's request to include fine filter components for bark and leaf epiphytes, the Forest Plan already includes plan components that support these Species of Conservation Concern although this may not be easy to discern from Appendix C. Clarifications to Appendix C can help show the relationship between plan components and species. In response to the objector's request to reinstate PAD-S-03 in full, the Forests had previously removed that standard between draft and final because it states what is already required by law, regulation and policy regarding federally listed species. However, the Forests should consider whether the addition of that plan component would appropriately address the objectors' concerns regarding federally-listed species and species of conservation concern.

For old growth related assertions, see the responses to Old Growth Network Issue 1 through Issue 3.

**Instruction(s):**

See clarifications to Appendix C in Issue 2 above.

**Instruction:** In Appendix C, ensure there is a crosswalk between plan components and dispersal-limited species.

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and



species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

## **Issue 5: Coarse Filter, Fine Filter and Road Density**

**Objector(s):** Southern Environmental Law Center et al.

The objector alleges that the road density analysis in the final plan is flawed. They contend that information such as soil impacts are left out of both the road density analysis and the Ecological Sustainability Analysis. They also assert that additional analysis needs to be conducted specific to each management area because each area has different local ecologies and different levels of impacts from roads. They do not think the coarse filter approach was adequate, and they assert that the road density analysis is analytically incomplete and assumes that all acres of the forest are equally impacted by road density, which is a fundamental flaw.”

The objector is concerned that many miles of roads were left out of the road density analysis because not all roads were considered in the Ecological Sustainability Analysis because they were applied by ecozones and did not take into account unauthorized and private roads that would add direct impacts to species viability through disturbance and sedimentation. The objector provides an example, to "illustrate how irrelevant this data is using the Forest Service's own open road density analysis: in order to reach the "poor" level of greater than two miles of open road per square mile across the entire Forest, the existing open road system would have to expand by over 1,000 miles[...] This does not reflect the needs of road-density sensitive species. "For species sensitive to disturbance, minimizing road density is vital to reducing disruption of basic life history," and "[e]ven open unpaved forest roads can be barriers to movement for species such as salamanders."

The objector makes the case that not conducting a fine filter approach and leaving it to the project level analysis is a clear violation of NEPA because there is no way to include the appropriate relevant scale of analysis. They provide very specific suggestions on how to improve and accurately account for impacts of roads within each ecozone and management area. "For the Forest Service to meet the needs of these species at the landscape level, the agency would need to guarantee low enough road density for these sensitive species to persist across the Forests—even in habitat where they would never be found. The Revised Plan does not achieve this highly protective standard, and objectors believe that the Forest Service's limited budget is best spent elsewhere.[...] Instead, the Forest Service should make road density projections at smaller scales to determine if there will be enough low-density areas in the right places. For example, if one alternative placed low-road-density areas in Matrix, and another alternative placed those areas in Backcountry, a comparison could be made based on the different impacts of road construction in different Management Areas. This medium-scale analysis is also a crucial piece missing from the current Plan and required by NEPA. Logic and best available scientific information dictate that roadbuilding in different Management Areas, which have varying levels of existing human disturbance and active management, will have different impacts on local ecology."

### **Remedy(s) proposed by Objectors**



- The Forest Service must commit to conducting road density analysis at the logical, local scale and that if it fails to do so, it must at least follow the Partnership's recommended allocations for WIAs, placing those areas into a mix of recommended wilderness, backcountry, SIA, and EIA. The proper coarse filter analysis must be re-done with the appropriate number of road miles and a logical threshold for road density impacts on a more relevant smaller scale.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR part 212 – administration of forest transportation system.

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant laws, regulations and policies.

36 CFR 219.20(a)(2) “Evaluation of ecological sustainability. Evaluations of ecological sustainability must be conducted at the scope and scale determined by the responsible official to be appropriate to the planning decision. These evaluations must describe the current status of ecosystem diversity and species diversity, risks to ecological sustainability, cumulative effects of human and natural disturbances, and the contribution of National Forest System lands to the ecological sustainability of all lands within the area of analysis.”

219.20(a)(2)(ii)(B) “Evaluations of species diversity...For all other species, including other species-at-risk and those species for which there is little information, a variety of approaches may be used, including individual species assessments and assessments of focal species or other indicators used as surrogates in the evaluation of ecological conditions needed to maintain species viability.”

219.20(a)(2)(ii)(C) “Except as provided in paragraph (a)(2)(ii)(A) of this section, for species groups that contain many species, assessments of functional, taxonomic, or habitat groups rather than individual species may be appropriate.”

### **Project Record**

Forest Plan - multiple forest plan components for decommissioning unneeded roads (TA-O-01, TA-O-02, TA-O-04).

Biological Opinion (p.2, 8, and 53) - confirms the broad-scale, program-level analysis of the Forest Plan and that the Forests retain their responsibility under the ESA to consult on future projects that may affect listed species.

FEIS, pp. 3-490 through 3-497, Transportation and Access Analysis.

FEIS Appendix C, Ecological Sustainability Analysis describes the analysis process in further detail with more information on individual analyses available in the project record. Table C-3



(Appendix C, p. C-73 – C-119) identifies the ecosystem group(s) for each species evaluated. Indicators were identified based on factors influencing habitat quality and quantity on the Forests that are relevant to each ecosystem or species group, weighted, and scored (Tables C-4 and C-5, Appendix C, p. C-120 – C-128). The total open road density was identified as an indicator in some ecosystems, including those ecosystem types identified as salamander habitat in table C-3. Species groups were created for Dispersal-limited Species, Recreation Traffic Sensitive Species, and Road Density Sensitive Species.

FEIS, Appendix A, Response to Comments, pp. 89-98 addressing the Transportation System.

The Project Record includes analysis for Alternatives A through D at 10 years and 50 years for both Tier 1 and Tier 2 objectives (See Road Density Analysis Excel file and Open Road Density Estimates Forestwide Excel file).

### **Response**

The Forests provided analysis that is both consistent and logical when analyzing roads, including 2,096 miles of forest roads and 448 miles of other roads (state, NPS, etc.). Unauthorized roads may be decommissioned as per the plan direction. Concerns regarding site specific roads would be addressed and analyzed during project level analysis.

The FEIS, p. 3-136 documents that the analysis considered total road density as a measure of forest fragmentation and connectedness by using the Ecological Sustainability Evaluation (ESE) tool. There is analysis throughout the FEIS that documents the open road density by ecozone and how this may impact a particular species.

The FEIS fully documented the miles of road within the boundary of the National Forests and displayed the road mileages by jurisdiction. The FEIS, p. 3-496 fully documents how the Forests considered road construction by alternative and within the context of the management allocations. The FEIS notes that management areas that do not allow for new road construction comprise about 17% of the Forest's acreage for Alternative E. It also notes that the remainder of the forest has limitations on where new road construction can occur. FEIS, pp. 3-137 through 3-176. In addition, as documented in the response to comments, FEIS, Appendix A p. 92, road density was used as an indicator measure for wildlife species that are sensitive to road densities; see the analysis in the FEIS, pp. 3-137 through 3-176. These calculations should not be referenced for transportation-related road density issues, but rather for wildlife sensitivity to roads in terms of migration and habitat connectivity.

The Forest Plan contains adequate protections for soils, including SLS-S-01 which screens soils during project activities for the presence of erodible soils, SLS-S-02, which limits impairment to soils, and guidelines SLS-G-01 and SLS-G-02 which mitigate impacts to soils. See also the response to Hydrology and Soils Issue 7 and Issue 8 for responses as to how soils are protected.

### **Instruction(s):**



**Instruction:** The spreadsheets in the project record (Road Density Analysis and Open Road Density Estimates Forestwide) are dated 08/29/2019 and have analysis data for Alternatives A through D but do not include Alternative E. Alternative E should be added to this analysis or an explanation as to why it is not needed should be provided.

**Instruction:** In Appendix C, ensure there is a crosswalk between plan components and dispersal-limited species.

## **Issue 6: Habitat Protection and State/Private Lands**

**Objector(s):** Ruffed Grouse Society and American Woodcock Society; Center for Biological Diversity; MountainTrue; Friends of Big Ivy

Objector CBD and Friends of Big Ivy state that the Forest Service should consider habitat conditions of private and state-owned lands when analyzing habitat needs of rare species. Objectors contend that National Forest System lands provide more refuge and unique habitats than non FS lands. As such, the objectors believe that there may be an even "greater need for additional mid-age, late-age, and old growth forest to compensate for the lack of these habitats across the broader landscape."

Objectors assert that the 2012 Planning Rule specifically considers instances where the National Forest may need to compensate for degraded conditions on the broader landscape or to mitigate the effects of external stressors to "contribute to maintaining a viable population of the species within its range." 36 C.F.R. § 219.9(b)(2)(ii). However, the objectors state that the "FEIS does not examine the status and trends of these species across the broader landscape, how private lands are either contributing to or detracting from species conservation goals, and what unique role the National Forests play in providing refuge for these species."

Objectors go on to note that the FEIS and Forest Plan explain how the agency needs to create more early seral habitat in order to respond to the demand to provide quality hunting opportunities for a small number of "demand wildlife species," such as grouse, deer, and turkey, and that the Forest Plan established a number of desired conditions, standards, and guidelines to accomplish this desired condition. However, the objectors note that many of these game species, such as black bear, turkey and deer have either stable or increasing populations and that these species are generalists that can use a wide variety of habitats. Objectors conclude that because of this, the Forest Service's purpose and need statement to increase early seral habitat to increase populations of game species in decline is unsupported and is at the expense of listed and SCC.

Objectors also contend that by framing the purpose and need as such, it "appears to be a pretext for the Forest Service to create more open areas to increase harvest numbers of many of these species."

### **Remedy(s) proposed by Objectors**



- The Center for Biological Diversity and Friends of Big Ivy’s suggested remedy is for the Forest Service to provide greater balance in its discussion of the impacts of creating more early seral habitat in the Forests.
- In contrast, Objector Ruffed Grouse Society and American Woodcock Society believe that "urgent action" is needed across the landscape to halt the decline of the ruffed grouse and other forest wildlife by maintaining 8-14% of the Forests in early successional habitat, which would also optimize for bird diversity.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.9 - Diversity of plant and animal communities: Planning requirements to “provide the ecological conditions to ... contribute to the recovery of federally listed threatened and endangered species” are found at 36 CFR 219.9(a) and 36 CFR 219.9(b) and elaborated upon at FSH 1909.12, 23.13. In addition to meeting substantive Endangered Species Act requirements, this policy requires that plan components provide ecological conditions to contribute toward recovery of any threatened or endangered species in the plan area. The Rule [36 CFR 219.9(b)] motivates an evaluation of the adequacy of plan components to provide ecological conditions to “contribute to recovery of federally listed threatened and endangered species... within the plan area” as further described at FSH 1909.12, 23.13. This evaluation discloses the relationship between the species ecology (e.g., threats, limiting factors, and important ecological conditions), plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9.

Additional, species-specific plan components: (2) If the responsible official determines that it is beyond the authority of the Forest Service or not within the inherent capability of the plan area to maintain or restore the ecological conditions to maintain a viable population of a species of conservation concern in the plan area, then the responsible official shall:

- i. Document the basis for that determination (§ 219.14(a)); and
- ii. Include plan components, including standards or guidelines, to maintain or restore ecological conditions within the plan area to contribute to maintaining a viable population of the species within its range. In providing such plan components, the responsible official shall coordinate to the extent practicable with other Federal, State, Tribal, and private land managers having management authority over lands relevant to that population.

### **Project Record**

See project record section for Planning, Issue 1: All Lands Approach to Planning.

FEIS, Appendix A, Response to Comments, p. 35 regarding conditions of the surrounding forests

Additionally, the purpose and need was fully disclosed in the FEIS and carried through the analysis (FEIS, pp. 1-6, 3-119, 3-128, 3-144, 3-261, 3-262, 3-277, 3-353, 3-632, etc.)



Forest Plan - plan components for young forest as well as old growth and species-specific habitat conditions.

FEIS, pp. 3-393 through 3-413. Old Growth Analysis – discussion of patch sizes and networks across all lands.

FEIS, Chapter 1 description of issues states that “There are differences of opinion about how much young forest is needed to support healthy wildlife and about what guidance is needed to protect or manage rare and unique species” (p. 1-12). FEIS Chapter 2 outlines how the alternatives respond to this issue (pp. 2-16 through 2-22).

## Response

Objectors assert that the 2012 Planning Rule requires the National Forest to consider compensating for degraded conditions on the broader landscape or to mitigate the effects of external stressors. The FEIS contains information regarding the condition of the surrounding forests in the Forest Structure cumulative effects sections. It identifies that early successional habitat on private lands is increasingly being developed, including areas adjacent to the Forests. The FEIS and Biological Assessment (BA) looked at populations beyond the Forests where species’ persistence at this larger scale is related to the presence of quality habitat on the Forests. An example of this is with the rusty-patched bumblebee, where threats from private land development, acidic deposition, and climate change will continue to affect the species (BA, p. 67). The plan components will maintain habitat quality and quantity on the forest and inventory efforts will determine whether or not the species is still present on the Forests (ibid).

Objectors state that while the FEIS and Forest Plan explain how the agency needs to create more early seral habitat in order to respond to the demand for quality hunting opportunities for a small number of "demand wildlife species," they believe that the Forest Service's purpose and need statement to increase early seral habitat in order to increase populations of game species in decline is unsupported and is at the expense of listed and SCC.

The FEIS states two of the purpose and needs are to 1) restore declining aquatic and terrestrial wildlife habitat and consider species in decline, including game and non-game species appreciated by wildlife enthusiasts such as hunters, anglers, birders, etc. and, 2) increase the amount of young forest across the landscape. These need statements are not solely intended to benefit ‘demand wildlife species.’ The increase in young forests is shown throughout the FEIS to benefit other species that are in decline or have limited range or mobility (FEIS, Appendix C). These species include ruffed grouse (*Bonasa umbellus*), northern bobwhite (*Colinus virginianus*), American woodcock (*Scolopax minor*), field sparrow (*Spizella pusilla*), golden-winged warbler (*Vermivora chrysoptera*), and a host of pollinator species, including the federally endangered rusty-patched bumblebee (*Bombus affinis*) (FEIS, p. 3-119). Managing the national forests with a range of age classes and diversity of structure is critical to providing quality habitat for the diversity of plants and wildlife that depend on National Forest System lands (FEIS, Appendix A, Response to Comments, p. 35).



Objectors suggested providing greater balance in its discussion of the impacts of creating more early seral habitat in the Forests. The analysis adequately documented both the beneficial impacts of creating early seral habitat and any adverse impacts that may occur. Young forest creation is actually quite limited, with Tier 1 objectives of 650-1200 acres per year to 1200-3200 acres per year under Tier 2 objectives. This equates to creating a maximum range of 0.1 percent to 0.3 percent per year of early seral habitat creation across both forests.

See the response to Planning, Issue 1: All Lands Approach to Planning for a discussion on how the Forests assessed the condition of all lands during their analysis.

See also the response to Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 3: Early Seral Habitat for more details.

**Instruction(s):** None

## **Issue 7: Carolina Northern Flying Squirrel**

**Objector(s):** Center for Biological Diversity; Southern Environmental Law Center et al.

Objectors are concerned that the revised Forest Plan does not adequately protect the Carolina northern flying squirrel (CNFS). The objectors note that the FEIS recognizes the optimal habitat for the CNFS, which includes cool, moist, mature forests, including northern hardwood forests as well as nearby spruce-fir forests, which provide critical habitat including tree cavities (which provide den sites), leaf and twig nests and underground burrows. While the objectors appreciate that the Forest Service proposes to primarily engage in passive management, they state that approximately 50 acres of young forest a year will be created in high elevation forests under the revised Forest Plan and that of more concern is the "aggressive" management of northern hardwood forests. Objectors are concerned that up to 60,000 to 90,000 acres of young forest (over 70% would be over 2,500 feet elevation) would be created over the life of the revised Forest Plan, which could mean that 50% of young forest treatments (including regeneration harvest) would occur in oak-dominated, northern hardwood, and rich cove ecozones, which favors ruffed grouse populations, but impacts CNFS populations.

The objectors are concerned with the Forest Service's management approach because they state that the revised Forest Plan and accompanying Final Environmental Impact Statement (FEIS) "do not elaborate on the nature of the vegetation management that will be undertaken in CNFS habitat (FEIS p. 3-265)" and they believe that the FEIS does not examine potential impacts to the CNFS from the conversion of mature northern hardwood forests to young forests. Objectors have the following questions that they state were not addressed or answered in the FEIS:

- Will there be clearcutting of mature and older growth stands in CNFS habitat?
- Will thinning be used instead to retain taller, older, and larger trees?
- How will fine-scale habitat desired conditions intended to conserve bird and bat species (i.e., leaving four or more snags per acre) also benefit a species that depends on closed canopy older forests? (FEIS pp. 3-261-262).
- What does the Forest Service mean when WLF-DC-06 states that trees greater than 9" DBH exhibiting crevices and other suitable denning characteristics are "present across the



landscape" and how will this offset the loss of thousands of acres of older trees every year under tier one or tier two approaches? (FEIS pp. 3-261, 3-275).

- How will the Forest Service "emphasize" native trees with exfoliating bark and natural crevices to provide denning habitat for the CNFS? (FEIS p. 3-262).
- How might the lack of a tree canopy contribute to increased predation of CNFS?

Objectors assert that the FEIS also failed to address the loss of food sources from removing soft, punky trees, and hardwood trees from suitable CNFS habitat and buffer areas and failed to address impacts to food sources from herbicide application in these areas, which they state threatens to disrupt the symbiotic relationships between mycorrhizae and trees). Objectors are also concerned that the Forest Service may be using red spruce restoration as a substitute for CNFS protection, noting that the species require northern hardwoods as well as red spruce and other conifers. They state that red spruce restoration efforts, dependent on cutting associated northern hardwoods, may pose additional risks to the species that the FEIS fails to disclose.

Objectors assert that the Forest Service should also consider the impacts from fragmentation of habitat for CNFS, which they state is already relegated to "islands" of spruce fir-and northern hardwood forests. Objectors believe that the FEIS failed to examine the reasonably foreseeable future impacts of fragmentation, particularly from timber harvest and road construction. The objectors believe that the FEIS failed to provide standards or guidelines for road construction for the 50 annual acres and up to 2,236 total acres of spruce-fir harvests scheduled under the Plan (FEIS p. 3-72). Objectors believe that the Final Plan failed to provide any guidance for how spruce-fir restoration and harvest will occur and assert that road building in the spruce-fir ecozone will result in increased fragmentation of remaining spruce-fir islands.

### **Remedy(s) proposed by objectors**

- Avoid cutting soft and punky (pulpwood) trees that often serve as nesting sites, and protect all hardwood trees and the surrounding forest floor in suitable flying-squirrel habitat as they provide valuable food sources for the species.
- Assess the impacts of timber harvest in CNFS habitat to ensure that the necessary ecological conditions are not just maintained but also improved; the Forest Service should take an approach (like one they suggest for salamanders) that prohibits timber harvest and road construction from creating barriers to the movement of groups of CNFS at the individual or population level.
- Identify parts of the Forests where roads and other features that fragment CNFS habitat are removed in order to help preserve and improve habitat connectivity for the species.
- Use the Forest Plan Revision process to implement a conservation program for the CNFS under Section 7(a)(1) of the Endangered Species Act to help conserve and recover this species, which would enable the Forest Service to serve as a conservation leader for a species whose future will likely depend on how well it is managed on Forest Service lands.
- Prohibit the killing of spruce fir and large hardwoods in spruce-fir/ spruce- fir/northern hardwood forests (this includes logging, girdling, and the use of herbicides).
- Prohibit timber harvest and road construction from creating barriers to the movement of groups of CNFS at the individual or population level.



- Standards and guidelines should be informed by specific management guidelines from relevant species recovery plans. To protect the Carolina Northern Flying Squirrel, the Forest Plan should follow guidelines found in Appendix A of the Recovery Plan that include: "Potential habitat, particularly old-growth areas, should be maintained intact; while limited selective cutting may be conducted, clearcutting should be avoided. ...Any timber rotation schedules should be of a sufficient length to maintain the old growth character of the area." This approach would help ensure that recovery plans are actually being implemented and the most important measures are being undertaken to minimize the impacts of regeneration harvests on these species.

## REVIEW FINDINGS

### Law, Regulation and Policy

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant laws, regulations and policies.  
See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant laws, regulations and policies.

### Project Record

Table 83 in the FEIS (pp. 3-261 to 3-263) summarizes the plan components that specifically address habitat conditions for and/or persistence of Carolina northern flying squirrel on the Forests. These and other relevant components (WLF-S-01 and BLM-GLS-01) are also found in the Forest Plan, pp. 68, 83, 150, 155, 169, 179, 189, 204 and 206. They include:

SB-DC-14 "Habitat for the Carolina northern flying squirrel and associated red spruce communities is sustained or enhanced."

BAM-GLS-05 "Emphasize restoration of spruce-fir habitat for the Carolina northern flying squirrel and spruce-fir moss spider and maintain the health and resiliency of this forest type in the face of climate change."

GB-GLS-01 "Conserve and restore high elevation red oak forests, northern hardwood forests, spruce-fir forests, and mesic oak forests. Emphasize restoration of spruce-fir habitat for the Carolina northern flying squirrel and spruce-fir moss spider and maintain health and resiliency of this forest type in the face of climate change."

NS-GLS-03 "Emphasize restoration of spruce-fir and northern hardwood forests for the northern flying squirrel, spruce-fir moss spider, and rock gnome lichen, and maintain health and resiliency of these critical forest types in the face of climate change."

UM-GLS-04 "Maintaining and increasing the Carolina northern flying squirrel population through active restoration and habitat enhancement and planting red spruce in northern hardwood forests within the headwaters of Santeetlah creek and along the Cherohala skyway."

PL-GLS-05 "Expand spruce restoration in the Flat Laurel Creek and Graveyard Fields Areas."

ECO-O-07 includes restoration of "50 acres of spruce fir ecozones annually to improve ecozone condition" in this vegetation type."



Temporary road decommissioning is addressed in the following objectives (FEIS, pp. 3-72 to 3-73):

TA-O-01 “Tier: 1 Maintain 280 miles to standard annually across the Nantahala and Pisgah by performing maintenance, reducing road maintenance level, or decommissioning unneeded roads. Tier 2: Reduce the maintenance backlog by an additional 10% annually.”

TA-O-04 “Authorized road and trail miles within priority watersheds and Inventoried Roadless Areas will be identified and prioritized for obliteration to minimize erosion and sedimentation...”

TA-O-06 “Tier 1- No net decrease in the miles of open roads in Interface and Matrix over the life of the plan.

Tier 2 – Increase mileage of seasonally open roads in Interface and Matrix by approximately 5 -10% over the life of the plan, prioritizing recreational access, such as hunting and fishing. Determine the amount of unneeded roads in backcountry and decommission 10% over the life of the plan.”

FEIS, p. 3-260 states that Appendix C, Table 2 identifies 368 plan components that either directly or indirectly support healthy and resilient habitat conditions associated across the Forests in places and ecozones that are associated with the Carolina northern flying squirrel.

Effects to Carolina northern flying squirrel are disclosed in the Biological Assessment and in the FEIS (pp. 3-258 to 3-268) and it was determined that this species will continue to persist across the species’ estimated range on the Forests.

Appendix A of the FEIS addressed comments regarding the Carolina northern flying squirrel (pp. 57, 61, 142).

Appendix C of the FEIS is the Ecological Sustainability Analysis which describes the analysis process used in Ecological Sustainability Evaluations (ESE).

## **Response**

Plan components ensure the conservation of Carolina Northern Flying Squirrel (FEIS pp. 3-260 to 3-263). Habitat is limited, “represented by islands of high elevation spruce-fir and northern hardwood forests separated by lower elevation hardwood forest” (BA, p. 23 and FEIS p. 3-259). The analysis includes plan components for vegetation management within northern hardwoods, an analysis of the potential treatment areas, and a statement that “the amount of northern hardwood forest within the estimated range of CNFS within MA Group 1 is small. However, because it is present, NHW is included in this summary” (BA, p. 29 and FEIS p. 3-265).

As for objectors’ concern that “up to 60,000 to 90,000 acres of young forest (over 70% would be over 2,500 feet elevation) would be created over the life of the revised Forest Plan, which could mean that 50% of young forest treatments (including regeneration harvest) would occur in oak-dominated, northern hardwood, and rich cove ecozones, which favors ruffed grouse populations, but impacts CNFS populations”, the FEIS, pp. 3-110 to 3-112 explained that objective ECO-O-01 was “Reframed in Alt E as an annual action to move toward young forest desired condition.



Specificity about priorities (elevation, ecosystems, and wildlife habitat) was moved to management approaches.” Specifically, the Forest Plan, p. 70 states that the management approach for ECO-O-02 is that “Young forest creation will be accomplished using both timber harvest and prescribed fire. Timber harvest will account for most (approximately 80% or more) of young forest creation during the life of the plan.” This change directly addressed the objector’s concern above.

In addition, as for objectors’ concern that clearcutting mature and old growth stands in CNFS habitat could occur, the plan includes numerous components including TIM-S-17, which outlines when clearcutting may be appropriate, including where needed to establish, enhance, restore or maintain habitat for TES species. Given that habitat for the Carolina northern flying squirrel does not include early seral habitat or young forest conditions, this standard ensures protection for the species habitat. The FEIS, p. 3-265 also states that the amount of young forest is expected to largely reflect natural disturbance amounts and patterns (rather than active management and prescribed fire) in areas occupied by Carolina northern flying squirrel under all alternatives. In addition, the desired condition (SB-DC-14) is that “habitat for the Carolina northern flying squirrel and associated red spruce communities is sustained or enhanced.” FEIS, p. 3-263.

Plan standard OGN-S-01 describes the use of vegetation manipulation, including thinning, in the designated old growth network (FEIS p. 3-263). Additional management approaches incorporated into the revised forest plan include “avoid felling hemlock, spruce, and fir in CNFS habitat. Also avoid felling yellow birch in CNFS habitat where yellow birch is limited” (FEIS p. 3-264).

Desired condition WLF-DC-06 includes an explanation that “These habitat components that are retained during young forest restoration perpetuate to later successional stage, either through natural succession or through forest stand improvement practices. Over time, they contribute to the development of old growth characteristics such as large, downed woody debris; abundant snags; variable gap sizes; and tip up mounds” (FEIS p. 3-261), while WLF-S-01 is a standard that explains how snags will be maintained, as well as the desired characteristics of snags and trees that would be retained. This desired condition and standard explain the fine-scale habitat characteristics needed for the species, including soft snags and snags with cavities. Plan standard WLF-S-01 further addresses retention of wildlife habitat diversity elements, including standing live and dead trees >9" DBH that exhibit cavities and other denning conditions, except where human safety is a concern” (FEIS, p. 3-261 to 3-262). This standard also includes “Consider current research, such as United States Fish and Wildlife Service (USFWS), NCWRC, North Carolina Bat Working Group (NCBWG), the USFS bat conservation strategy, or other relevant guidance to determine appropriate roost and den tree species and condition for retention during project implementation.”

Tier 1 of the selected alternative (Alternative E) includes 650 to 1,200 acres of young forest creation annually, with Tier 2 allowing up to 3,200 acres. This desired condition supports the development of old growth characteristics over the long term. See the response to T & E, Sensitive Species, and Species of Conservation Concern Issue 6: Habitat Protection and State/Private Land for more information.



Plan standard WLF-S-01 clarifies that wildlife habitat diversity elements including emphasizing native trees with exfoliating bark and natural crevices, would be retained during vegetation management activities and also addresses retention of wildlife habitat diversity elements, including standing live and dead trees >9" DBH that exhibit cavities and other denning conditions, "except where human safety is a concern." This standard also includes "Consider current research, such as United States Fish and Wildlife Service (USFWS), NCWRC, North Carolina Bat Working Group (NCBWG), the USFS bat conservation strategy, or other relevant guidance to determine appropriate roost and den tree species and condition for retention during project implementation." (FEIS p. 3-261 to 3-262).

Predation risk and effects of herbicide application were not identified as threats in the 5-year review (USFWS, 2013) and as such, need not be analyzed. Effects to species were analyzed at the programmatic scale. Effects to species from individual actions will be analyzed at the site-specific project level (Appendix A, p.41; BA, p.11).

As documented in the project record section above, there are numerous plan components (FEIS p. 3-261 through 3-263) that address CNFS habitat conservation. Table 196 (FEIS, p. 3-497) shows that Alternative E would produce an estimated 2 miles of additional temporary roads annually. Temporary road decommissioning is addressed in the plan objectives noted above in the project record section (FEIS, pp. 3-72 to 3-73):

Plan components (Desired Condition, Objective, Standard, Guidelines, and Goal) guide future projects and activities and inform the monitoring plan (BA p. 10). Collectively, the plan components provided for the persistence and recovery of this species by addressing threats to Carolina northern flying squirrel, as outlined in the Recovery Plan, federal register for listing, and recent 5-year reviews.

The effects analysis was conducted using the Ecological Sustainability Evaluation tool (ESE) to evaluate change from current conditions to expected future conditions on a landscape scale (BA p. 11). Effects to Carolina northern flying squirrel are discussed in the Biological Assessment and in the FEIS (pp. 3-258 to 3-268) and it was determined that this species will continue to persist across the species' estimated range on the Forests. Site-specific consultation with the USFWS will be completed for projects implementing the revised forest plan.

#### **Instruction(s):**

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

#### **Issue 8: Bats**

**Objector(s):** Center for Biological Diversity; Southern Environmental Law Center et al.



Objector SELC states that the Forest Service "has not met its obligation under the ESA to provide for the recovery of the Indiana bat and the Northern long-eared bat. This is especially disappointing considering the declining populations of these species. Currently classified as threatened, the Northern long-eared bat has shown consistent population loss and is in the process of being re-classified from threatened to endangered," while the "Indiana bat was listed as endangered in 1973. FEIS p. 3-278."

Objector SELC asserts that the Forest Service must update its consultation with the FWS for the Northern long-eared bat, which should lead to additional protective measures in the Plan.

Objector SELC states that the Forest Service must "amend TIM-S-14 to limit gap size to 10 acres in hardwood-dominated forests within .5 miles of known populations of Indiana bats, Virginia big-eared bats, and Northern long-eared bats" noting that while the "FEIS acknowledges that "[o]penings and edges are more important to gray bat and Indiana bat compared to Virginia big-eared bat and long-eared bat; however, both species tend to avoid larger openings (greater than 10 and 20 acres, respectively)." FEIS at 3-270" Objector SELC goes on to state that "Inexplicably, however, the Forest Service points to TIM-S-14, a standard which "limits the size of harvest areas to not greater than 40 acres in hardwood-dominated forest types and 80 acres in pine-dominated forest type" as a protective measure for these bat species. This is illogical and against the weight of the FEIS' own assertion of best available scientific information. The Forest Service has failed to provide a satisfactory explanation under NEPA as to why these measures would help minimize the impacts of regeneration harvests on federally listed bat species where its own documents assert otherwise, nor how they would comport with the requirements of the NFMA." Objector CBD, along with others, raised this same issue.

Objector CBD raises additional issues, stating that the revised Forest Plan's "substantial increase in timber harvests to create young forests" will impact both the Indiana bat and northern long-eared bat, both of which depend on mature forest with closed canopies across several ecozones; Objector CBD asserts that the FEIS is "virtually silent about the impacts to these species." Objector CBD goes on to state that there is no discussion in the FEIS of "how roosting (and nesting) success can be compromised by changes in forest structure and composition. (FEIS pp. 3-337; 3-257-293)."

Objector CBD contends that more than 50% of the known occurrences of listed bat species are either in matrix or interface, which is where most logging will occur (FEIS at 3-338), but then the FEIS concludes that "the Forests "will continue to contribute to improved foraging and roosting habitat for these species and contribute to the persistence of the species across its estimated range in Western North Carolina in the long term, while effectively minimizing or mitigating short term effects. No additional conservation measures are needed beyond those outlined in previous sections of this assessment..." (FEIS pp. 3-293-294)." Objector CBD believes that this conclusory statement minimizes the significance of impacts to bats.

Objector CBD also questions the desired conditions that the Forest Service identified for bats, particularly the need for more young forest to restore habitat for these species. Objector CBD notes that "Desired Condition ECO-DC-26 calls for woodlands and other open forest types across all elevations to enhance foraging opportunities for many species including bats and



pollinators (in addition to deer and elk) (Final Plan at 71)" and "Desired Condition MAT-DC-03 similarly calls for providing more edge habitats to support species bats and pollinators that the Forest Service describes as depending on grass and shrub habitat (Final Plan at 205)." Objector CBD finds it "extremely concerning" that bats are included in the "same breath as common game species such as white-tailed deer and ruffed grouse," calling it "entirely misplaced." Objector CBD states that it isn't clear why additional edge habitat and grass and shrub habitats is even needed for these listed bat species, or how a nearly four-fold increase in the amount of young forest would specifically contribute to their recovery, asserting that the Forest Service has provided no data or other information suggesting that this type of habitat is limited and that this amount of annual timber harvesting is needed to improve foraging habitat for bats. Objector CBD states that "Given that the recovery plans for the NLEB and Indiana bat underscore the importance of preserving mature forests, it is puzzling why the Forest Service describes one of the objectives of creating young forests and open forest conditions is to provide roosting habitat for bats (Final Plan pp. 65-66)."

Overall, objector CBD is concerned that these desired conditions could give the Forest Service "unfettered discretion to log mature forests-which bats depend on as part of their reproductive cycles-if doing would yield any modicum of foraging habitat. Because there are few restrictions on where these cuts may occur based on the location, quality, and structural diversity of existing stands, critically important summer maternity roosting habitat could be destroyed to provide a small amount of marginal foraging habitat for bats and other imperiled species." Objector believes that this could occur across both Forests, because Desired Condition WLF-DC-01 envisions: "young forests with seedlings and saplings are distributed across all ecozones and elevations but specially in higher elevation montane oak ecosystems for species such as ruffed grouse, golden-winged warbler, white-tailed deer, and elk" (Final Plan at 65)," while Desired Condition MAT-DC-02 contemplates the greatest concentration will occur in the Matrix as it states that "young forests, across all ecozones, occur at a higher frequency in Matrix compared to other management areas" (Final Plan p. 214)."

### **Remedy(s) proposed by Objectors**

:

- "The Forest Service needs to closely examine these impacts under NEPA and require in the Forest Plan that regeneration harvests must be less than 20 acres in hardwood-dominated forests where there is known or potential bat habitat."
- In order to better protect maternity colonies, the Forest Service "needs to include a specific standard to ensure active roost trees and maternity roost sites identified during project implementation are protected. This is being done elsewhere on national forests within the range of these species. This is particularly important for Indiana bats because they display a high degree of fidelity to roost sites (FEIS at 3-287)"
- Limit management prescriptions to 20 acres or less in suitable bat habitat to more closely simulate canopy gaps caused by natural disturbances.
- Amend TIM-S-14 to limit gap size to 10 acres in hardwood-dominated forests that are within 0.5 miles of known populations of Indiana bats, Virginia big-eared bats, and northern long-eared bats.

### **REVIEW FINDINGS**



## **Law, Regulation and Policy**

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation and Planning Issue 9: Monitoring Program for a list of relevant laws, regulations and policies.

## **Project Record**

See the response to Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a description of the records relevant to consultation.

The Forest Plan has many plan components that also address the issues that the objector brings up, including: PAD-S-01, PAD-S-03, PAD-S-08, PAD-S-09, PAD-S-10, PAD-S-11, PAD-S-12, and PAD-G-01 (Forest Plan, pp. 80-82); WLF-DC-01, WLF-DC-04, WLF-DC-05, WLF-DC-06 (Forest Plan, pp. 65-67); WLF-S-01, WLF-G-01 (Forest Plan, pp. 68-69); OGN-DC-01, OGN-S-01 (Forest Plan, p. 85); MAT-DC-03 (Forest Plan, p. 214); CWD-DC-03 (Forest Plan, p. 270); MIN-DC-04 (Forest Plan, p. 141); BLM-GLS-03 (Forest Plan, p. 155); and NG-GLS-01 (Forest Plan, p. 189)

Forest Plan, pp. 293 to 294 – Monitoring question related to bats - MQ 4-1-T2

Appendix C of the FEIS is the Ecological Sustainability Analysis which describes the analysis process used in Ecological Sustainability Evaluations (ESE) and the plan components that provide for bat species.

## **Response**

The objector states that the Forest Service must update its consultation with the USFWS for the Northern long-eared bat and that should lead to additional protective measures in the Plan. Consultation has been completed and the USFWS provided a Biological Opinion, which included both federally listed bat species. The USFWS determined that there would be no direct effects to bats as a result of the Forest Plan (BO, p. 58). This is because the Forest Plan does not describe specific actions and is programmatic in scale, direct and indirect effects from implementation are unknown and cannot be evaluated (Ibid). All future project-level activities that result from implementation of the Revised Forest Plan direction will undergo individual site-specific environmental review and section 7 ESA consultation (Ibid). Additionally, the Forest Plan has several Standards and Guidelines that require the Forests to work and coordinate with USFWS to ensure the Forest Plan and projects are contributing to the recovery of federally listed threatened and endangered species (PAD-S-01, PAD-S-03, PAD-S-08, and PAD-G-01) (Forest Plan, pp. 80-82).

The objector wants the Forest to amend TIM-S-14 to limit gap size to 10 acres in hardwood-dominated forests within 0.5 miles of known populations of Indiana bats, Virginia big-eared bats, and Northern long-eared bats. As acknowledged by the objector, the Forests did state that forest



dwelling bats tend to not use openings larger than 10-20 acres and TIM-S-14 allows for openings no larger than 40 acres in hardwood-dominated forest types and 80 acres in pine-dominated forest type. This was addressed in both the Biological Assessment and the Biological Opinion, which notes that “The revised forest plan includes standards that limit opening size and configuration, and while not specifically for bats, these constraints mitigate the potential for openings that would be avoided by federally listed bats” and “The Forest Plan includes a guideline to create irregular edges (i.e., not straight) when planning harvest areas to maximize wildlife habitat benefits (WLF-G-04). Past management activities have resulted in units much smaller than this, averaging 12-20 acres. These constraints, combined with the gap/patch analysis completed for this EIS, ensure that quality edge habitat will continue to persist on the Forests under all alternatives, and that forest-dwelling bats will continue to have access to a variety of foraging opportunities.” In addition, the BA states that “As mentioned above, Virginia big-eared and northern long-eared bats prefer foraging in mature forests and woodlands. And while other forest-dwelling bats also forage in these conditions, they are especially important for roosting. Additionally, proximity to open areas and edges for foraging is critical to the persistence of species such as gray, Indiana, little brown, and tricolored bats on the Forests. Proximity to open water is also critical for gray bats.” BA, p. 35.

The USFWS found that, “There are approximately 539 plan components that are directly or indirectly related to maintaining, restoring, or enhancing habitat for bats. These plan components range from very broad direction applicable to the whole forest or ecozone to specific direction for habitat elements associated with bats. Nineteen of these components specifically address and prioritize habitat conditions for bats” (BO, p. 24). Additionally, “Timber management activities that disturb forested areas adjacent to or in occupied habitat have the greatest potential to result in adverse effects to bats. Those activities that have the greatest potential to affect bats include timber harvest, forest stand improvement, thinning, thin/burn, and prescribed burning (plan components ECO-O-02 through 06)” (BO, p.22). They also found that the ESE tool predicts that for bats, the ecozone conditions generally improve or stay the same with implementation of the Forest Plan as a result of maintenance and restoration of forest health and resilience (BO, p. 61). They concluded that, “Loss of bats and their suitable habitats on the Forests would not lead to species jeopardy” (BO, p. 61). Future project-level activities that result from implementation of the Revised Forest Plan direction will undergo site-specific environmental review and section 7 ESA consultation (BO, p. 58).

Objectors are concerned that plan desired conditions could give the Forest Service too much discretion to log mature forests which bats depend on as part of their reproductive cycles. They contend that logging mature forest could occur across both Forests, because of WLF-DC-01 and MAT-DC-02. As the Forest Plan states, Desired Conditions describe the goals and outcomes of forest management and the ecological, social, and economic attributes that a forest can achieve over time (Forest Plan, p. 4), while the Standards and Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements (Forest Plan, p. 5).

As for the objectors suggested remedies (listed above), there are approximately 539 plan components that are directly or indirectly related to maintaining, restoring, or enhancing habitat for bats. These plan components are designed to work together to achieve the desired conditions



over the lifetime of the plan. If monitoring results indicate the desired conditions are not achievable in the long term, the Forests can make adjustments to the Desired Conditions (Forest Plan, p. 4). Additionally, the Forest Plan includes a standard in the Plant and Animal Diversity section to coordinate with the USFWS to ensure that protection of potential and known hibernacula and maternity habitat is consistent with the most recent conservation measures, recovery plans, biological opinions or USFS bat conservation strategy (PAD-S-08). Other plan components ensure that the plan and projects are contributing to the recovery of federally listed threatened and endangered species (PAD-S-01, PAD-S-03, PAD-S-08, and PAD-G-01) (Forest Plan, p. 80-82). The Biological Opinion found that this was sufficient to meet the Forests requirements under ESA and contribute to the recovery of federally listed threatened and endangered species. The FEIS, Biological Assessment, and consultation documents meet the requirements of law, policy, and regulation.

**Instruction(s):**

**Instruction:** Include the Biological Opinion and USFWS letter of concurrence in the project record.

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

**Issue 9: Noonday Globe**

**Objector(s):** Cynthia Simonds; Center for Biological Diversity; Southern Environmental Law Center et al.

Objectors CBD, SELC and Cynthia Simonds are concerned that the revised Forest Plan does not adequately protect the threatened noonday globe, a small terrestrial snail that is found in only about two miles of the high cliffs within the Nantahala Gorge in western North Carolina. Objector Simonds is also concerned about other arthropods that are associated with old-growth forests, many of which have limited mobility and are flightless, noting that many of these species are important for maintaining ecological processes that sustain forest production and ecosystem services.

Objector CBD states that the noonday globe occurs in an area containing mature forests, with large trees and a diverse plant community, including forests where the forest floor has a thick, rich hummus layer, and many exposed calcareous rocks that contain calcium that is found on these cliffs, which is vital to snails because it is a major component of their shells. Objector CBD states that while the Final Plan "recognizes that the diverse ecosystems within the gorge are dominated by rich cove forests, interspersed with acidic cove and oak forests" it does not explicitly prohibit logging within these areas, and instead calls for increased logging in acidic cove and rich cove forests to create more young forest habitat (Final Plan, p.184-185). Objector CBD states that logging, forest fires, road building, mineral exploration and trampling within noonday globe habitat is identified by the USFWS as a threat to the species in its Recovery Plan.



Objector SELC also states that the revised Forest Plan does not explicitly limit burning in the Nantahala Gorge, which could adversely impact the noonday globe.

#### Remedy(s) proposed by Objectors

- Add a standard that would require any vegetation management near noonday globe habitat to maintain or restore that habitat, by preserving a moist microclimate and an abundance of leaf litter.
- Avoid the use of prescribed fire in the species' limited range.
- Commit to a rigorous monitoring program as prescribed by the species' Recovery Plan.
- Have the final revised Forest Plan specify that "prescribed burning will not take place in the Noonday Globe's limited habitat range to avoid risk of impacts to the species, especially in the Cove ecozones where they are most often found, and that any prescribed burning plans in the area will contain measures to ensure Noonday Globe habitat is not put at risk."

## REVIEW FINDINGS

### Law, Regulation and Policy

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a list of relevant laws, regulations and policies.

### Project Record

Plan component NG-GLS-02 addresses habitat for noonday globe, "maintain and restore intact forest habitat for the noonday globe" (BA p. 60, FEIS p. 307).

Effects to noonday globe are disclosed in the Biological Assessment (p. 58-63) and in the FEIS (p. 3-305 to 3-310) and it was determined that Alternative E may affect, but it not likely to adversely affect noonday globe. The Forests did not make a conclusion on persistence of this species due to a lack of knowledge of occupied habitats.

Appendix C of the FEIS is the Ecological Sustainability Analysis which describes the analysis process used in Ecological Sustainability Evaluations (ESE) and the plan components that provide for noonday globe.

### Response

The plan component to maintain and restore intact forest habitat for the noonday globe provides habitat protection as noted in the BA, which states that "all currently known occurrences of noonday globe on the Forests are within the areas not proposed for active management under Alternative E..." (BA, p. 61) and provides a map of the Nantahala Gorge Geographic Area in relation to proposed active management areas (BA, Figure 25, p. 62). The BA also explains that a 2016 wildfire burned entirely through the known range of the noonday globe. It is believed that individuals survived because the moist substrates with which they are associated did not burn as



intensely as the surrounding area. Post-fire monitoring efforts expanded the known range of the species and the USFWS and USFS continue to monitor this species' habitat and occupied range (BA, p. 59). In addition, the fire prioritization modeling that was completed for ecological needs did not identify a priority to complete burning in these areas (Appendix B, pp. 14-15).

With limited and possibly growing knowledge about this species and its habitat, the plan direction for maintaining and restoring intact forest habitat for noonday globe is appropriate. Site specific project design elements to meet the forest plan direction would be included during project level planning. Project-level Biological Assessments will analyze effects to listed species and the Forests will consult with USFWS if there may be any effect on noonday globe.

**Instruction(s):**

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

**Issue 10: Rusty-Patched Bumblebee**

**Objector(s):** Center for Biological Diversity; Southern Environmental Law Center et al.

Objectors CBD and SELC are concerned that the revised Forest Plan does not adequately provide for, or protect future populations of rusty patched bumble bee, which is an endangered species. Objector CBD specifically states that they "find it rather disingenuous of the Forest Service to further justify the need for a three to nearly fourfold increase in regeneration harvests by pointing to population declines of pollinator species such as the rusty patched bumblebee (*Bombus affinis*)" (FEIS, p. 3-120). The Plan notes that these and other species "are experiencing pronounced population declines as quality young forest habitat is lost on the Forests."

Objector CBD states that the USFWS noted that "large monocultures do not support the plant diversity needed to provide food resources throughout the bees' long foraging season" and assert that is exactly what the use of regeneration harvests (clear-cuts) to maintain young forests of the same age class and largely the same species composition will yield. They state that young forest created through clearcutting would only provide a small window of opportunity for foraging before it closes up, and that what is needed, if anything, is more permanent forest openings specifically designed with the introduction of native, flowering plants to provide long-term foraging opportunities.

Objector CBD is concerned about how the Forest Service will document the presence or absence of the bee, because the revised Forest Plan does "not provide any specific information on how or when those efforts will occur (Final Plan p. 75). This direction is also set forth in a table, which is not a plan decision (Final Plan, p. 146). Without adequate baseline data, the Forest Service cannot confidently state that regeneration harvests would benefit the species." Objector CBD states that "where habitat creation or restoration is planned, it should be performed in those areas that are currently degraded and provide little species diversity but under the right conditions



could provide suitable habitat. These habitats should also be maintained through natural process or through practices such as thinning and prescribed fire.”

Objector CBD is also concerned about how the use of neonicotinoids are a cause of the decline of bees in general and specifically for the rusty patched bumblebee, due to the “contemporaneous introduction of neonicotinoid use and the precipitous decline of the species.” Objector CBD states that “neither the Final Plan nor the FEIS mention the specific herbicides that the Forest Service intends to use on the Forests, much less discuss the direct, indirect, and cumulative impacts of these chemicals on the bee or other species (FEIS, p. 3-294-298). This runs afoul of NEPA, which requires the agency to discuss all reasonably foreseeable direct, indirect, and cumulative effects of this action. Based on a review of previous projects on the PNNF, it appears glyphosate and triclopyr are two of the primary herbicides used on the forests and each may have significant impacts on pollinators (such as the rusty-patched bumblebee) and other wildlife that need to be examined under NEPA.” Objector CBD asserts that the “best available science reviewed here must be incorporated into any analyses of herbicide use on the PNNF. In consideration of the impacts of pesticides and herbicides on pollinators such as the rusty patched bumble bee as well as many other wildlife species, the Forest Plan should include more specific and rigorous standards and guidelines to protect these species. It is a positive step that the Final Plan requires the consideration of biological controls, hand control methods, and lastly pesticides as part of a sequential process when determining which actions are needed to respond to insect outbreaks (Final Plan, p. 219). But there should also be greater clarity and specificity in the Forest Plan regarding the use of pesticides and safeguards that can be put in place to minimize the impacts to imperiled species.”

Objector SELC has similar concerns, noting that the rusty patched bumble bee is “usually associated with forest openings and woodlands” and is “threatened by disease (from the pathogen *Nosema bombi*), pesticide use, and habitat loss and fragmentation, each of which could cause extirpation because of perilously low estimated population levels.” FEIS p. 3-294. Objectors note that while the bee has not been detected on the Forests at this time, they believe that “it is highly plausible that they will travel onto the forest openings created by the Forest Service within the life of this Plan” and that the Forest Service must “act under the expectation that the species will occupy that habitat during the life of the Plan.” Objector SELC believes that the Forest Service is anticipating that the species will eventually occur on the Forests, stating that as part of explaining the need for more early seral habitat, the FEIS references the rusty patched bumble bee (RPBB) as a young forest associate that is in “pronounced population declines as quality young forest habitat is lost on the Forests.” FEIS at 3-120.” Objector SELC states that “If the Forest Service is using the potential future presence of RPBB to explain the Plan's conclusions about young forest restoration needs, the Forest Service must also take steps to protect RPBB that may soon occupy that habitat. If the Forest Service does not expect the RPBB to occupy the habitat it is creating, it must otherwise justify the need for young forest habitat. Neither NEPA nor the ESA allow the agency to have it both ways.”

Objector SELC also states that “in accordance with the Forest Service's obligation to operate its programs in a manner which promotes species recovery, ESA § 7(a)(1), the Plan incorporate a standard for surveying for the RPBB in potential habitat. At minimum, Objectors ask for pre-



project monitoring to establish baseline data in suitable habitat where up-to-date surveys have not been completed."

Objector SELC noted that they asked at the DEIS stage and reiterated in their objection that the Plan "incorporate clearer spatial and temporal limits on pesticide and herbicide usage, one of the sources of population decline acknowledged in the FEIS. The Forest Service should adopt an accompanying standard requiring extra caution in the use of herbicides in areas that provide suitable or historical RPBB habitat but have not been surveyed. Applying herbicides without caution on potential RPBB habitat could violate the agency's obligation to ensure that federally funded agency actions don't jeopardize listed species. ESA § 7(a)(2)."

### **Remedy(s) proposed by Objectors**

- Survey and monitor the species presence within the Forest. This should be done before projects are undertaken on the forest to ensure this species and its habitat is not degraded before the Forest Service has updated occurrence data.
- Adopt a standard that contributes to species recovery by managing early seral habitat and woodland habitats in RPBB suitable habitats that promotes the seeding and natural regeneration of native, flowering plants (rather than the regeneration of commercially valuable tree species).
- Prohibit the application of herbicides in suitable habitat from early March to the beginning of hibernation to reduce the risk that necessary foraging resources will be damaged.
- Examine the impacts of pesticides (particularly neonicotinoids) in the FEIS.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern, Issue 8: Bats for relevant laws, regulations and policies.

### **Project Record**

FEIS, Appendix A, Response to Comments, pp. 60 and 70.

The Biological Assessment analyzed the species and made the determination that the Forest Plan was not likely to adversely affect the rusty-patched bumblebee (BA, pp. 65-67).

FEIS p. 3-294 to 3-298, section 3.3.4.3 - Rusty-patched bumblebee analysis, which notes threats to the species, including disease, pesticide use, habitat loss and fragmentation.

FEIS, section 3.3.9 - Forest Health and Nonnative Invasive Species (FEIS, pp. 3-433 to 3-430). (Note: FEIS page numbers are in error and will be corrected following the objection review.)



The Forest Plan includes approximately 404 plan components that address rusty-patched bumblebee and its habitat. These include MAT-DC-03, WLF-DC-02, WLF-DC-05, and WLF-G-04 (Forest Plan, pp. 65, 88 and 214).

Appendix C of the FEIS is the Ecological Sustainability Analysis which describes the analysis process used in Ecological Sustainability Evaluations (ESE) and the plan components that provide for these species.

## **Response**

The Forest Plan includes a standard for requiring project-level surveys for federally listed species when existing information is inadequate to make an informed decision (PAD-S-03). In addition, the Forest Service is actively working with the USFWS to prioritize inventory and monitoring for this species across the landscape, including the Forests (FEIS, Appendix A, p. 60).

The Biological Assessment identified that persistence of the species at the larger scale is related to the presence of quality habitat on the Forests and that habitat quality and quantity for rusty-patched bumblebee on the Forests be optimized. The revised forest plan ensures this through several plan components (MAT-DC-03, WLF-DC-02, WLF-DC-05, and WLF-G-04) (BA, p. 67). The BA identified that in the FEIS Appendix C, Table 5 there are approximately 404 plan components that directly or indirectly support healthy and resilient habitat conditions across the Forests in places and ecozones associated with the rusty-patched bumblebee (BA, pp. 65-67). The USFWS Biological Opinion confirms that the Forest Plan is not likely to adversely affect the rusty-patched bumblebee (USFWS BO, June 2022).

Herbicide and pesticide use on the Forests is strictly controlled by Forest, Regional, and National direction. The widespread use of neonicotinoids is a threat to many pollinators and their use should be carefully considered (FEIS, Appendix A, p. 60). The use of herbicides and pesticides was analyzed in the 2009 Nantahala and Pisgah NFs Non-native Invasive Plant Control EA and the 2021 Supplemental Information Report. The ESA and the Forest Plan (FHL-S-02) requires project-specific analysis of potential effects of any proposed activity, including herbicide use, on federally listed species (FEIS, Appendix A, p. 60). Additionally, FHL-S-02, requires that pesticides are applied according to label directions and using methods and timing to meet project objectives while reducing or eliminating effects to non-target species (Forest Plan, p. 88).

Objectors suggested that survey and monitoring be conducted at a minimum pre-project for the species presence within the Forest; this is addressed by PAD-S-03.

Objectors suggest adopting a standard requiring extra caution in the use of herbicides in areas that provide suitable or historical rusty patched bumble bee habitat but have not been surveyed, and to require extra caution in the use of herbicides in areas that provide suitable or historical rusty patched bumble bee habitat. This is addressed by FHL-S-02 and PAD-S-03. Additional requirements and mitigation measures can be found in the 2009 Non-native Invasive Plant Control EA (updated with a Supplemental Information Report in 2021).



Objectors proposed that a standard be adopted that contributes to species recovery by managing early seral habitat and woodland habitats in rusty-patched bumblebee suitable habitats that promotes the seeding and natural regeneration of native, flowering plants (rather than the regeneration of commercially valuable tree species). The BA identified that in Appendix C, Table 5 there are approximately 404 plan components that directly or indirectly support healthy and resilient habitat conditions across the Forests in places and ecozones associated with the rusty-patched bumblebee (BA, pp. 65-67).

The FEIS and the Forest Plan fully support the legal requirements for consulting on listed species. Additionally, the analysis disclosed the relationship between the species ecology, plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9 and FSH 1909.12, 23.13.

**Instruction(s):**

**Instruction:** Include Biological Opinion and USFWS letter of concurrence in the project record.

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

**Issue 11: Birds**

**Objector(s):** Center for Biological Diversity; MountainTrue; Southern Environmental Law Center et al.

Objector CBD is concerned that regeneration harvest will impact numerous bird species by reducing their habitat, including the veery, chimney-swift, Acadian flycatcher, and Kentucky warbler. Objector CBD asserts that the FEIS and Final Plan fail to discuss the potential direct, indirect and cumulative impacts on these species.

Objector CBD states that the field sparrow benefits from creating more young forests, but that the regeneration harvest used to produce young stands will not provide long-term benefits to this species. Objector CBD states that restoring habitat will require long-term maintenance of open, shrubby areas through controlled burns.

Objectors CBD and SELC are concerned that the Cerulean warbler, which has substantially different needs than other species discussed in the Final Plan, has not been adequately protected and has instead been erroneously grouped in with other warblers. Objector SELC states that the species require large tracts of older deciduous forests with tall trees, and that the population has been declining due to habitat loss and fragmentation. Objector SELC states that the Forest Service must adopt a standard that makes it clear that young forest creation management targets will primarily be met in the focal areas for the 5 species that require early seral habitat, while any management in the cerulean warbler focal area would enhance habitat conditions suitable for the cerulean warbler, which include retention of mature forests with small patches for heterogeneity.



Objector MountainTrue states that some wildlife species needs are very localized, such as the golden winged warbler, which is in decline on the southern end of its range. They state that this species has very high site fidelity and that management (which can be accomplished without commercial timber harvest or road building) for the species should be in close proximity to known nesting locations.

### **Remedy(s) proposed by Objectors**

- Protect all North Carolina Natural Heritage Areas.
- Include plan components that require the surveying of cerulean warblers in these areas to determine where the highest concentrations of these species occur. Where there are high densities of cerulean warblers, no logging should occur.
- Special attention should be paid to protecting and enhancing habitats along ridges and steep upper slopes, as well as knobs and bluffs. Ridge top forests with north and northeast facing slopes with well-spaced, large diameter trees should be protected from regeneration harvests.
- Where the Forest Service has identified the need to create cerulean habitat, alternative silvicultural treatments should be implemented, that along with natural disturbances, create canopy gaps within uneven-aged forest stands while retaining large mature trees and other important features.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

National Forest Management Act (NFMA) - The Forest Service is directed to “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.” (P.L. 94-588, Sec 6 (g) (3) (B)). FSM 2630 provides guidance on meeting wildlife objectives for habitat management and improvement.

Migratory Bird Treaty Act - Direction for integrating migratory bird conservation into forest management and planning includes the January 2000 USDA Forest Service (FS) Landbird Conservation Strategic Plan; the Partners in Flight (PIF) Landbird Conservation Plans; and the 2001 Executive Order (EO) 13186.

### **Project Record**

Field sparrow, veery, chimney-swift, Acadian flycatcher, and Kentucky warbler are not identified as federally listed or Species of Conservation Concern, but they were included in the Ecological Sustainability Analysis in Appendix C. Cerulean warbler and golden-winged warbler are both identified as Species of Conservation Concern and are included in the Ecological Sustainability Analysis in Appendix C.

Plan components that address migratory bird habitat on the forest, include:



- WLF-DC-02 “permanent openings within forested habitats to ensure nesting and foraging areas...important to the life histories of many wildlife species but especially to bobwhite quail, wild turkey, white-tailed deer, elk, black bear, golden-winged warblers, and many other birds, bats, and pollinators.”
- WLF-DC-04 “Mature forests, including late seral stages and old growth conditions, provide habitat and forage for species such as black bear, wild turkey, white-tailed deer, cerulean warbler, wood thrush, other species of migratory and resident birds, terrestrial salamanders, bats, and reptiles.”
- WLF-DC-05 “Woodlands and other open forest types provide open understory conditions across all elevations that enhance nesting and foraging opportunities for many bird and bat species...”
- WLF-DC-06 “Habitat components at finer scales provide for wildlife occupancy, are present in sufficient amounts, and distributed across all ecozones...”
- WLF-DC-08 “Adjacent habitat types are provided in arrangements to support species’ complete life histories...Golden-winged warblers require open grassy and herbaceous areas with shrubby inclusions adjacent to mature forest.”

In the Integrated Ecosystem and Wildlife Management Approaches section of the Forest Plan, the Wildlife Habitat Diversity section includes “When prescribing management within WHAMAs for golden-winged warbler and cerulean warbler, follow recommended best management practices for these species” (p.72).

Forest Plan components specific to special areas include: UM-GLS-02 “Increase variable size openings in rich cove, mesic oak, northern hardwoods, and high elevation red oak forests to restore natural range of variation, including providing habitat for golden-winged warblers and cerulean warblers within their respective priority areas” (Forest Plan, p. 204) and BAC-DC-04 “Wildlife habitat conditions support rare species and game species (such as veery, hermit thrush, Swainson’s thrush, wood thrush, cerulean warbler, Kentucky warblers, salamanders, and black bear) that respond to larger blocks of older forest” (Forest Plan, p. 218).

Forest Plan, p. 233 – Monitoring Question MQ 3-3-T2 – What is the status of ruffed grouse, golden-winged warbler, white-tailed deer, and elk in relation to multiple successional stage conditions, especially young and/or open forest?

Forest Plan, p. 233 – Monitoring Question MQ 3-4-T2 – What is the status of cerulean warbler, wood thrush, salamanders, and bats to evaluate successional stages, especially mature (late and old growth) forest?

Draft ROD, p. 75 clarifies how the Forest Plan is consistent with the Migratory Bird Treaty Act, “The land management plan includes forestwide direction related to key stressors for migratory birds and their habitats, including direction to maintain or improve forest resilience, composition, and structure. Future site-specific activities or projects with the potential to impact migratory bird habitat will be analyzed with site-specific analysis under the NEPA process and will comply with land management plan direction. Therefore, I find that the land management plan is compliant with the Migratory Bird Treaty Act and Executive Order 13186.”



FEIS, pp. 3-344 to 3-351 – Analysis of highlighted SCC including golden-winged warbler and cerulean warbler. These species were highlighted because they were discussed regularly during collaborative dialogue for plan revision and were raised in comments on the draft plan and EIS.

FEIS, Appendix A, pp. 55 regarding management approaches for golden-winged and cerulean warblers.

## **Response**

Within the National Forests, migratory bird conservation focuses on providing a diversity of bird habitats at multiple spatial and temporal scales over the long-term. Bird species protected by the Migratory Bird Treaty Act are present on the Nantahala and Pisgah National Forests and each species has unique habitat requirements, which often contrast with one another as one species may require open or early successional habitat and another species requires mature forest. Alternative E provides for a diverse range of sustainable habitats for many species.

The FEIS included specific analysis of both the golden-winged warbler and cerulean warbler due to the interest in these species. As the FEIS notes, “As part of the forest plan revision process, the North Carolina Wildlife Resources Commission (NCWRC) and biologists from the National Wild Turkey Foundation (NWTF) and Audubon North Carolina (ANC) used the best available science on habitat associations and population trends to identify Wildlife Habitat Active Management Areas (WHAMAs) for the GWWA across the Forests (NCWRC 2016).” WHAMAs were identified for both species, which also benefits other bird species. FEIS, pp. 3-345 and 3-348.

Forest Plan components address habitat types the objectors raised, including permanent openings, mature forest, woodlands, and adjacent habitat types. The Forests included monitoring questions to ensure plan implementation maintains these species over time. The Responsible Official considered habitat for cerulean warbler and golden-winged warbler at the fine scale in plan components. Specific silvicultural prescriptions will be developed during project-level analyses that implement the Forest Plan.

North Carolina Natural Heritage Areas are addressed in the response to State Natural Heritage Areas Issue 1: Protect State Natural Heritage Areas.

**Instruction(s):** None.

## **Issue 12: Slugs, Snails, and Snakes**

**Objector(s):** Center for Biological Diversity

The objector states that the fine filter analysis for several species of snails, slugs and the northern pine snake (and other closed canopy associates) was deficient and that there must be stronger protections for these species. Objector CBD discusses each of these species in detail and describes their habitat needs, noting that regeneration harvest and prescribed burning would likely seriously impact these species.



The objector points out that while the FEIS, p. 3-339 recognizes the threat of habitat loss through desiccation, it does not provide any discussion about how the plan's alternatives will contribute to this problem nor does it point to any specific standards that would protect these species. Objector CBD asserts that "the Plan doesn't even mention these species, much less provide them with any habitat protections. Further, these species are sensitive to the effects of fire (FEIS, p. 3-186). The Forest Service identifies them as fire intolerant species, but the FEIS includes no discussion of these impacts. Again, the Forest Plan provides no standards to safeguard these species from prescribed fire."

For the closed canopy associated species including the northern pine snake, Objector CBD states that the Forest Service's coarse filter approach failed to consider the unique habitat requirements of these species and their locations within the forests. Objector CBD believes there is a lack of survey data for Swain County where the northern pine snake is found and that this lack of data precludes the Forest from making an informed decision based on the best available science as required by the Planning Rule at 36 CFR 219.3.

#### Remedy(s) proposed by Objectors

- Prescribed fire must be restricted where these snails and slugs occur.
- Require pre-and post-project monitoring in areas slated for prescribed fire to identify their locations in the Forests and learn more about their response to habitat disturbance.
- Include a plan component that implements the Forest Service's work with the NCNHP to review, update, and expand its knowledge of this species group. This should include a monitoring program.
- The Forest Service needs to re-examine the coarse filter approach to better account for the presence and distribution of these species within specific areas of the forest.
- The Forest Plan must also include fine filter protections such as pre- and post-project surveying and monitoring of these species and staff training to identify and protect these species prior to timber harvests.
- Areas where there are high densities of these species should be avoided.
- There must be plan components that require species surveys and pre- and post-project monitoring.
- Avoid logging where high densities occur and design management activities so that species populations are not further fragmented into tiny islands across the Forests.

## REVIEW FINDINGS

### Law, Regulation and Policy

See Threatened & Endangered, Sensitive Species, and Species of Conservation Concern, Issue 8: Bats for relevant laws, regulations and policies.

Best Available Science (Information): The Planning Rule at 36 CFR 219.3 and the associated directives in the Land Management Planning Forest Service Handbook (FSH 1909.12, zero code, Section 07.11b) require the use of best available scientific information (BASIS) to inform the



planning process, including documenting how BASI was used to inform the process. Data and methodology used to inform plan assessment, component development, and the monitoring program must be accurate, reliable, and relevant.

36 CFR 219.7: This portion of the Rule describes the types of plan components and their use in a plan. This section compliments 36 CFR 219.9 described above by outlining the types of plan components that may be employed to meet the intent of 219.8 and 219.9.

## **Project Record**

The project record includes an analysis of several species of snails, slugs, and the northern pine snake (and other closed canopy associates). This includes but is not limited to pp. 3-176 to 3-178, 3-186, 3-187, 3-335 to 3-337, 3-339, 3-343, and 3-344 in the FEIS.

Additionally, FEIS Appendix A includes two responses to similar comments that were raised in this objection (pp. 61 and 63).

The Forest Plan has many Plan Components that also address the issues that the objector raises, including PAD-O-02, PAD-DC-05, PAD-S-03, WLF-DC-04, and WLF-DC-06 (Forest Plan, pp. 80, 64, 65, 67, and 72, respectively).

Appendix C of the FEIS is the Ecological Sustainability Analysis which describes the analysis process used in Ecological Sustainability Evaluations (ESE) and the plan components that provide for these species.

## **Response**

The objector expressed issues with the fine filter analysis for several species of snails, slugs, and the northern pine snake (and other closed canopy associates) and states that the analysis was deficient and that there must be stronger protections for these species. This was addressed in the response to comments in the Final EIS and carried forward in the Final EIS analysis and the many of plan components in the Forest Plan (FEIS, Appendix A, pp. 61 and 63, FEIS, pp. 3-176, 3-177, 3-186, 3-187, 3-336, 3-337, 3-339, 3-343, 3-344, and LMP, p. 64, 65, 67, 72, and 80). See also Issue 4 above on the coarse filter, fine filter approach.

The Ecological Sustainability Evaluation (ESE) tool includes evaluation of the species listed by the objector in many of the Ecosystem/Species Group Associations (19) including Closed Canopy Associates, Fire-intolerant, and Dispersal-limited species groups (FEIS, Appendix C, pp.92-94). Table C-7 lists the Plan Components that are associated with each of these Ecosystem/Species Group Associations. The FEIS analysis is intended to supplement the ESE Tool analysis and present effects to animal species persistence and recovery at a broader perspective. The FEIS did identify that species with limited mobility and small occupied ranges are more susceptible to direct effects of vegetation management and the effects to terrestrial snails through the potential temporary reductions in leaf litter following timber harvest (FEIS, pp. 3-339 and 3-44). The FEIS ties these effects back to the ecological sustainability score for the fire-intolerant species group, which under Alternative E Tier 1, the score would remain ‘very



good’ (FEIS, p. 186), with a decline to ‘good’ under Tier 2 objectives for Alternative E. Even with the decline in Tier 2, it is not expected to result in a substantial change in habitat quality for species in this group (ibid). This is a similar conclusion that was drawn for closed canopy forests species, except that there would be no decline in the ecological sustainability score of ‘very good’ between Tiers and that species would have improved conditions under Alternative E with the potential for populations to increase and expand due to increased suitable habitat (FEIS, p. 3-177).

The FEIS recognized the lack of information on this species group in general, as noted by the objectors. The Forest Service and the NC Natural Heritage Program are currently focusing on historical data and increasing data collection across Western North Carolina (FEIS, p. 3-344). The Forest Plan contains plan components to mitigate impacts where possible and ensure that the plan is providing for persistence within Forest Service authority and consistent with the inherent capability of the plan area (PAD-DC-05 and WLF-DC-06, Forest, pp. 67, 80). These include PAD-S-03 which requires project-level field surveys for population and habitat for SCC species, which about half of the species the objector listed have been identified as SCC species (Forest Plan, p. 80).

The FEIS concluded that “while rare species occur within areas of the forest that are impacted by timber harvest, recreation use and climate change, the revised plan includes plan components to mitigate these impacts where possible and ensure that the plan is providing for persistence within Forest Service authority and consistent with the inherent capability of the plan area. Plan components are provided for all of the species of conservation concern and federally listed species.” (FEIS, p. 3-344).

The objector proposed several remedies for snails, slugs, and closed canopy associates including the northern pine snake. Most of these remedies are covered either under the project level NEPA requirements, WLF-DC-06, PAD-DC-05, and/or PAD-S-03 for project level surveys population and habitat for SCC species.

The FEIS and the Forest Plan fully support the legal requirements for making informed decisions based on the best available information as required under the 2012 planning regulations (36 C.F.R. § 219.3). Additionally, the analysis shows that the evaluation disclosed the relationship between the species ecology, plan components, and the outcomes of those components to demonstrate the role plan components play in meeting 36 CFR 219.9 and FSH 1909.12, 23.13.

**Instruction(s):**

**Clarification:** Add additional explanation to Appendix C to improve its useability. Explain the information provided in the tables and how these tables demonstrate that plan components are ensuring habitat will be provided and rare species will be protected. Reference the ESE tool outputs and ensure they are included in the project record. Provide an explanation for each SCC species group and how specific plan content provides for species’ persistence.

**Issue 13: Peregrine Falcon**



**Objector(s):** Cynthia Simonds; Access Fund and Carolina Climbers Coalition

Objector Access Fund and Carolina Climbers Coalition state that the Forest Plan's management proposal for peregrine falcon does not consider the existing and effective management practices, and inaccurately directs management focus to four specific recreation uses while omitting other activities that are known to disturb falcons.

Objector specifically states that PAD-S-05, "Manage climbing, rappelling, hang gliding, the use of drones and other nest disturbing activities in the vicinity of active peregrine falcon nesting sites from January 15th to August 15th to control human disturbance and encourage successful nesting and fledging" does not mention other recreation activities that cause disturbance such as hiking and all other human based activities. They state that partnerships and stewardship collaborations are not mentioned and should be, because they are "key management practices with longstanding success" on the Forests. They also assert that the language in PAD-S-05 is not consistent with other guidance and descriptions, such as that found in EE-GLS-03, PL-GLS-03, and HD-GLS-06, which could lead to confusion, misinterpretation and/or poor implementation.

Objector states that PL-GLS-03 reads as follows: "Continue to support conservation and protection of peregrine falcons through monitoring, seasonal closure of select rock faces, and collaboration with the climbing and recreation community." They state that closure dates should be based on monitoring of nest activity, and not on "a static, blanket closure." Objector notes that the current collaborative monitoring effort by the Forest, the climbing community, and North Carolina Wildlife Resources Commission (NC Wildlife) has resulted in the practice of adaptive management for the seasonal closure of nesting sites and is based on the presence of an active nest, noting that the closure is lifted once the nesting activity is complete for the season.

**Remedy(s) proposed by Objectors**

- Objector's suggested remedy is to reword PAD-S-05 as follows: "Manage human activities and other nest disturbing activities in the vicinity of active peregrine falcon nesting sites during nesting season to control human disturbance and encourage successful nesting and fledging. Base seasonal closures on monitoring and nesting activity. Collaborate with the climbing and recreation community on monitoring and setting dates for seasonal climbing closures."
- Objector Cynthia Simonds suggests that the Plan should continue to support conservation and protection of peregrine falcons through monitoring, seasonal closure of select rock faces, and collaboration with the climbing and outdoor recreation community.

**REVIEW FINDINGS****Law, Regulation and Policy**

See the response to Planning Issue 9: Monitoring Program for relevant citations regarding monitoring.



36 CFR 219.9 - Species of conservation concern. a species of conservation concern is defined as species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area.

## **Project Record**

The FEIS includes an analysis on unique habitats that are important for peregrine falcon and effects of recreational use on the persistence of peregrine falcons (FEIS, pp. 3-195 to 3-198 and 3-340 to 3-342). In addition, the record includes direct consideration of the comments by the objectors (FEIS, Appendix A, Response to Comments, pp. 111-112 and 143).

The Forest Plan also ties the forestwide Standards for Plant and Animal Diversity (PAD-S-05) and Recreation (REC-S-08, REC-S-09, REC-S-19, and REC-O-09) together for management of nesting peregrine falcons (Forest Plan, pp. 81, 123, and 124).

The forestwide Standards are also complemented by goals in the Geographic Areas (EE-GLS-03, PL-GLS-02, and HD-GLS-06) (Forest Plan, pp. 160, 165, 173, and 174).

## **Response**

Regarding the objectors concern over existing management and collaboration, the FEIS does acknowledge the need to change the goals of appropriate Geographic Areas to include continued collaboration with the climbing and recreation community between the draft and the final EIS (Appendix A, p. 111-112 and 143). The three Geographic Area Goals require the Forests to continue to support conservation and protection of peregrine falcons through collaboration with the climbing and recreation community (Forest Plan, p. 160, 165, 174). Additionally, REC-O-09 outlines the need for a climbing management plan that is completed in collaboration with representatives of the climbing community and includes site-specific resource protection measures and potential closures, and develops monitoring protocols (Forest Plan, p. 123).

The forestwide Standards and Geographic Areas Goals work together to provide guidance during plan implementation (Forest Plan, p. 145). The Geographic Area “goals help focus the forest-wide objectives of the plan while still enabling future projects to make the best localized decision when the time is ripe. Goals highlight key opportunities and values that will guide Forest Service management and reflect values the Forest Service has heard from the public” (Forest Plan, p. 146). Forestwide Standards are “mandatory constraint on project and activity decision making established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements” (Forest Plan, p. 5). While the PAD-S-05 standard has specific dates for managing activities around active peregrine falcon nesting sites to control human disturbance and encourage successful nesting and fledging, it does not specify what those management options should be during those dates. These could include the same or similar conservation and protective measures that have been ongoing and are identified in the geographic area of monitoring, seasonal closure of select rock faces, and collaboration with partners. The three Geographic Area Goals are more limiting and require the “continued



support conservation and protection of peregrine falcons through...collaboration with the climbing and recreation community” (Forest Plan, p. 160, 165, 174). PAD-S-05 is also tied directly to REC-S-19 and indirectly tied to REC-O-09, which outlines the need for a climbing management plan. This plan would be completed in collaboration with representatives of the climbing community and would identify site-specific resource protection measures, potential closures, and develop monitoring protocols (Forest Plan, p. 123).

While plan standard PAD-S-05, did specifically identify climbing, rappelling, hang gliding, and the use of drones, it also includes other nest disturbing activities. Additionally, the FEIS addressed other recreational activities that could indirectly effect peregrines and other species through disturbance of nesting and roosting habitats by noise and other human presence. The Forest Plan, p. 123, provides additional plan components to mitigate these impacts and ensure that the plan is providing for persistence of the species within the planning area. This includes REC-S-08, REC-S-09, and REC-S-19.

The Responsible Official fully considered existing management practices, partnerships, and stewardship collaborations when designing PAD-S-05 and the three Geographic Area goals. The Standards, Objective, and Geographic Area Goals in the Forest Plan all work together to mitigate impacts and ensure that the plan is providing for persistence of peregrine falcons within the planning area as required in 36 CFR 219.9 and FSH 1909.12, 23.13.

The plan standard PAD-S-05 does not limit the Forests from doing any of the suggested collaboration with climbing and recreation communities. As currently worded, it states when the nesting season is and does not limit what those management options could be during those dates. It allows the Forests to apply the necessary requirements to ensure actions and collaboration are being considered such that they contribute to maintaining a viable population of peregrine falcons (an SCC) within the plan area.

Objector Cynthia Simonds suggests that the Plan should continue to support conservation and protection of peregrine falcons through monitoring, seasonal closure of select rock faces, and collaboration with the climbing and outdoor recreation community. This was addressed in the Response to Comments and the Geographic Areas were changed to add wording about collaboration with the climbing and recreation communities.

#### **Instruction(s):**

**Voluntary modification:** The Forests did not intend to call out specific user groups in PAD-S-05 and will adopt the objectors proposed rewording to “Manage human activities and other nest disturbing activities in the vicinity of active peregrine falcon nesting sites during nesting season to control human disturbance and encourage successful nesting and fledging. Base seasonal closures on monitoring and nesting activity.” The Forests will also add a management approach to “Collaborate with the climbing and recreational community on peregrine monitoring and seasonal closures.”

## **BOTANY**



## Issue 1: Insufficient Protection of Rare Plants

**Objector(s):** Center for Biological Diversity; Southern Environmental Law Center et al.

Objector CBD asserts that the fine-filter analysis for some rare plant species is deficient and stronger protections are needed for plants in old growth, northern hardwood, cove, and mesic oak forests in light of what they view as the widespread use of regeneration harvest in these ecosystem subtypes. Numerous specific species—including vascular plants, mosses, and lichens—included on the Species of Conservation Concern (SCC) list are cited in their objection.

Objector SELC contends that the plan lacks direction in managing SCC vascular plant species (including *Carex hitcockiana*, *Carex purperifera*, and *Trillium simile*) in closed-canopy forested ecosystem subtypes, including Rich Cove, Montane Oak-Hickory, and Rich Northern Hardwoods. Additionally, Objector SELC states that in order to provide for bark epiphytes such as lichens, the Forest Plan needs standards and guidelines about the identification and protection of suitable habitat for these species, and must include standards and guidelines for buffers to prevent edge effects, such as desiccation from increased light and temperature, especially in cove and northern hardwood forests.

### Remedy(s) proposed by Objectors

- Conduct fine-filter analysis for these species and include that in the plan; prevent regeneration harvest where these plants occur; adopt specific conservation measures to protect occurrences including surveys, identification training for staff, setbacks/buffers, and pre-and post-project monitoring.
- Protect Natural Heritage Natural Areas as part of the coarse filter and to add these subtypes to the list of rare habitats for the forest.
- Reinstate draft plan component PAD-S-03 to commit the Forests to maintain characteristics required by listed/SCC species.

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.7(e) This portion of the Rule describes the types of plan components and their use in a plan. This section complements 36 CFR 219.9 described above by outlining the types of plan components that may be used in order to meet the requirements of 219.8 (sustainability) and 219.9 (re. plant and animal diversity).

36 CFR 219.9 Diversity of plant and animal communities.

FSH 1909.12, 23.13. This section of the Forest Service Handbook mirrors the requirements of 36 § 219.9 regarding the diversity of plant and animal communities.

36 CFR 219.12 Monitoring: Per 36 CFR 219.12(a)(5), the 2012 Planning Rule requires the plan monitoring program to address eight topics through at least one question and associated



indicator, including one directly relevant to this objection issue: iv. “The status of select ecological conditions that contribute to the recovery of threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.”

## **Project Record**

### **Forest Plan, Chapter 2. Forestwide Plan Components**

Forest Plan (p. 73) notes that “[t]he Terrestrial Ecosystem section ... primarily serves as the coarse filter of the plan in that it identifies ... direction to meet the needs of ecosystems and most species. The Plant and Animal Diversity [PAD] section primarily serves as the fine filter in that it focuses on plan components that meet needs of specific species or species groups where their needs are not covered by the coarse filter alone.”

PAD-S-03 Project-level field surveys for population and habitat of federally listed species or SCC shall be commensurate with the risk of potential activities, using the following consistent and efficient approach.

Field surveys shall be conducted when all of the following conditions are met:

- The proposed treatment area has a potential for occupancy, and Project activities may affect the population or habitat of a federally listed species or SCC, and
- Adequate population inventory information is unavailable, and
- Information on number and location of individuals and habitat conditions would improve project design, the application of mitigations to reduce adverse effects, or the assessment of effects of the population.

PAD-G-02 When NHNAs are present within an analysis area, coordination should occur with the NC Natural Heritage Program early during project development to discuss the unique ecological values present, their locations, the representativeness and quality of these values, and potential management treatments. Project proposal development should consider opportunities to maintain or restore unique values. Field review may be necessary.

Forest Plan, Chapter 4. Management Areas -NHNAs designated as ‘exceptional’ by the North Carolina Natural Heritage Program were reviewed and allocated to Special Interest Areas (SIA), where appropriate. According to the Forest Plan (p. 225), SIAs are “the most exceptional ecological communities that serve as core areas for conservation of the most significant and rare elements of biological diversity on the Forests. They represent communities of plants and animals that occupy a small portion of the landscape but contribute significantly to biological diversity. These areas are generally resilient and are not in need of active restoration, although maintenance activities may be needed to maintain their integrity.”

NHNAs occurring within the Matrix and Interface Management Areas (MAs) would be subject to forestwide direction; timber management in NHNAs allocated to SIAs would be restricted as follows:



SIA-S-02 Timber management is allowed only when these practices enhance the desired community composition of the area and meet one of the following purposes:

- i. Improve threatened, endangered, or SCC habitat;
- ii. Restore, enhance, or maintain rare plant communities; ...

Also, “[m]any of the SIAs fall within management areas that have more restrictive plan components, or overlap other SIAs. In areas where there is an overlap of an SIA and other MA, the more restrictive plan components apply” (Forest Plan, p. 230).

PAD-G-02 When NHNAs are present within an analysis area, coordination should occur with the NC Natural Heritage Program early during project development to discuss the unique ecological values present, their locations, the representativeness and quality of these values, and potential management treatments. Project proposal development should consider opportunities to maintain or restore unique values. Field review may be necessary.

Forest Plan, Chapter 5. Monitoring - Consistent with 36 CFR 219.12(a)(5), the Forest Plan (pp. 288, 293-294) includes a question relating to the required topic iv., regarding the monitoring of ecological conditions necessary for the recovery, conservation, and maintenance of federally-listed species, candidate and proposed species, and SCCs, respectively.

FEIS. Appendix C. Ecological Sustainability analysis - Analysis of how Forest Plan components provide for the persistence of SCCs is contained in several tables in the FEIS, Appendix C, which are the product of the Ecological Sustainability Evaluation (ESE) Tool. For instance, Table C-3 lists all SCCs, threatened and endangered (T&E) species, and other non-T&E/ SCC (other) species by any associated ecosystems, ecosystem subtypes and unique habitats, and applicable species groups (e.g., species groups include closed canopy associates and bark and leaf epiphyte associates). Along with Table C-5, it sets the stage for Table C-7, which is a crosswalk of “plan components that directly or indirectly contribute to the sustainability of” the T&E, SCC, and other species first identified in Tables C-1 and C-3 (FEIS, Appendix C, p. C-133).

## Response

Objectors CBD and SELC are concerned that plan components are insufficient to protect several plant SCCs associated with closed canopy conditions from the effects of regeneration harvest under the Final Plan. Objector CBD also contends that the FEIS lacks a fine-scale analysis demonstrating how the plan contributes to these species’ persistence.

The Responsible Official complied with relevant law, regulation, and policy in terms of maintaining SCC persistence in the plan area. Several fine-filter plan components, including standards and guidelines, are relevant to meeting the ecosystem needs of rare plants, including federally-listed species and species of conservation concern. Furthermore, one guideline (PAD-G-02) directs the Forest Service to work with the State Natural Heritage Program when NHNAs are present in the area of analysis and to “consider opportunities to maintain or restore unique values” as part of the project development process.



Objector CBD recommends conducting a fine-filter analysis for SCCs, preventing regeneration harvest where these plants occur, and adopting specific conservation measures to protect occurrences, including surveys, species identification training for staff, setbacks/ buffers, and pre- and post-project monitoring. Regarding this request, Appendix C includes the results of an in-depth analysis of the relationship between plan components and SCCs. Appendix C of the FEIS includes several tables that are the product of the ESE tool; among other things, the tables identify SCC habitat associations/requirements and related plan components. The formatting of Appendix C tables makes it difficult for general readers to tell how plan content adequately provides for SCC persistence; providing additional clarification of the content in these tables may improve understanding of the relationship between plan components and SCC persistence. Regarding dispersal-limited species associated with closed canopy, in terms of the recommended remedy regarding surveys, standard PAD-S-03 in the Final Plan requires survey for federally-listed species and SCCs (under certain conditions). Following surveys, if SCC are located, project specific measures, such as buffers would be implemented if necessary (Forest Plan, p. 80).

The recommended remedies of pre- and post-project monitoring and training for staff in identifying SCCs are not required by 36 CFR 219.9, which does not specify the means by which viable populations of SCCs are to be maintained in the plan area. However, it is important to note that staff botanists on the Forests work closely with lichenologists with the New York Botanical Garden and have partnered with the University of North Alabama to develop a website on identifying characteristics for select southern Appalachian bryophytes. In terms of monitoring, there are multiple monitoring questions that relate to rare plants. For example, MQ 4-4-T1 asks if existing Grassy Balds are maintained to desired conditions in order to support appropriate native species including rare plants such as Gray's lily (Forest Plan, p. 294). Additional monitoring questions evaluate the condition of mountain golden heather, Heller's blazing star. Monitoring of ecological conditions in different ecozones and seral stages, as well as monitoring of invasive species and insect and disease can also provide information about the condition of rare species.

In response to the objector's request to protect NHNAs and add these subtypes to the list of rare habitats for the forest, guideline (PAD-G-02) directs the Forest Service to work with the State Natural Heritage Program when NHNAs are present in the area of analysis and to "consider opportunities to maintain or restore unique values" as part of the project development process. In response to the objector's request to reinstate PAD-S-03 in full, the Forests had previously removed that standard between draft and final because it states what is already required by law, regulation and policy regarding federally listed species. However, the Forests should consider whether the addition of that plan component would appropriately address the objectors' concerns regarding federally-listed species and species of conservation concern.

See also the responses to Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 4: Coarse Filter, Fine Filter Approach; the responses to State Natural Heritage Areas; and the responses to the three Old Growth Network issues for additional information.

**Instruction(s):**



**Clarifications:** Add additional explanation to Appendix C to improve its useability. Explain the information provided in the tables and how these tables demonstrate that plan components are ensuring habitat will be provided and rare species will be protected. Reference the ESE tool outputs and ensure they are included in the project record. Provide an explanation for each SCC species group and how specific plan content provides for species' persistence.

**Voluntary modification:** Consider reinstating draft plan component PAD-S-03, potentially modified (underlined) as follows: PAD-S-03 In areas occupied by federally listed species and species of conservation concern, management shall maintain characteristics required by these species, where necessary for their recovery and/or persistence.

## INVASIVE SPECIES

### Issue 1: Invasive Species Plan Components

**Objector(s):** Nantahala Pisgah Forest Partnership; Southern Environmental Law Center et al.

Objectors assert that analysis and plan components for invasive species are insufficient because they do not link Tier 2 increases in vegetation management and associated roadbuilding with Tier 2 increases in non-native invasive species (NNIS) management and allege that this is a violation of both NFMA and NEPA. The objectors contend that the FEIS analysis assumes NNIS spread will be controlled through implementation of nonbinding plan objectives and desired conditions.

#### Remedy(s) proposed by Objectors

- Adopt the Partnership recommendation of a minimum level of monitoring demonstrating no net spread of priority NNIS on the forest before operating within Tier 2 vegetation management. To meet NEPA's hard look requirement, the agency must disclose the likely effect of plan implementation assuming those nonbinding mitigation measures will not be implemented. This means the FEIS must analyze the full range of impacts associated with Tier 2 vegetation management in the absence of Tier 2 NNIS control.

## REVIEW FINDINGS

### Law, Regulation and Policy

Executive Order 13751 - This Executive Order (EO) amends EO 13112, continuing the call to executive departments and agencies to take steps to prevent the introduction and spread of invasive species and to eradicate and control established invasive species, but also adding consideration of human and environmental health, climate change, technological innovation, among other emerging priorities.



Forest Service Manual 2900, Invasive Species Management - FSM 2903 is comprised of eighteen policy items, based on an integrated pest management approach, particularly items #2, 5, and 9 are:

2. When applicable, invasive species management actions and standards should be incorporated into resource management plans at the forest level, and in programmatic environmental planning and assessment documents at the regional or national levels.
5. Ensure that all Forest Service management activities are designed to minimize or eliminate the possibility of establishment or spread of invasive species on the National Forest System, or to adjacent areas.
9. Monitor all management activities for potential spread or establishment of invasive species in aquatic and terrestrial areas of the National Forest System.

36 CFR 219.7(e) plan components in new plan development or plan revision.

36 CFR 219.8(1)(iv): Ecological sustainability - “A plan developed or revised under this part must provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area... taking into account... system drivers [such as] invasive species.”

36 CFR 219.15 Project and activity consistency with the plan. - d. Determining consistency. Every project and activity must be consistent with the applicable plan components. A project or activity approval document must describe how the project or activity is consistent with applicable plan components developed or revised in conformance with this part by meeting the following criteria: (1) Goals, desired conditions, and objectives. The project or activity contributes to the maintenance or attainment of one or more goals, desired conditions, or objectives, or does not foreclose the opportunity to maintain or achieve any goals, desired conditions, or objectives, over the long term. (2) Standards. The project or activity complies with applicable standards. (3) Guidelines. The project or activity: (i) Complies with applicable guidelines as set out in the plan; or (ii) Is designed in a way that is as effective in achieving the purpose of the applicable guidelines (§ 219.7(e)(1)(iv)).

40 CFR 1502.16 Environmental Consequences - The environmental consequences section forms the scientific and analytic basis for the comparisons under § 1502.14. It shall consolidate the discussions of those elements required by sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA that are within the scope of the statement and as much of section 102(2)(C)(iii) of NEPA as is necessary to support the comparisons. This section should not duplicate discussions in § 1502.14.

See NEPA Issue 5: Effects Analysis and Hard Look for the description of “Hard Look.”

## **Project Record**

FEIS, pp. 3-446 and 3-447 - Consistent with FSM 2900, the Responsible Official disclosed that certain NNIS species were prioritized for treatment, specifically, “based on their rate of spread and threat to threatened and endangered species and rare habitats.” Table 167 lists the Forests’ current priority NNIS species, which includes those that are well-established and for which there is plan direction regarding treatment.



The Responsible Official considered the environmental consequences of the ‘no action’ and all ‘action’ alternatives with respect to NNIS, including the beneficial impacts of the various NNIS standards and guidelines and an analysis of the relative impacts of vegetation management and prescribed burning objectives to NNIS, in light of Tier 1 and 2 objectives for all three resource areas.

FEIS, Appendix A, Response to Comments, pp. 69 and 70.

**Comment:** The plan should include guidelines that require the inventory and treatment of NNIPs along forest roads before timber harvest occurs. Monitoring for invasives and treatment to eliminate the most concerning species should be ongoing with a specific action plan developed for each timber operation. Riparian Areas should be added to areas considered for NNIP control.

**Response:** The Forest Plan includes desired conditions, standards, and guidelines to minimize the spread of non-native invasive species and prioritize treatment in areas that have unique habitats or threatened and endangered species. A standard was added to the Forest Health section of the final plan (FHL-S-05) that requires survey and treatment of non-native invasive species before and after vegetation management and other ground disturbing activities.

**Comment:** Requests to add a new forest health standard that specifies survey and control of non-native invasive plant species (NNIS) after timber management activities.

**Response:** A standard requiring surveys and treatment of non-native invasive plants prior to and after ground disturbing activities is included in the Forest Health section of the final plan (FHL-S-05).

Draft ROD - The Responsible Official described the Forest Plan’s compliance with the 2012 Planning Rule at 36 CFR Part 219 in the draft ROD (pp. 25-30) and refers the reader to the Final Plan chapters 2 and 5 that address Rule requirements regarding the ecological sustainability of the plan area, including managing non-native, invasive species, and plan monitoring, i.e., sections 219.8 through 219.12. The responsible official also found the Forest Plan, both in terms of its plan components and the monitoring plan, complied with EO 13751 regarding the management of invasive species, in the draft ROD (pp. 74-75).

Forest Plan, Chapter 2: Consistent with 36 CFR 219.8, EO 13751, and FSM 2900, three desired conditions in the Forest Health section address the importance of ecosystem diversity, function, connectivity, and resilience—including habitats supporting threatened and endangered species—wherein non-native plants are managed to minimize their adverse impacts (e.g., through prevention, detection, and suppression)—along with public education and organizational collaboration to support NNIS management efforts (Forest Plan, p. 87). The desired conditions are supported by two objectives, five standards, five guidelines, and associated management approaches (Forest Plan, pp. 87-89).

Plan components of particular relevance to the objectors’ proposed remedy to adopt the Pisgah-Nantahala Forest Partnership’s recommendation to conduct “a minimum level of monitoring



demonstrating no net spread of priority NNIS on the forest before operating within Tier 2 vegetation management” are:

- A Standard (FHL-S-05), developed in response to comments (e.g., FEIS, App. 2, p. 69), consistent with FSM 2902 objectives #1-3 and FSM 2903 policy items #9 and #10: FHL-S-05 Survey for and treat NNIS before and after vegetation management and other ground disturbing activities. Forest Plan, p. 88.
- An objective (FHL-O-02) for annually treating, controlling, and eradicating non-native, invasive plant species; Tier 2 was added in response to comments. The associated management approaches are consistent with FSM 2902 policy item #12, which calls for prioritization of NNIS management efforts based on species- or site-specific risk assessments: FHL-O-02 Tier 1: Annually, treat, control, or eradicate NNIS plant species on 1,500 to 3,000 acres. Forest Plan, p. 88. Management approaches: Select sites using the following priorities: unique habitats required for T/E or SCC; key characteristics of ecozones that provide habitat requirements for T/E or SCC. Inventory approximately 1,000 to 2,000 acres for NNIS occurrences. Tier 2: Annually, treat, control, or eradicate NNIS plant species on 3,000 to 5,000 acres: to mitigate the spread to or from adjacent lands, where high human uses occur with high risks of NNIS establishment. Inventory up to approximately 4,000 acres for NNIS occurrences. Management approaches: Priority areas are high quality special interest areas, previously treated areas, NC Natural Heritage Program natural areas, and lands where control is completed cooperatively with adjacent state agencies or private landowners.

Forest Plan, Chapter 5, Monitoring and Adaptive Management, pp. 291, 294 and 296:

Monitoring Questions:

- MQ 2-7-T1: What is the trend in occurrences of nonnative invasive species? What are occurrences within ecozones? Unique habitats? What percent of NNIS have been treated and how effective have treatments?
- Indicators: Acres of treatments; number of infestations with less non-native invasive species.
- Reporting Period: 2-year.
- MQ 4-4-T1: What are the conditions of selected high elevation rocky summits (on Roan Mountain) that support species of Cliff Avens, Mountain Bluet, and Blue Ridge Goldenrod?
- Indicators: Habitat rating, based on open shrub and canopy density and non-native invasive plant density, and rare plant occupancy (existing and potential)
- Reporting Period: 2-year
- MQ 4-4-T1: Are existing Grassy Balds maintained to desired conditions in order to support appropriate native species including rare plants such as Gray’s lily?
- Indicators: Habitat rating, based on open shrub and canopy density and non-native invasive plant density and appropriate native species occupancy (existing and potential)
- Reporting Period: 2-year.
- MQ-6-2-T1: How is climate variability and change influencing the ecological, social, cultural, and economic conditions and contributions provided by plan areas in the region?
- Indicators: Nonnative Invasive Species, Forest Health, Prescribed Fire, Recreation Use & Satisfaction, Wildlife, Jobs & Income, Phenology, Forest Trends



- Reporting Period: 5-year

Additional related plan components for nonnative invasive species include: Forest Plan, Chapter 2: Forestwide Plan Components - Climate Change, p. 32: Management Approaches: Monitor for new invasive species moving into areas where they were traditionally not found, especially in high-elevation communities. Utilize the monitoring information to assess threats and prioritize treating highly invasive infestations.

Forest Plan, Chapter 2: Forestwide Plan Components – Streamside Zones, Standards, p. 49: SZ-G-01 - Within identified streamside zones, allow chemical treatment to improve native plant composition and growth; and for non-native invasive plant species, control with aquatic-labeled herbicides and/or adjuvants sprayed away from the water source. Applicators will use guards on the end of sprayer wands when applying along stream edges and banks. (see AQS-G-02).

## Response

Consistent with 36 CFR 219.7(e), the Final Plan includes appropriate plan components to address NNIS—i.e., to contribute to or maintain ecological sustainability in the face of drivers such as NNIS (36 CFR 219.8(1)(iv)). In accordance with EO 13751 and FSM 2900, plan components provide for NNIS prevention, detection, and control. Additionally, as per 36 CFR 219.15, “[e]very project and activity must be consistent with the applicable plan components,” i.e., including plan components relating to NNIS in the case of ground-disturbing activities. Furthermore, the background to the Timber Management Practices section (Forest Plan, p. 90) includes this statement, which explicitly acknowledges the applicability of NNIS-related plan components to timber management activities: “Non-native and invasive species treatments and prescribed fire are also tools integrated into timber management.” Based on these Forest Plan components and their consistency with regulations relevant to NNIS management, the responsible official has complied with NFMA.

The addition of Forest Plan Standard FHL-S-05 “Survey for and treat NNIS before and after vegetation management and other ground disturbing activities” ensures that the activities of concern by the objectors including timber harvest and road building will not increase the spread of non-native invasive species as a result of project level activities. The FEIS inadvertently omitted reference to FHL-S-05, a standard that was added between the draft and final versions of the EIS and Plan; this standard requires NNIS survey and treatment “before and after vegetation management and other ground disturbing activities.” This standard is pertinent to an analysis of the risks of NNIS spread under the different alternatives and should be added to the FEIS. It is also unclear whether the acres in the NNIS objectives are a part of the acreage objectives to in FHL-S-05 or are additional to them.

The FEIS discusses the mitigating effects of NNIS plan components (including Tier 1 and 2 objectives under Alternative E) to Tier 1 and 2 objectives for increased ground disturbance (through vegetation management and prescribed fire) under Alternatives B-E. Contrary to the objector’s assertion, these standards are binding and will ensure that NNIS are fully addressed, especially when combined with monitoring question MQ 2-7-T1 and management approaches for climate change.



In terms of NFMA compliance, the objectors' recommendation, "to adopt the Partnership recommendation of a minimum level of monitoring demonstrating no net spread of priority NNIS on the forest before operating within Tier 2 vegetation management" is discussed in Invasive Species: Issue 3, below.

See also the responses to Planning Issue 10: Tiered Objectives; Planning Issue 11: Tiered Objectives and Adaptive Management; and Planning Issue 12: Prioritizing Tiered Objectives and Invasive Species Issue 3: NNIS Monitoring.

**Instruction(s):**

**Instruction:** The FEIS should refer to FHL-S-05 in the list of relevant NNIS plan components to the Environmental Consequences sub-section of section 3.3.9 of the FEIS. Also, clarify the relationship of FHL-S-05 to Tier 1 and 2 NNIS objectives in terms of acres treated and the standard's mitigating impact for other ground disturbing activities.

**Issue 2: Use of Herbicides**

**Objector(s):** Friends of Big Ivy; Forest Keeper; I Heart Pisgah; Richard Melvin

Objectors assert that increased timber harvest proposed in the plan will quadruple herbicide use across the forest. They object to this increase in herbicide use and state that it has not been sufficiently analyzed, especially in terms of impacts to water, soils, or wildlife (especially the listed rusty-patched bumblebee).

**REVIEW FINDINGS****Law, Regulation and Policy**

See the response to Invasive Species Issue 1: Invasive Species Plan Components for a list of relevant law, regulation and policy.

Please refer to the Threatened & Endangered, Sensitive Species, and Species of Conservation Concern Issue 1: US Fish & Wildlife Service Consultation for a discussion of compliance with ESA.

**Project Record**

FEIS - As indicated in the FEIS (pp. 90-91), the Forest Plan includes components designed to place constraints on chemical treatment of NNIS in order to protect other resources—including standards to protect aquatic ecosystems and federally-listed and other at-risk species and guidelines deferring to "applicable North Carolina and Federal Best Management Practices to meet laws, regulations, and policies, and provide management constraints on the use of pesticides and herbicides, installation of new stream crossings, and aquatic organism passage projects."



Forest Plan - The following standard is relevant to project-level decisions regarding pesticide use and the protection of non-NNIS species: FHL-S-02 - Approve pesticide use only after site-specific evaluation. Apply pesticides according to label directions and using methods and timing to meet project objectives while reducing or eliminating effects to non-target species. Forest Plan, p. 88. In addition, the Forest Plan (p. 292) includes a monitoring question (MQ 2-8-T2) that is designed to evaluate the effectiveness of non-native invasive species treatments.

## **Response**

The Forest Plan does not authorize site-specific treatments such as herbicide application. In accordance with the regulation at 36 CFR 219.15, every project and activity must comply with applicable plan components and the decision document must describe this consistency. Relevant to this objection, a project implementing the final Forest Plan would have to conduct an analysis of environmental consequences and demonstrate its contribution to, or maintenance of, biological diversity, including rare plants and animals and their habitat, as per 36 CFR 219.9(a).

For non-native invasive species, the Nantahala and Pisgah National Forests completed analysis of a forest-wide invasive plant control project and forest plan amendment in 2009, which was updated in 2021 via a Supplemental Information Report (SIR) to the EA. The 2009 NNIS EA includes a comprehensive environmental analysis of the risks of proposed integrated NNIS management to such resources as soils, water, and federally listed and other at-risk species; a list of potential mitigation measures, and a site-specific implementation checklist for NNIS treatment. The 2021 SIR to the EA includes treatment objectives that are consistent with the Forest Plan.

The objectors are concerned about a potential quadrupling of herbicide use under the Forest Plan and consider the FEIS' analysis of potential impacts of such quadrupling insufficient. However, the contention that herbicide use will 'quadruple' is speculative. The Forest Plan contains adequate constraints to protect water, soil and sensitive wildlife species, and includes monitoring. The methods used to control NNIS were outlined in the 2009 EA and include manual, mechanical, cultural, and chemical control treatment methods.

**Instruction(s):** None.

## **Issue 3: NNIS monitoring**

**Objector(s):** Southern Environmental Law Center et al.

The objector believes that details of the plan monitoring program for NNIS, including monitoring and analysis protocols, data collection schedules, responsible parties, and data management, should be included in the plan. Objector SELC does not believe the Forest Service should retain discretion to update monitoring questions for NNIS, and states that instead the plan should require post-project monitoring or surveys of areas susceptible to NNIS.

## **REVIEW FINDINGS**



**Law, Regulation and Policy**

See the response to Planning Issue 9: Monitoring Program for relevant citations to law, regulation and policy.

**Project Record**

See Invasive Species Issue 1: Invasive Species Plan Components for a list of relevant plan components.

**Response**

The Responsible Official distinguished between the plan monitoring program outlined in the Forest Plan and a more detailed, separate monitoring guide, e.g., “including monitoring and analysis protocols, data collection schedules, responsible parties, and data management,” which will follow finalization of the Forest Plan. He considered the monitoring guide more appropriate for detailing the specific monitoring process, as “data sources and frequency of updates are likely to change over the life of the plan” (draft ROD, pp. 29-30) and also noted that, as per 36 CFR 219.12, other, broader-scale and multi-party monitoring will take place, complementing the plan monitoring program.

The Responsible Official complied with 36 CFR 219.12 in outlining the monitoring program (and associated questions) in the Forest Plan, as 36 CFR 219.12 does not state that the monitoring guide must be included as part of the Forest Plan.

Regarding the objectors’ concerns about the possibility to change the monitoring program (specifically, removal of NNIS-related questions), as per Forest Service Handbook 1909.12, Chapter 30, 32.4, “A change to a monitoring question or an indicator is a substantive change to the plan, which may be made administratively but only after the public has an opportunity to comment.”

The objectors request ‘adequate post-project’ monitoring in accordance with FSM 2903 or survey of areas ‘susceptible’ to NNIS in such a way as to allow quick detection and rapid response and eradication, as per FSM 2902. The Forest Plan includes a standard (FHL-S-05) requiring surveys before and after ground-disturbance, consistent with FSM 2902. Additionally, as noted, the Forest Plan includes a set of monitoring questions (MQ 2-7-T1 and MQ 2-9-T2) regarding trends in the occurrence and treatment of NNIS, to be reported every two years and effectiveness of treatments reported every four years. Any proposed change to plan monitoring questions would occur through the process outlined in 36 CFR 219.13, requiring public notification and involvement as noted above.

See also the response to Planning Issue 9: Monitoring Program.

**Instruction(s):** None.



## **ECOLOGICAL INTEGRITY, NATURAL RANGE OF VARIATION AND EARLY SERAL HABITAT**

### **Issue 1: Ecological Interest Areas**

**Objector(s):** Cynthia Simonds

The objector states that ecological restoration can “breathe new life into degraded sections of the forest” and that restoration can improve biodiversity, water quality and resilience to climate change.

#### **Remedy(s) proposed by Objectors**

- Include Ecological Interest Areas in the plan. These are areas of high ecological value identified as potentially benefiting from restoration work; include a list of specific priorities for ecological restoration and ensure that they are actually included in projects when opportunities are present.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

36 CFR 219.7(e) defines: Plan components. Plan components guide future project and activity decision making. The plan must indicate whether specific plan components apply to the entire plan area, to specific management areas or geographic areas, or to other areas as identified in the plan.

#### **Project Record**

The draft Record of Decision, p.56 describes the intent behind management of Ecological Interest Areas.

The Forest Plan, pp. 223-224 describes Ecological Interest Areas and lists the plan components specific to them.

The FEIS, p. 1-8 outlines the appropriate role of forest-level vs. project-level planning.

#### **Response**

Ecological Interest Areas (EIAs) are included in the final land management plan and are areas of the Forests where compositional restoration is the primary driver of management activities. In Alternative E, Ecological Interest Area management areas focus on improving the mix of species of different ecosystems, ensuring that we manage for the right forest communities in the right places.



In addition to establishing EIAs, the Final Plan (p. 21) emphasizes restoration, as evidenced by the key themes of “Sustaining Healthy Ecosystems” and Providing Clean and Abundant Water.” Key plan concepts including Sustainable Recreation and Restoring and Maintaining Healthy Forests also document the Forests’ commitment to restoring forest ecosystems. Final Plan, pp. 23-24.

**Instruction(s):** None.

## **Issue 2: Natural Range of Variation**

**Objector(s):** Friends of Big Ivy, Forest Keeper, Audubon North Carolina, North Carolina Forest Partnership, Ruffed Grouse Society and American Woodcock Society, Center for Biological Diversity, MountainTrue, Hugh and Janice Irwin, Heart Pisgah, Friends of Big Ivy, Hugh and Janice Irwin

Many objectors expressed dissatisfaction with the plan assumptions for the Natural Range of Variation (NRV), the relationship between aspects of NRV and the Spectrum model, and plan components developed to align conditions with NRV. Several objectors referred to specific statements, assumptions or purported omissions in Appendix D of the FEIS.

An objector claims that basing NRV on historical patterns and current conditions does not adequately account for the likely effects of climate change on forest disturbances such as wildfire or insects/disease and that the minimum disturbance size of 0.5 acre was arbitrary and used inconsistently between estimating NRV and the Spectrum model. The objector claims that the current area of open and young forest is underestimated by not accounting for non-USFS land ownerships as well as natural gaps and permanent openings on USFS land. Another objector suggested that the small minimum patch size and failure to consider the landscape context resulted in the Forests overpredicting the amount of young forest suitable for species such as the ruffed grouse and suggest a patch size of at least 1 acre.

The objector contends that the desired area of younger forest was calculated from NRV of ecozones but then applied at a landscape level in the plan and, therefore, balancing age classes will not restore NRV at the ecozone level or serve as an effective coarse filter for maintaining diversity of species. The objector believes that due to the incorrect estimates of NRV and modeling assumptions, the plan direction will not maintain or restore ecological integrity.

One objector states that “Oak forests compose the majority of Nantahala-Pisgah National Forest, so there is no lack of management opportunities there, as these communities can be found between an elevation range of roughly 1,000'-5,000' and suggest prioritizing management to address sites with the greatest structural and compositional deviance from the natural range of variation would help to identify where the most important sites for management are at the project level.”

In contrast to the above issues, the Ruffed Grouse Society and American Woodcock Society suggested that the NRV used for modeling and analysis underestimated open and young forests



because it did not include disturbance from Native Americans or animals (e.g., beaver, elk, bison, and passenger pigeons) that could disturb forest structure.

### **Remedy(s) proposed by Objectors**

- Accurately account for natural disturbance and old-growth forests in all modeling.
- Modify the following Desired Conditions:
- ECO-DC-01 Across the forest, patches and connectors of National Forest System land sustain a diversity of ecosystems and habitat types, providing ecological integrity and enhancing conditions for native species for each ecological zone at multiple scales including within geographic areas and regionally.
- ECO-DC-04 Smaller patch sizes that are surrounded by private lands contribute to the forested or open lands pattern in western North Carolina dependent upon the desired conditions and NRV context of the patch location within its landscape context.
- ECO-DC-05 Connectors, in the form of linear corridors of closed canopy forest, cross the landscape to facilitate species movement between patches.
- WLF-DC-01 Young forests with seedlings and saplings are distributed across all ecozones and elevations but especially in higher elevation montane oak ecosystems for species such as ruffed grouse, golden-winged warbler, white-tailed deer, and elk as predicted by NRV at multiple spatial scales (stand, priority watershed, geographic area, and regionally).
- WLF-DC-03 Unfragmented interior forest conditions continue to occur across the landscape as predicted by NRV at multiple spatial scales (stand, priority watershed, geographic area, and regionally). The distribution may change as the forest ages or management actions occur.

Objector Ruffed Grouse Society & American Woodcock Society suggests the following remedies:

- Adjust the NRV model to include pre-European anthropogenic disturbance from Native Americans and extinct or extirpated wildlife species that contributed to the Forest's historic range of variation based on best available science;
- Consult social scientist experts regarding assumptions in human behavior as they relate to human-induced wildfire events and revise the "natural disturbance young forest patch" prescription in the Spectrum model based on input that considers demographic changes, economic development, education levels, and other social factors.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The 2012 Planning Rule requires an evaluation of ecological integrity (36 CFR 219.8, FSH 1909.12 Chapter 12.1) that includes a consideration of the role of the Natural Range of Variation (NRV, FSH 1909.12 Chapter 23.11a). The focus of the evaluation for the assessment should be on ecological integrity, and examining NRV is only one part of that broader assessment. The NRV can guide the restoration and maintenance of ecosystems by helping identify define key characteristics to promote ecological integrity, provide the context for the status of those



components (and ecological integrity more broadly) and inform the development of plan components. However, it is understood that maintaining or returning an ecosystem to its NRV may not always be feasible or practical. The 2012 Planning Rule allows for plan components to not be based on NRV because the focus is on maintaining and restoring ecological integrity. FSH 1909.12, 23.11a – Natural Range of Variation - When developing plan components, the ID team shall consider the role of NRV as follows:

- 1) In general, where appropriate, the Interdisciplinary Team should design plan components aimed at maintaining or restoring the natural range of variation of specific key ecosystem characteristics needed to promote ecosystem integrity in the plan area.
- 2) For specific areas within an ecosystem, the Responsible Official may determine that it is not appropriate, practical, possible, or desirable to contribute to restoring conditions to the natural range of variation.
- 3) If past conditions relative to the natural range of variation are not appropriate, practical, possible, or desirable approaches, ID team should construct components based on general understanding and the Responsible Official should explain rationale for NOT basing on NRV.

## **Project Record**

Forest Plan, p. 14, discussion of private land in Western North Carolina.

Forest Plan, p. 50 - Role of NRV in the DC describes NRV's contributions to understanding ecological integrity and explicitly states that it is not a management target nor (automatically) DCs.

Forest Plan, pp. 54-64, Table 2 describes key ecosystem characteristics for each of the 11 ecozones in the plan area.

Forest Plan, p. 66 -Table 3 describes the amounts of desired conditions within these classes: Young Forest; Open Forest Condition; Interior Forest condition; Mature Forests (includes late seral stages and old growth forests).

Forest Plan, pp. 69-73 - Integrated Ecosystem and Wildlife Habitat Objectives lists management objectives over the life of the plan across all Ecozones.

Forest Plan, pp. 71-73 - Ecosystem and Wildlife Habitat Management Approaches describes management approaches to restoration across three Ecosystem Moisture Classes (aggregations of Ecozones)

Forest Plan, p. 291- Chapter 5 Monitoring and Adaptive Management MON-Table 2 describes how young forest and open forest conditions will be monitored every 4 years by Ecozone.

Project Record – NRV Departure Tables by Geographic Area; June 6, 2020, process paper probability NRV models (pdf), which documents the pathways and probabilities used in the NRV ST-SIM model; January 2015 process paper NRV Process (pdf), which defines the ecosystems modeled, the associated LANDFIRE reference, assumptions about age classes of the



s-classes, and wind & fire frequency distributions for the Pine-Oak/Heath ecozone. Results for the Pine-Oak/Heath ecozone are also displayed in a graph format; Excel file on forestwide departures – this file contains the NRV results by Ecozone that is referenced in the plan and by objectors.

Project record files including “Disturbance Communication with S. Norman.pdf;” “Disturbance research\_Gaps.pdf;” “Disturbance research\_Wind.pdf;” “Disturbance research\_Landslides.pdf;” “Disturbance research\_Ice.pdf;” “Wind research from Opal literature;” “Storm Disturbance process record.xls;” “Considering HRV.pdf.”; Cove, Dry Mesic Forest, and Pine-Oak Heath NRV ranges are graphically shown in the NPFP Modeling Presentation PPT

FEIS p. 3-119, discussion of species associated with young forests.

FEIS, pp. 3-133 through 3-176, 3.3.2.3 Ecozones. Narratively describes effects by Ecozone, using, among other things, results of the ESE tool to support conclusions.

FEIS, Appendix D, p. D-20 - Table 10 shows the future assumptions for modeling openings based on historic quantities which are higher than the LIDAR analysis. This is based off of a SRS research study by Norman, 2021.

Draft ROD, p. 64-67 – Description of consideration of Natural Range of Variation.

## **Response**

The Responsible Official and planning team considered NRV throughout the planning process. The record (FEIS and Appendix D) was clear on how NRV informed the modeling efforts (e.g., Spectrum). Clarity could be added into the Final Plan and project record about how the modeling results were integrated with other forms of ecological information to understand ecological integrity and thus, related back to the development of plan components and how different outcomes (e.g., management activities) would be needed in different ecozones (e.g., Spruce-fir, Cove forests, Dry-Oak, Floodplain forests).

Objector claims that basing NRV on historical patterns and current conditions does not adequately account for the likely effects of climate change on forest disturbances such as wildfire or insects/disease. The record documents that the Forests took a hard look at NRV based on pre-European settlement conditions and placed that into context by analyzing the recent past and near future (Appendix D, p. D-14). Current and recent past conditions are not representative of NRV for many reasons, including the loss of keystone species for both plants (such as the American chestnut) and animals from the landscape. This justifies the future analysis described in Appendix D (starting on p. D-19). The different scenarios adequately capture the range of likely changes in disturbance rates for at least the next few planning cycles (2-4 cycles into the future or approximately the next 30-60 years). Understanding and fully accounting for how climate change will affect disturbance rates farther into the future (i.e., several (4+) planning cycles or 60+ years) is not necessary since future plans will complete the analysis with more information collected and science developed in subsequent years.



As for the objector's claim that the minimum disturbance size of 0.5 acre was arbitrary and used inconsistently between estimating NRV and the Spectrum model, the conclusion in the discussion of "Defining Young Forests" (Appendix D, p. D-12 to D-14) provides the Forest's rationale for using 0.5 acres as the minimum disturbance size. The size was determined after considering a variety of factors from the professional judgement of several wildlife biologists, vegetation dynamics, and characteristics that support robust and diverse understories. This explanation is adequate.

The NRV analysis focused on understanding disturbance rates to understand the frequency of gap/opening creation and likely size of those openings (gaps v. patches, Appendix D, p. D-14). These disturbance rates informed scenario development for future natural disturbance (Appendix D, p. D-19). Neither the NRV nor the Spectrum modeling results were explicitly spatial which made the acreage of openings less relevant to those analyses and demonstrates the value of the LIDAR analysis to understand the size of openings. The connections between these analyses and how the information was integrated could be clarified in the final documentation. In addition, clarification could be added to the narrative to understand baseline conditions and how the different scenarios varied. A table could potentially help demonstrate these connections more clearly.

Objector states that oak forests compose the majority of Nantahala-Pisgah National Forest and suggests prioritizing management to address sites with the greatest structural and compositional deviance from the natural range of variation; while it is worth considering the sites deviating most from the NRV, the level of deviation should not be the only factor considered when prioritizing management activities. Highly deviated ecosystems can take significant resources to restore, and it may be a more efficient use of resources to prioritize areas with less deviation from NRV especially if multiple objectives can be achieved (e.g., creation of wildlife habitat in a key area, supporting other uses like recreation or scenic views). It is logical that the Forests are not explicitly stating that they will prioritize one level of departure because other factors should be considered, and those types of decisions should be made (and likely using different suites of similar but different criteria) at the project level. The Forest Plan, p. 71, states that departure from NRV will be used to aid in the identification of management opportunities.

In response to the objectors contention that the desired area of younger forests was calculated from NRV of ecozones, but applied at a landscape level, according to the Forest Plan, p. 66 (Table 3), Young Forest Habitat should be managed commensurate with the ecozone-specific information for Ecological Processes, Disturbance Gap Sizes, and Community Patch Size described in Forest Plan p. 54-64 (Table 2). The Forest Plan, p. 66 footnote specifically states that the acreages listed are not forestwide targets or objectives in and of themselves, and that some acreages may not be attainable because landscape conditions have changed from the NRV. This is described by the Desired Condition: ECO-DC-06: Ecological restoration is focused on restoring the key characteristics of ecozone composition and structure, function and processes needed to maintain those key characteristics over time.

This desired condition describes ecological restoration across all ecozones without preference or prioritization. In addition, the management approaches for the integrated ecosystem objectives state that "cross multiple above objectives, vegetation management activities, including but not



limited to timber harvest and fire management, will emphasize ecosystem restoration (as reflected in forestwide desired conditions) and maintaining existing silvicultural investments. Use geographic area goals, compositional and structural departure results, and monitoring reports to aid in the identification of vegetation management opportunities” and provides restoration priorities by moisture class (Forest Plan, p. 71). In addition, monitoring questions such as MQ-2-6-T1 (Forest Plan, p. 291 to 292) will track the trend in young forest conditions, open forest conditions, oak regeneration and overall desired seral stages that will ensure that the Forests are moving toward desired ecological conditions. It would be helpful to clarify that this is intended to monitor changes in ecozone departure over time, including movement of young forest conditions within ecozones.

Objector claims that due to the incorrect estimates of NRV and modeling assumptions, the plan direction will not maintain or restore ecological integrity. A review of the record found that it substantiates that the Forests have documented their assumptions in determining NRV, including references to published, peer-reviewed models. The Forest Plan, pp. 71-73, includes Management Approaches for Integrated Ecosystem and Wildlife Habitat, which describes in detail how the Forests intend to integrate vegetation management activities between resources in order to emphasize ecosystem restoration.

The objector asserts that “pre-European anthropogenic disturbance from Native Americans and extinct or extirpated wildlife species” assumptions were not used in the NRV model. Again, the record reflects that the Forests adequately documented that the assumptions in the published LANDFIRE models were appropriate to use in the NRV assessment.

Objector claims that the current area of open and young forest is underestimated by not accounting for non-USFS land ownerships as well as natural gaps and permanent openings on USFS land. However, as documented in the response to Planning Issue 1: All Lands Approach to Planning, the Forests are focused on managing National Forest System lands, but considered the context of surrounding lands during plan revision. The Forests also adjusted their estimate of the current state of openings based on the study by Norman 2021 rather than straight from the LiDAR data.

In addition, as addressed in the response to Planning Issue 1: All Lands Approach to Planning, the Forest Service can only manage lands under National Forest System jurisdiction. Although some assumptions may be made about what timber harvest may occur on adjacent ownerships, there is no assurance that this management will happen and therefore is speculative. In order to achieve the amount of young forests that the Forest Service desires on the landscape, the Forests assessed the condition on National Forest System lands. As indicated in the draft ROD at 8-12, the Forests are committed to achieving partnerships with other owners which may reduce the number of acres of young forest created on NFS lands. The decision will “Provide geographic area direction for the Forests’ distinct landscapes, recognizing opportunities for restoration and sustainable recreation opportunities, connections to nearby communities, and opportunities for partnerships with the public, other organizations, and governments in each part of the Forests.”

The FEIS, p. 3-548 states that “Within the 18-county area of Western North Carolina, the Nantahala and Pisgah NFs make up only roughly 22 percent of the land area (1,044,393 acres)



and the ownership of Western North Carolina's timber is dominated by private ownership (Fox et al. 2011)." Therefore, the objectors are correct that taking into account land bases under other ownership may benefit the objective of creating young forest. However, the Forest Service cannot dictate what may occur on private or other government lands. If regeneration harvests are needed to meet the Forest Plan objective of young forests (ECO-O-02), these harvests need to occur on NFS lands. As explained in the FEIS, Appendix D at D-11, the analysis area is the national forest boundary. However, cumulative effects were considered across private ownerships in the FEIS.

Objector Audubon North Carolina suggests modifying ECO-DC-01; in response to this suggestion, as described in the background of the Terrestrial Ecosystems section, the plan components are designed to support the health and resilience of forests across the landscape, moving from the landscape scale (subsection: Forest Landscape Pattern and Connectivity) to the ecosystem scale (subsection: Ecosystem Management) and then to the specific needs of habitat types (subsection: Wildlife Habitats Across Terrestrial Ecozones) (Forest Plan p. 50). The properties addressed by this Desired Condition (diversity, ecological integrity, improved conditions) are best considered at larger scales because they need to be considered across landscapes. Geographic areas may be too small to fully capture the range and spatial arrangement of the diversity of ecosystems and habitat types, and the region is likely too broad of a scale because the Forests only have jurisdiction on NFS lands. As such, the Forests are assessing this Desired Condition at the appropriate scale.

Objector Audubon North Carolina suggests modifying ECO-DC-04; in response to this suggestion, the set of Forest Landscape Pattern and Connectivity desired conditions (Forest Plan, p. 51-52) explains the desired patches and corridors that make up the terrestrial ecosystems. The plan component describing each feature does not need to explicitly link back to NRV. It would not be appropriate to apply NRV to a small patch. This suggested change should not be made without further justification.

Objector Audubon North Carolina suggests modifying ECO-DC-05; in response to this suggestion, connectors may also be open canopy forests that foster understory species, or another type of ecosystem. This suggested change should not be made without further justification.

Objector Audubon North Carolina suggests modifying WLF-DC-01 and WLF-DC-03; in response to these suggestions, desired conditions are not intended to be the same as NRV (Forest Plan, p. 50). Also, it is not appropriate to assess the distribution of young forest across small scales (stand, watershed) because their distribution should be different among different small scale spatial units; these results would then be misleading in understanding what is needed at the forest scale. Geographic areas have a separate chapter in the forest plan, including goals for sustaining healthy ecosystems (Chapter 3). See ECO-DC-01 for why it is not necessary to analyze at the regional scale, although it potentially could be informative.

In response to Objector Ruffed Grouse Society & American Woodcock Society's suggested remedies, the project record fully documents that the Forests used the best available science in determining NRV. In determining NRV, the Forests clearly included human influences, such as burning from Native Americans as well as influences from pathogens referenced by Greenburg



& Collins (2016) such as oak decline (Appendix D, p. D-14 through D-19). The influence of elk and bison was addressed in the FEIS, p. 3-352. Considering human-induced wildfire events in terms of disturbances as requested by the objector would be speculative and not possible to predict with any accuracy. In addition, the Forest Plan provides for wildfire suppression commensurate with values at risk (Forest Plan, pp. 98-100). Based on the record, the Forests adequately addressed disturbances.

**Instruction(s):**

**Clarification:** Clarify in monitoring question MQ-2-6-T1 that the monitoring program intends to monitor departure from NRV over time via the plan's monitoring process. Clarify that the monitoring guide, rather than the plan itself, will outline the methodology for monitoring progress toward NRV, beginning with the NRV ranges identified during the planning process as the base, and updating departure estimates over time. The monitoring guide will set up the system for determining how well desired conditions are being met whether the forest needs to adapt their management methods.

**Voluntary modification:** Clarify that geographic area goals and other plan components were created to address need identified by departure from NRV.

**Clarification:** Clarify the following sentence in the Forest Plan, p. 53 that may leave readers with the false impression that structural class ranges are provided for each ecozone within the plan, "Ranges (minimum to maximum values) that are presented were informed by current science for natural variation in the composition, structure, and ecological processes within ecozone structural classes."

**Clarification:** Remove the statement in on FEIS, p. 3-133 that states: "The Proposed Plan also includes the modeled Natural Range of Variation structural classes by ecozone."

**Clarification:** Revise ECO-DC-04 to clarify that these are isolated small patches.

**Clarification:** Clarify in Appendix D (p. D-14) whether or not the ESE tool incorporates both the recent past and near future or only one of those time periods.

**Clarification:** In Appendix D, Analysis of Future section (starting on p. D-19), clarify the changes described in different scenarios and how management actions change over time in the model outputs. Include more tabular or graphical summaries like Figure 2 (p. D-22) to provide additional clarity.

**Clarification:** Include more information in Appendix D about how the current condition openings estimate was derived.

**Voluntary modification (Ecozones):** Change management approach: "Across multiple objectives above, vegetation management activities, including but not limited to timber harvest and fire management, will emphasize ecosystem restoration (as reflected in forestwide desired conditions) and maintaining existing silvicultural investments. Use geographic area goals,



compositional or structural departure results, or monitoring reports to aid in the identification of vegetation management opportunities.

**Voluntary modification (NRV):** Change ECO-DC-03 to “...will not contribute to exceeding the ecozone’s NRV at the forest level.”

**Voluntary modification (NRV):** Change ECO-DC-07 back to the draft plan language: “Across the landscape, departure from potential natural vegetation composition by ecozone improves over time...”

**Voluntary modification (NRV):** Change ECO-DC-8 back to the draft plan language: “Across the landscape, the amount of age class and structural departure from the natural range of variation reduces over time...”

### **Issue 3: Early Seral Habitat**

**Objector(s):** I Heart Pisgah; Ruffed Grouse Society and American Woodcock Society; Center for Biological Diversity; Southern Environmental Law Center et al.

Several objectors disagreed with the plan direction to increase the area of young or early successional forest through regeneration harvests. Overall, these objectors claimed that there was not a need for as much early successional habitat as described in the plan and criticized both the methods proposed for increasing young forest and the effects of those activities. Specific concerns included the following:

Objectors claim that the assessment of current conditions should have included open habitats and young forest across "all lands" surrounding the forest. In a related issue, objectors claim that the LiDAR data underestimated young forest, open forest conditions and forest gaps.

Objectors claim that the plan failed to consider the role of natural disturbance in creating open or young forest, including future disturbances related to climate change.

Objectors claim that differences in how NRV was estimated and the Spectrum model was used overestimated the need for creating young or open forest.

Objectors contend that there is no plan direction to preferentially harvest in degraded habitat or to recognize the potentially different adverse effects of harvest across ecozones. They also assert that the Final Plan did not consider the timing of timber harvests and only provided an annual estimate of acres that would be harvested.

Objectors contend that there is insufficient evidence that the proposed timber harvests to create young forest will mimic the effects, spatial scale and temporal variation of natural disturbances that they are intended to simulate.

In contrast to the concerns above, one objector suggested that the small minimum patch size (i.e., 0.5 acre) and failure to consider landscape context of openings or young forest patches resulted



in over predicting the amount of young forest that was suitable for some species such as ruffed grouse. The objector suggested adjusting the model to consider patches at least 1 acre and account for landscape context.

### **Remedy(s) proposed by Objectors**

- Adjust the Spectrum model to only include young forest patches greater than 1-acre in size as contributing towards young forest objectives. ii. Include an analysis of functional young forest habitat in the Spectrum model. This should include at least an assessment of interspersed and juxtaposition.
- Adjust the ESE for wildlife species that depend on young forest conditions to reflect updates in the Spectrum model.
- Adjust the monitoring and evaluation plan to only include these functional young forest patches.
- Young forest should be prioritized in the first 10 years of implementation as much as any other underrepresented forest condition.
- Remove any sequential ranking in the Plan and move forward with all underrepresented forest conditions simultaneously, working with partners that specialize in the attainment of different forest conditions.
- The Forest Service must analyze in the EIS the differences between human and natural disturbances, how vegetation management would or would not "mimic" natural disturbances, and the impacts of using regeneration harvests on forest health and biodiversity in view of increasingly larger, more intense, and more impactful natural disturbances occurring throughout the Forests.
- The Forest Service must consider the need for early seral forests when viewed through the lens of the broader landscape, and whether the amount of regeneration harvests called for by the Forest Plan is necessary and appropriate given the present and future trends of ESH on private lands.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

The 2012 Planning Rule requires Forests to provide for ecological (and social and economic) sustainability, but only within the authority of the Forest Service and only on NFS lands. However, this effort must be contextualized within the “broader landscape influenced by the plan area”. Further, an important component of ecological sustainability is defined in the Rule as “ecosystem integrity” which, in turn, is (essentially and in part) defined as functioning within the natural range of variation (NRV) (2012 Rule, 219.19 Definition Ecological integrity). The scale of analysis (plan area vs. broader landscape) and estimates of NRV as it pertains to Plan management objectives for “young forest” and “ESH” are at issue here.

While the Rule includes direct applicable regulations, it is not prescriptive in how assessments are accomplished or incorporated, so long as it can be shown that the “Best Available Scientific Information” was identified, explained, and applied.



Section 219.8 states that Forest Plans “...must provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area...”. The rule also states that this should be accomplished within the context of “the broader landscape”; e.g., taking into account “Contributions of the plan area to ecological conditions within the broader landscape influenced by the plan area” and “Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area”. Section 219.8 also states that Plans must “...maintain or restore the ecological integrity of terrestrial ecosystems in the plan area...”. “Ecological integrity” is defined in the Rule as the condition which occurs when an ecosystem is within its “natural range of variation”. This introduces the significance of NRV.

The need to restore young forest is also closely tied to Section 219.9 where regulations state that Forest Plans “must provide for the diversity of plant and animal communities, within Forest Service authority and consistent with the inherent capability of the plan area...” including requirements to “maintain or restore the ecological integrity of terrestrial...ecosystems...in the plan area” and “maintain or restore the diversity of ecosystems and habitat types throughout the plan area.”.

#### Project Record

Project Record: Emails dated 04-02-2020 Aldridge to Nicholas FPR young forest Tier 2 how the upper limit was determined; Questions and Answers dated 2020/05/04 - Deep Dive Q&A timber calculations; Modeling presentation dated February 15, 2022; Project record files including “Disturbance Communication with S. Norman.pdf;” “Disturbance research\_Gaps.pdf;” “Disturbance research\_Wind.pdf;” “Disturbance research\_Landslides.pdf;” “Disturbance research\_Ice.pdf;” “Wind research from Opal literature;” “Storm Disturbance process record.xls;” “Considering HRV.pdf.”

FEIS, Appendix A, p. 32, Response to Comments

FEIS, Appendix B, Analysis Methods

EFEIS Appendix C, Ecological Sustainability Evaluation (ESE)

FEIS Appendix D: Role of Natural Disturbance in creating young forest and early successional habitat (FEIS Appendix pp. D-11 to D-23). Analysis using LiDAR. FEIS Appendix D, p. D-16.

FEIS “Young Forest” discussion, p. 3-119

FEIS Timber Harvest Impacts on Soil Quality discussion, p. 3-43

FEIS Forest Management Impacts on Water Quality discussion, p. 3-59

#### Response



Objectors contentions regarding consideration of “all lands”, use of LiDAR data, the role of natural disturbances and climate change in creating open/young forests, and how the use of NRV and the Spectrum model overestimated the need for creating young or open forests are addressed in the responses to Planning Issue 1: All Lands Approach to Planning; Climate Change Issue 3: Climate Change and Disturbance Regimes; and Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 2: Natural Range of Variation.

Overall, the planning record demonstrates that the issues raised were considered and addressed. However, there is a need for additional contextualization and clarification to ensure that the associated work is clearly and succinctly summarized.

It is important to note that the Forests have identified a Monitoring Question (MQ 2-1-TI) that specifically addresses the trend, amount (by ecozone, elevation, and MA), and origin (management or natural disturbance) of young forest. This pertains directly to most of the topics raised in Issue 1-3 and, pragmatically, would provide the Forests the opportunity to adjust as necessary moving forward.

Objectors contend that there is no plan direction to preferentially harvest in degraded habitat or to recognize the potentially different adverse effects of harvest across ecozones. They also assert that the Forest Plan did not consider the timing of timber harvests and only provided an annual estimate of acres that would be harvested. Additionally, objectors allege that “The final Forest Plan fails to consider the quality of existing habitats, their location, and species diversity when relying on regeneration harvests to create more young forests.”

Other concerns expressed in association with this concept include consideration of impacts such as desiccation of the forest floor and the resulting impacts to dispersal limited species and that the FEIS must discuss the risks and limitations of using regeneration harvests in certain ecozones and provide greater specificity and direction regarding where it would otherwise be an appropriate restoration tool.

In response to these contentions and as noted previously, the Forest Plan is a programmatic document and, does not prescribe site specific actions. The Forest Plan does not prescribe that associated forest management actions would occur in “degraded habitats” nor does it preclude the action; however, the Forest Plan includes numerous plan components that focus on forest restoration and integration of ecosystem and wildlife habitat objectives (e.g., Forest Plan, pp. 69-73). These types of site-specific deliberations would occur during Forest Plan implementation and would be evaluated at the local scale and analyzed under appropriate site-specific NEPA. The FEIS appropriately discloses the effects of timber harvest at the scale of the Forest Plan (e.g., “Timber harvest impacts on soil quality” FEIS, p. 3-43; “Forest management impacts on water quality” FEIS, p. 3-59); any efforts to analyze and disclose effects associated with site-specific implementation at the local scale, such as the chance for forest floor desiccation, would be unjustifiably complex and highly speculative at the scale of the Forests. Consideration of the quality and location of existing habitats and species diversity prior to prescribing regeneration harvest will occur during project planning, as noted above.



As documented in Appendix B (p. 313) of the Forest Plan, the estimated annual acres of timber harvest is not a commitment to take action and is based on the Forests' fiscal capability for Tier 1 objectives, while Tier 2 estimates are what may be possible with additional resources and capacity. Timber Standard TIM-S-23 (Forest Plan, p. 95) requires that even-age management occur only when stands have reached culmination of mean annual increment, which further limits where and when even-aged management may occur. See also the response to comments, Appendix A, p. 78.

The Forest Plan includes numerous monitoring questions to address the objectors concern regarding the ability to recognize adverse effects of harvest across ecozones. Forest Plan, pp. 291 to 292.

Objectors also assert that there is insufficient evidence that the proposed timber harvests to create young forest will mimic the effects, spatial scale and temporal variation of natural disturbances that they are intended to simulate. In response to this assertion, the Forest Plan includes an objective which states that "Young forest creation will be accomplished using both timber harvest and prescribed fire. Timber harvest will account for most (approximately 80% or more) of young forest creation during the life of the plan (Forest Plan ECO-O-02, p.70). In addition, the FEIS, p. 3-117 states that "Mechanical treatments have a higher probability of providing forest landscape structure of young forest and woodlands..." and "Although prescribed fire has a lower probability of restoration outcomes compared to mechanical treatments, it is a critical activity...". The FEIS, p. 3-122, also notes that commenters requested greater levels of prescribed fire that would create patches of young forests by deploying high severity burns, which is included in Alternative E. The draft ROD (p. 67) reiterates the analysis in FEIS and the logic of using both mechanical methods and prescribed fire to create early seral and open habitat, noting that "The EIS explains that to sustain a level of 360,000 acres of open canopy woodland, approximately 500,000 acres would need to be burned on a cycle of 75,000 or more acres per year. That is 10 times more than recent accomplishments on the forest, and more than the current levels in this analysis. Based on this analysis, it would be difficult in modern times to return to estimated NRV acres for open woodlands because of challenges doing prescribed fire at this scale, including burn barriers, smoke management, and land ownership patterns." Finally, the FEIS, p. 2-28 considered an alternative that would allow for only passive management of the Forests in which natural processes (such as fire and insects/disease outbreaks) dominate without human intervention.

In response to the remedies suggested by the objectors, the project record documents that the Forests put considerable thought and study into their decision to select 0.5 acres as the minimum patch size in the young forest analysis, as noted in the response to Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 2: Natural Range of Variation. Spectrum was not designed to analyze spatial habitat relationships such as landscape juxtaposition and interspersions; as such, the objectors requested remedy cannot be granted. However, the amount of and placement of young forest habitat would be taken into account during project planning. Several desired conditions also address small patches (Forest Plan, p. 51.) Monitoring questions MQ-2-1-T1 and MQ-2-2-T2 adequately address young forest conditions (Forest Plan, p. 291). In response to the objector's request that young forests be prioritized in the first 10 years of implementation, there are no Forest Plan requirements that, during implementation, management



for “open canopy woodland” must take precedent over management for “young forest.” Sequencing of habitat implementation is not prescribed by the Forest Plan but will be decided at the local level during site specific project implementation.

In response to the suggested remedy that the Forests must analyze the difference between human and natural disturbances, how vegetation would or would not mimic natural disturbances, and the impacts of regeneration harvest in view of larger/more intense natural disturbances, the responses to many of the objection issues included in this response document, the FEIS, Appendix A, response to comments and Appendix D, Vegetation Modeling Methods all adequately addressed the objector’s concerns. Appendix A, p. 39 specifically noted that “Appendix D of the FEIS includes detailed information regarding natural disturbances and how these were updated in the final EIS, including multiple scenarios under a changing climate that would result in increased disturbance levels.” As noted in the response to Climate Change Issue 3: Climate Change and Disturbance Regimes, it would be helpful to summarize in one location the process and rationale behind the disturbance analysis presented in Appendix D.

As for the suggested remedy that the Forests must consider the need for early seral forests when viewed through the lens of the broader landscape, see the response to Planning Issue 1: All Lands Approach to Planning and Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 2: Natural Range of Variation for a response to this suggested remedy.

**Instruction(s):**

See the instruction for Climate Change Issue 3: Climate Change and Disturbance Regimes for how the documentation could be clarified regarding the process and rationale behind the disturbance analysis presented in Appendix D.

## **OLD GROWTH NETWORK**

### **Issue 1: Logging in Old Growth and Defining Old Growth**

**Objector(s):** Kim Porter; Clay County Commissioners; Cynthia Simonds; Friends of Big Ivy; Forest Keeper; Buncombe County Board of Commissioners; Mary Ellis; I Heart Pisgah; Friends of Panthertown; North Carolina Forestry Association; Ruffed Grouse Society and American; Woodcock Society; Graham County; Center for Biological Diversity; Chattooga Conservancy; Southern Environmental Law Center et al.

Objectors are opposed to logging in old-growth areas of the Nantahala and Pisgah National Forests. The objectors argue that the new Forest Plan prioritizes logging over other management activities. They state that the ecosystem services and other qualities of biodiversity and clean water that old-growth forests provide are more valuable than the value of timber and pulp. They believe the Forest Plan does not adequately protect old-growth areas. Specifically, they are concerned the condition and quantity of old-growth will be compromised if logging in these areas is allowed in the new Forest Plan. One objector notes that the new plan will allow logging on approximately half of the forest or about 540,000 acres. Overall, the objectors believe there



should be stronger protections for old-growth and that the final plan should not allow district rangers discretion to cut old growth forests.

Objectors take issue with how the Forest Service determined what classifies as old-growth forest. They argue the Forest Service did not include small patch old-growth in their analysis of Alternative E which leads to thousands of acres being left out of the old-growth network and open to logging. They also claim that the Forest Service did not accurately model old-growth and natural disturbances which created an artificial need for timber harvests to achieve the NRV. One objector, the North Carolina Forestry Association, offers an alternative view. They argue that the Forest Service does not provide clear guidance for what qualifies as old-growth forest. The objectors attribute the unclear designation of old-growth as a reason for delayed timber sales. This objector does not believe that there should be stronger protections for old-growth.

Objectors from Clay and Graham County also oppose more areas being designated as old-growth. Passive management in old-growth concerns Clay County as they argue it leads to more wildfire, insect and disease hazards.

#### Remedy(s) proposed by Objectors

- The objectors request that old-growth areas of the forest are not logged and the Forest Service strengthens protections for these areas. In addition to strengthening protections for existing old-growth stands, the objectors propose that more areas with "significant" old-growth characteristics are added to the old-growth network. One objector believes the Forest Service should prioritize identifying existing old-growth stands based on the Forest Service's Region 8 Old-Growth Guidance. Existing and proposed old-growth stands should increase to 430,000 to 560,000 acres to attain the NRV of the forest, which they assert is required by the 2012 Planning Rule (36 C.F.R. §§ 219.8(a)(1); 219.19; 219.1(g)). Include the following areas in the old-growth network in the final Plan: "Mountain Treasure" areas, backcountry areas, NHNAs, old-growth patches from the previous forest plan.
- The Final Plan should not allow district rangers the discretion to cut old growth forests. The Forest Service should prioritize inventorying national forest lands to locate stands that qualify as existing old growth, based on the Forest Service's own Region 8 Old-Growth Guidance. The Forest Service should automatically protect these rare forest stands, and add them to a preserved old growth network. Do not give local district rangers the discretion to cut existing old growth. Further, all forest stands discovered to exhibit significant near-old-growth characteristics should be considered as candidates for old-growth restoration, and added to the old-growth network as merited.
- The Forest Service should decrease the old-growth network to 255,000 acres to not exceed the Desired Conditions established in the NRV model. The Forest should only include known old-growth stands and remove areas that do not qualify as "high-quality old-growth" from the network. Another proposed remedy they have is to implement a cap-and-trade system at the project level without exceeding 255,000 acres of old-growth.

## REVIEW FINDINGS



## **Law, Regulation and Policy**

36 CFR 219.7(e) - Requirements for the set of plan components; 36 CFR 219.8(a)(1) Sustainability and Ecosystem Integrity; 36 CFR 219.9 - Diversity of plant and animal communities; 36 CFR 219.10 - Multiple use. These elements of the Planning Rule require a land management plan to include plan component that “maintain and restore the ecological integrity” and “diversity of ecosystems and habitat types” while providing for ecosystem services and multiple uses. Old growth forests, as late seral states of forest development, are important components of a landscape with long-term ecological integrity and ecosystem diversity. They provide unique habitat types that contribute to the diversity and persistence of plant and animal communities. Therefore, the Planning Rule provisions for ecosystem integrity and diversity require consideration of the conservation of late seral and/or old growth forests.

Forest Service Handbook - FSH 1909.12, Chapter 20, specifically, 22 – Requirements for Integrated Plan Content; 23.11(a) – Natural Range of Variation; 23.11(b) – Ecosystem Integrity; and 23.11(d) – Ecosystem Diversity. The sections of the FSH emphasizes the need for plan components to “integrate social, economic, cultural and ecological considerations.” It also clarifies the role of NRV and provides discretion to the Responsible Official should it not be “appropriate, practical, possible or desirable” to base desired conditions on NRV. It also provides additional guidance regarding ecological integrity and ecosystem diversity. The directives recommend the consideration of “ecological conditions, habitats or key ecosystem characteristics in the plan area that are unique, under-represented or rare across the landscape.” The FSH further recommends the consideration of landscape patterns in the form of ecosystem patch configuration and representative range of successional states.

## **Project Record**

Draft ROD, p. 22 “Alternative E supports sustaining healthy ecosystems through a land management allocation that: Increases the size of the designated old growth network by more than 54,000 acres, up to about 265,000 acres. The adjusted designated old growth network includes all ecozones, moisture conditions, and elevation gradients. Alternative E would provide a larger designated old growth network than any other alternative; it would take several decades to achieve such a large network under any other alternative. This alternative includes more large old growth patches, thereby increasing the network’s overall resiliency and connectivity across the forests. Old growth conditions take decades to develop, and the establishment of this network will improve the forest’s ability to ensure the landscape develops old growth characteristics over time. (See FEIS, Chapter 3 Designated Old Growth Network.)

Draft ROD, pp. 43 to 45: Old Growth Management: This section of the draft ROD discusses the importance and rarity of old growth forests in the Southern Appalachians, the 1994 plan amendment regarding old growth and the different ways that alternatives for the revised plan dealt with old growth. It reviews comments to the draft plan related to setting the old growth network at the plan level versus adjusted in project level decisions and discusses old growth outside the designated network. It also discusses the pros and cons of a cap-and-trade approach that was proposed by the Partnership.



Draft ROD, p. 61 – “The question of whether the designated old growth network is the right size does not have a definitive answer in scientific literature (Ardron et al. 2010, Watson et al. 2016). The Forest has identified an ecologically sensible network, based on the Planning Rule concepts of ecological integrity, representativeness, redundancy, and best available science, that includes the full range of biodiversity and emphasizes large patches. The adjustments focused on increasing overall patch size for resiliency (White, Tuttle, and Collins 2018), overall network diversity (McGee and Kimmerer 2002, McGee 2018, Wyatt and Silman 2010, CCEA 1992, Margules and Pressey 2000, Noss and Copperrider 1994), and contribution to an efficient network (Kukkala and Moilanen 2013, Margules and Pressey 2000).

Draft ROD, pp. 64 to 67 - Natural Range of Variation: This section of the draft ROD summarizes the 2012 Planning Rule requirements regarding NRV. It explains the difficulty of analyzing NRV in the Eastern US noting where “land-use history is a much more important concept to consider than it is in many areas of the West.” It explains that it is not practical or possible to reintroduce fire to its historic role or achieve historic tree species composition (loss of American chestnut and decline of Fraser fir and eastern hemlock).

Draft ROD, p. 66 also states that “Rather than rely exclusively on the Natural Range of Variation which may not be attainable in modern times, the EIS analysis considered other methods of ensuring ecological integrity when establishing a designated old growth network. In particular, the EIS analysis considered representativeness of ecozones, moisture classes, elevation gradients, and habitat rare species; and redundancy of patch sizes across forest-wide geographic distribution when establishing a designated old growth network that would provide for the development of old growth characteristics over time.”

Forest Plan, p. 51 - ECO-DC-02: Some landscape patches develop mostly through natural succession and natural disturbance regimes. These patches are less frequently managed than other patches because of their location or because their desired management is relatively light. Due to the number and size of these patches, the areas are large enough for natural systems to evolve. High quality old growth characteristics develop over time and dominate these patches. A relatively small amount of management would continue in these lands, such as where the forest has uncharacteristic conditions that need to be restored.

Forest Plan, p. 66: Table 3 Mature Forests – terrestrial habitat desired conditions needed over many planning cycles – 535,000 to 730,000 acres, which includes 430,000-560,000 includes acres of old growth.

Forest Plan, pp. 84-86, Designated Old Growth Section, including:

Forest Plan, p. 84 - OGN-DC-01: A network of future old growth forests representing all ecozones and elevations are dispersed across the Forests in large, medium, and small patches. Large and medium patches provide habitats for forest interior species. Small patches function to improve the distribution or connectivity of a particular ecozone or species throughout the landscape or to support locally important conditions.



Forest Plan, pp. 84-85 - OGN-DC-02: Old growth characteristics shift over time, and disturbances are a natural part of the system. High quality old growth characteristics, such as large, downed woody debris, abundant snags, variable gap sizes, tip-up mounds, and undisturbed soils, etc., develop over time and are present.

Forest Plan, p. 85 - OGN-DC-03: Over decades, successional classes of the ecozones within the designated old growth network are primarily late-successional-open canopy, late successional-closed canopy, old growth-open canopy conditions and old growth-closed canopy structure, as appropriate by ecozone.

Forest Plan, p. 85 - OGN-O-01: Tier 2: Enhance or accelerate the development of old growth conditions over time, by actively managing 250 acres for each ten-year interval through activities.

Forest Plan, p. 85 - Management approaches: Methods for enhancing old growth condition could include increasing downed woody debris within all size classes by felling variable size trees, creating woodlands in appropriate ecozones by thinning and prescribe burning, enhancing the composition of native species, creating snags by girdling trees, and harvesting products as a side benefit of removing uncharacteristic vegetation.

Forest Plan, p. 85 - OGN-S-01: In patches identified as part of the designated old growth network, allow vegetation manipulation, including thinning, woodland creation and prescribed burns and limited soil disturbance, for the following purposes and with project specific analysis... - includes subsections (a) and (b).

Forest Plan, p. 85 - OGN-S-02: The size and configuration of the designated Old Growth Network that is defined in the forest plan shall be maintained through the life of this plan.

Forest Plan, p. 85 - OGN-S-03: In patches identified as part of the old growth forest network, allow new road construction only after all feasible and prudent alternatives have been analyzed in the NEPA process and all impacts to old growth characteristics are minimized.

Forest Plan, p. 86 - OGN-S-04: Permit only non-motorized trails in old growth patches.

Forest Plan, p. 86 - OGN-S-05: Lands in this network are not suitable for timber production.

Forest Plan, p. 291 - Monitoring Question MQ 2-3-T2 – What old growth characteristics are accruing in the designated old growth network.

FEIS pp. 3-383 to 3-413: Designated Old Growth Network, particularly p. 3-400, which states that "The shortleaf pine ecozone is the least represented in the Designated OG Network with about three times less than forest-wide; however, this ecozone only comprises about 4.5 percent of the Forests and active management is needed to restore shortleaf ecosystems which would be a challenge in the Designated OG Network."

FEIS, pp. 44-51: Appendix A Response to Public Comments - Old Growth.



FEIS Appendix B, pp. B-16 to B-34 – Analysis Methods for the Designated Old Growth Network.

Project Record – Old Growth Process for the Forest; Old Growth Alternative, dated 9/13/2021; Adjusted Alternative E Designated Old Growth.

## **Response**

The concern raised by objectors that the Forest Plan prioritizes logging over other management activities is not supported, as the Plan direction includes forestwide components to provide for integrated social, economic, and ecological sustainability and ecosystem integrity and diversity while providing for ecosystem services and multiple uses (Forest Plan, p. 1). The Forest Plan includes a specific section on old growth forests that “recognizes old-growth forests as a valuable natural resource worthy of protection, restoration, and management” (Forest Plan, p. 84), and clearly states in standard TIM-S-01 that “Timber production will not be the primary purpose for projects and activities and shall complement the ecological restoration desired conditions and objectives” (Forest Plan, p. 90).

As for the objector’s concern regarding logging in old growth, current and future old growth are afforded specific protections under the Forest Plan. As explained in the background section of the Forest Plan “Outside of the designated old growth patches, there will be other places on the Forests where active management does not occur over the life of this plan and where the Forests will generally age toward older seral stages. Those locations include management areas where active management is infrequent, such as designated Wilderness, Wilderness Study Areas, and Inventoried Roadless Areas. There are locations in more active management areas that will have limited human intervention, such as steep slopes, riparian areas, and inaccessible sites. These areas, in combination with the designated old growth patches, work together to ensure a network of old growth that is representative of and redundant for all ecozones, and by extension, resilient in the face of future stressors, such as wildfire, parasites, diseases, human disturbances, and climate change.” Forest Plan, p. 84. Within the network, plan components OGN-DC-02 and OGN-DC-03 support the development of high-quality old growth characteristics, while OGN-S-01 restricts active management (including thinning and prescribed fire) to activities that enhance old growth values and characteristics or to improve forest health or prevent the spread of disease (Forest Plan, pp. 84-85).

At the programmatic level of the Forest Plan, there is no specific guidance regarding management of old growth outside of the Designated Old Growth Network because the Forest Plan’s structure designed the network to represent the primary mechanism for conservation and development of old growth forest. At the project level, activities would have to follow management area direction. The Forest Plan provides flexibility to the line officer to select from different management approaches, including harvest of older trees and stands (Draft ROD, pp. 44-45). Under the selected alternative, the Designated Old Growth Network is static throughout the planning cycle and newly identified old growth outside of the network cannot be added to the network (Draft ROD, p. 44). However, it is important to note that the Forest Plan does not



authorize any specific management action such as logging in old growth; such authorizations would require a project specific NEPA analysis (see CFR 219.2(b)(2)).

As for the objector's concern regarding that the new plan will allow logging "on approximately half of the forest or about 540,000 acres," the FEIS, p. 3-563 clearly notes that "consolidated terrestrial ecosystems objectives in the plan that would use timber harvesting (regeneration and thinning), identify roughly 22,000 acres per decade (Tier 1) or up to roughly 47,000 acres per decade (Tier 2). This equates to approximately 2.1 percent (Tier 1) to 4.5 percent (Tier 2) of the total land base over a decade being impacted by timber harvesting." The FEIS goes on to state that "All of these totals are programmatic estimates, and site-specific conditions would likely further reduce the land operable for commercial timber harvest, including local topographic considerations, mitigations necessary for public health and safety, threatened and endangered species, rare ecological communities, cultural resources, scenery, and recreation."

In addition, the FEIS, p. 3-123 states that for Tier 1 (Alternative E): " For Tier 1, approximately 120,000 acres are assigned to regeneration prescriptions in Spectrum. The assumption is that about 120,000 acres of land would be managed systematically over 200 years in a mosaic of young, mid, and late seral states, and therefore would not advance to old forest seral states. Sustainable management of 120,000 acres in seral states of young, mid, and late would never reach desired conditions for young forest over the 200-year plan horizon." The FEIS, p. 3-124 for Tier 2 states that " At Tier 2 levels, the average per decade acreages of young forests is slightly below desired conditions in early plan periods and meets desired conditions throughout the remainder of the planning horizon. Regeneration for young forest averaged approximately 30,000 acres per decade over the planning horizon in the Spectrum model."

With regard to ecosystem integrity and diversity, the 2012 Planning Rule and associated FSH direction do not require the protection of all old trees, old stands or old growth. The Planning Rule does require plan components that maintain or restore ecological integrity of terrestrial and aquatic ecosystems and plan components that maintain or restore diversity of ecosystems and habitat types throughout the planning area (36 CFR 219.8 and 219.9). Therefore, conservation of later stages of forest development, which includes old growth, is required at the scale of the plan. The regulation at CFR 219.9(a)(2)(i) specifically addresses key characteristics associated with terrestrial and aquatic ecosystem types. As acknowledged in the FEIS (section 3.3.7) old forest and associated old growth characteristics provide important plant and animal habitat and contribute to biodiversity, soil productivity and hydrologic function of the landscape.

The Reviewing Officer decided to establish a representative Designated Old Growth Network which would include identified current old growth and provide opportunities for future old growth development. The process used to develop the network is described in the record and in Appendix B and the draft ROD summarizes the chosen management approach for the old growth resource (draft ROD, pp. 43-45). The size of the network was chosen to provide a distribution of patches and patch sizes across Geographic Areas, connectivity between patches, representation of all ecozones within the network, and be efficient to have the least impact on other multiple uses. Contrary to the objector's assertions, patch sizes in the designated old growth network include small patches as well as medium and large patches. The planning team estimated that an adequate, comprehensive and representative network would need to encompass approximately



25% of lands within the Nantahala and Pisgah NFs (Project Record, Old Growth Process Nantahala Pisgah pp. 1-3). The final Designated Old Growth Network encompasses 25.4% of the NFS lands and is part of a multiple use compromise between many different pressures and demands on NFS lands (draft ROD, p. 18-19; Project Record, Old Growth Process Nantahala Pisgah, pp. 7-8). This is responsive to the requirement for planning components for multiple use (36 CFR 219.10) and integration of social, economic, cultural and ecological considerations (FSH 1909.12, 22).

The development of the Designated Old Growth Network started with the network that is in place with the existing Forest Plan and added land from primarily passively managed Management Areas, wild portions of Wild and Scenic Rivers, mapped old growth from non-governmental organizations (NGOs) and certain North Carolina Natural Heritage Areas. This process left out certain old growth patches smaller than 100 acres that were submitted by NGOs or are part of the North Carolina Natural Heritage Program's Natural Areas (Project Record, Old Growth Process Nantahala Pisgah, pp. 1-2). The Forests acknowledge this as part of the integration of social, economic, cultural and ecological considerations described above. In addition, the Forests also disclosed that it does not have an inventory of all current old growth, but that it considered multiple information sources including those submitted by NGOs when developing the Designated Old Growth Network for the revised Forest Plan (FEIS Appendix A, p. 46).

While the Forests do not have an inventory of all current old growth as previously acknowledged, the current conditions of the proposed Designated Old Growth Network or the old forest trending landscape (OFT Landscape) is described where data is available. Approximately 211,503 acres of the proposed network is already in place as part of the 1994 plan amendment and 16% of this area is estimated to meet the minimum age for old forest for each of the 11 ecozones (FEIS, p. 3-388). The FEIS also notes that the forest is continuing to age outside of the designated old growth network and that the potential for old growth based on minimum age criteria for individual ecozones increases dramatically over the next 50 years. FEIS, p. 386. Of the 54,000 acres that were added to the old growth network from passively managed Management Areas, Wild and Scenic River segments that are designated as wild, NGO submissions and NC Natural Heritage Areas, the FEIS Appendix B, p. B-18 documents that some of these areas are likely trending toward old forest conditions, since they include old growth patches identified by NGOs as well as NC Natural Heritage Areas that were classified as Exceptional, Very High or High and included descriptions that documented old growth characteristics. Because of the limited data regarding how much of the network is providing old growth, the Forests included a monitoring question to monitor the development of old growth characteristics. Forest Plan, p. 291.

It should be noted that in the FEIS, p. 3-388, the analysis by ecozones appears contain a discrepancy because a range of 0.1% for Floodplain to 13.1% for Dry Oak cannot result in an average of 16%; this error should be corrected in the final documentation.

Objectors submitted a wide variety of ideas regarding the size of the Designated Old Growth Network. Some requested increased conservation of old growth forest to attain the NRV of 430,000 to 560,000 acres. Other objectors claimed that old forest would exceed the desired



conditions established in the NRV model under the chosen alternative. There is no requirement that NRV be met in a single planning cycle, and there is no evidence that an increased old growth network of 265,385 acres would cause old growth or old forest to exceed NRV within the planning cycle of 15 or 20 years. More importantly, however, objectors misunderstand the role NRV for land management planning.

Handbook directives do require consideration of NRV, but plan components do not need to be aimed at maintaining or restoring NRV “if it is not appropriate, practical, possible or desirable to contribute to restoring conditions to the natural range of variation” (FSH 1909.12, 23.11(a)). The Forests chose to not exclusively rely on NRV because of major changes in land use, disturbance rates, disturbance severity and forest composition compared to pre-European settlement (draft ROD, p. 66). The FEIS analysis considered representativeness and redundancy of patch sizes across the Forests to establish a Designated Old Growth Network. As allowed by FSH 1909.12, 23.11(a)(3b), the rationale to use NRV as well as other approaches is documented in the draft ROD on pp. 64-67. The FEIS, p. 383 outlines the terminology used in the FEIS, and documents the definition of old growth from the 1997 Region 8 Guidance.

Although several objectors oppose more old growth and protection of old growth, the Responsible Official provided the rationale for his decision to develop the old growth network, stating that “Old growth forests are currently rare in the Southern Appalachians” and also noting that he chose to develop the old growth network to “strategically enhance the network’s resiliency and ecological diversity” (draft ROD, p. 43-44). In addition, the response to comments addressed these concerns, noting that the FEIS analyzed a range of alternatives regarding the designation of old growth and consideration of old growth areas at the project level. In particular, the response noted that the additions to the old growth network included areas that were unlikely to impact opportunities for restoring young forests, creating wildlife habitat or providing economic benefits to local communities. FEIS Appendix A, p. 44-45. As for the concern about passive management of old growth, the Forest Plan allows for active management within the network to enhance old growth conditions as described in the objective OGN-O-01 and standard OGN-S-01. Forest Plan, p. 85. The concern raised by objections that the Forests did not accurately model old growth and natural disturbances which created an artificial need for timber harvest to achieve NRV in addressed in the response to Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 2: Natural Range of Variation.

The Responsible Official followed planning directives of FSH 1909.12, 23.11(a) and considered the role of NRV and appropriately disclosed the rationale for using alternative approaches to NRV for some plan components. Overall, the Responsible Official provided a robust analysis regarding the ecological representation of old growth (FEIS chapter 3.3.7; Project Record; FEIS Appendix B, pp. B-16 to B-34; Old Growth Process Nantahala Pisgah). This includes an analysis of patch sizes, geographic distribution and proportional representation by elevation and ecozones.

#### **Instruction(s):**

**Instruction:** Correct the statement of passively managing the Designated Old Growth Network on p. 48 of Appendix A, FEIS as active management is permitted in accordance with OGN-S-01.



**Clarification:** Provide consistent terminology regarding old growth, old forest, and old growth forest. For example, FEIS on p. 3-118 footnote 22 points out that the discussion in section 3.3.2.2 refers to “old forest” as seral state, not “old growth forest”, but the first paragraph of FEIS at 3-117 seems to address “old growth forests” as a seral state.

**Clarification:** Clarify statement regarding restoration of shortleaf pine ecosystems and the Designated Old Growth Network on p. 3-400 of the FEIS.

**Clarification:** Review the apparent inconsistency between Table 129 of the FEIS (section 3.7.7 p. 3-395) and Table 2 of the project file Old Growth Process Nantahala Pisgah. The numbers for alternative E Large and Large+ patches do not match. It would also be helpful to include patch size in acres in Table 129 for easier reference. Clarification: Correct analysis of how much of the existing designated old growth network meets the minimum age requirements for the 11 ecozones (FEIS 3.3.7 p.3-388 last paragraph; Alt\_compared\_DesOG\_PNV\_FSVeg\_100plus.xls)

## Issue 2: Old Growth Cap and Trade

**Objector(s):** Nantahala Pisgah Forest Partnership; Southern Environmental Law Center et al.

Objector Nantahala Pisgah Forest Partnership does not believe the Forest Service's proposed management actions regarding old growth meet the purpose and need and the desired conditions and objectives stated in the plan. The objectors proposed their own management actions and claim these actions are better suited to achieving the purpose and need. They proposed a 256,000-acre old-growth network, a process for identifying old-growth during projects, and a cap and trade system to maintain and improve the quality of the old-growth network. They state their proposal balances conservation of old-growth with management of these areas which allows for more projects to move forward without objection and benefits all interests.

Another objector states that the size of the old-growth network is fixed throughout the life of the plan. They disagree with this fixed designation as it does not allow for high quality old-growth forest to be added to the network if it is discovered during a project. They argue that a cap and trade approach is an appropriate solution to balance management objectives with opportunities to improve quality and habitat of old-growth forests.

They reject the Forest Service's position that a cap and trade approach is unfeasible because it would require an additional level of project surveys. They argue that under the Region 8 Old-Growth Guidance, the Forest Service already requires inventory at a project level and therefore would not require additional work.

The objectors also believe that the Forest Service already utilizes a cap and trade strategy when negotiating projects even if it does not name this process as cap and trade. The objectors use the Camp Branch project as an example of when the Forest Service used a cap and trade approach. Lastly, objectors argue that since there is no cap on how much old-growth can be logged, it is not possible to understand the cumulative impacts of logging and harvesting projects.



**Remedy(s) proposed by Objectors**

- Add a cap and trade approach to balance management activities with opportunities to improve quality and habitat of old growth.
- The objectors suggest a 256,000-acre old-growth network, a cap-and-trade approach for refining the network old-growth network and a process for identifying old-growth during projects.
- Including direction to identify whether a stand is old growth during the initial stand exam, using the George Washington National Forest protocols or a collaboratively developed protocol for the Forest.

**REVIEW FINDINGS****Law, Regulation and Policy**

See Old-Growth Network Issue 1: Logging in Old Growth and Defining Old Growth for a list of relevant laws, regulations and policies. See NEPA Issue 4: Response to and Consideration of Comments regarding relevant regulations on commenting/responding to comments.

**Project Record**

Old growth cap and trade is specifically addressed in the Draft ROD, p. 43, FEIS Appendix A, p. 47 and in the Project Record, 2021 0913 OG Alternative E briefing paper.

Draft ROD, p. 61 – “The question of whether the designated old growth network is the right size does not have a definitive answer in scientific literature (Ardron et al. 2010, Watson et al. 2016). The Forest has identified an ecologically sensible network, based on the Planning Rule concepts of ecological integrity, representativeness, redundancy, and best available science, that includes the full range of biodiversity and emphasizes large patches. The adjustments focused on increasing overall patch size for resiliency (White, Tuttle, and Collins 2018), overall network diversity (McGee and Kimmerer 2002, McGee 2018, Wyatt and Silman 2010, CCEA 1992, Margules and Pressey 2000, Noss and Copperrider 1994), and contribution to an efficient network (Kukkala and Moilanen 2013, Margules and Pressey 2000).”

**Response**

Old growth cap and trade is addressed in the draft ROD, in the Response to Comments (FEIS Appendix A) and in a project file (see citations above). The Responsible Official considered multiple options in the FEIS, including a cap and trade network where patches of high quality existing old growth found during project analysis could be added to the network in exchange for lower quality patches which would be removed. However, there is disagreement about the correct size of the network in addition to disagreement over the criteria used to add or remove patches. FEIS Appendix A, p. 47; Draft ROD, p. 43. Instead, Alternative E made strategic additions to the Designated Old Growth Network at the plan level, in lieu of future adjustments. FEIS Appendix A, p. 47; Draft ROD, p. 44.



The objectors reference a past project on the Forests where some designated old growth was removed and replaced with forest that did not have recent disturbance. This does not mean that there is a defined approach as to what should be removed from the network or added in.

The FEIS compares the effects of multiple old growth network sizes (FEIS, pp. 3-383 through 3-413). The Project Record document “Old Growth Process Nantahala Pisgah” outlines how the Forests developed the final Designated Old Growth Network of 265,385 acres; see also FEIS Appendix B, pp. B-16 through B-34.

How this Designated Old Growth Network conserves existing old growth and provides opportunities for development of future old growth is discussed under Issue 1 above. However, the project record was not clear on whether the Forests intend to survey stands for old growth characteristics as part of project specific NEPA. Region 8 Old Growth Guidance (1997) provides operational old growth definitions and guidance for project level surveys to identify old growth areas as part of forest plan implementation. However, the monitoring plan of the revised Forest Plan only addresses old growth characteristics within the Designated Old Growth Network (Forest Plan MQ 2-3-T2). Since the revised Forest Plan cites the Region 8 Old Growth Guidance multiple times there may be an expectation among the public that the forest is relying on the operational definitions and other guidance in this document.

The response to Old Growth Network Issue 1 above describes how the Designated Old Growth Network conserves existing old growth and provides opportunities for development of future old growth. Objectors contend that the Forests must survey for old growth during Forest Plan implementation through project-specific NEPA and then protect those areas. Region 8 Old Growth Guidance (Gaines et al. 1997) provides operational old growth definitions, describes methods for surveys to identify old growth areas for forest types across the region, and discusses management considerations related to old growth values. However, the Region 8 old growth guidance is not law or policy and does not require any particular Forest Plan components or plan implementation activities related to old growth. The guidance document is cited in the Forest Plan and EIS, and plan content was developed to be responsive both to the general goal of the regional guidance and to public concerns regarding maintaining and promoting old growth conditions. The Forest Plan primarily conserves old growth through a land allocation developed with many of the considerations in the guidance (i.e., the Old Growth Network”) and will not require project-level surveys for old growth patches. The analysis in the FEIS demonstrates that this approach will result in managing large areas of many forest types for existing and potential future old growth values. Implementation of the Forest Plan is subject only to plan components that are relevant for specific projects and, as such, there will be no required project-level surveys for old growth during implementation of the plan.

The Responsible Official followed the regulation at 40 CFR 1503.4 by considering the old growth cap and trade system and providing a detailed response as to why this was not included in the selected alternative.

**Instruction(s):** None.

### **Issue 3: Old Growth Passive Management and Closed Canopy Forests**



**Objector(s):** Ruffed Grouse Society and American Woodcock Society

The objector states there is conflicting data in Tables 42 and 45 of the FEIS. The figures in the tables are the acreage of old forest closed canopy seral states from passive forest management. Both tables use modeling towards passive management prescription, but the values appear inconsistent.

**Remedy(s) proposed by Objector**

- Explain why these numbers are not consistent across tables if they were modeled towards the same passive management prescription, to ensure the forests can reach its desired condition.

**REVIEW FINDINGS****Law, Regulation and Policy**

36 CFR 219.3 – Role of Science in Planning

40 CFR 1502.24 Methodology and Scientific Accuracy

**Project Record**

Table 42 of the FEIS at p. 3-125 – Amount of Old Forest Closed Canopy Seral States from Passive Management Over Time by Action Alternative (Acre)

Project Record – Alternative E Tier 1 Excel table.

**Response**

Objector correctly notes that there is an incorrect number in Table 42 of the FEIS for Alternative E under Tier 1 objectives after 200 years. Table 42 of the FEIS needs to be corrected. While the number is incorrect, the discussion in the FEIS is accurate and no correction is needed.

**Instruction(s):**

**Clarification:** Correct Table 42 of the FEIS where there is an acre discrepancy for Alternative E.

**ECOZONES****Issue 1: Conditions of Ecozones**

**Objector(s):** Friends of Panthertown; Nantahala Pisgah Forest Partnership; MountainTrue

Several objectors are concerned about the quality of several ecozone types and their departure from their natural range of variability. Specifically, one objector describes the unique qualities of



the ecozones in the Panthertown area. This area supports a federally listed species and other Species of Conservation Concern. The objectors state that there is an overabundance of white pine in these areas that are encroaching on native plant communities. They believe the Forest Service should create more open forest through mid- to late- seral stages in these areas. However, the objectors are concerned that the language in HD-GLS-02 to "reduce mesic species encroachment through prescribed burning and harvest at appropriate locations" is too broad (Forest Plan, p. 174). Objectors provide solutions that include their own management actions and believe these actions are better suited to achieving the purpose and need. Similar objections included concern over yellow pine and oak forests. They believe the yellow pine ecozones are in the most need of dire management. Another objection stated the need for more open-canopy in the pine and oak ecozones. The Nantahala Pisgah Forest Partnership is concerned that the Forest Plan does not go far enough in prioritizing treatments for increased open forest woodlands.

### **Remedy(s) proposed by Objectors**

- Objector Friends of Panthertown is concerned about the overly broad language of "appropriate locations" used in HD-GLS-02 and how it could affect Panthertown. They suggest explicitly restricting prescribed burning and timber harvest within 50 feet of system trails, outside of recreational corridors and away from Special Interest Areas.
- Remedies proposed by Objector MountainTrue include increasing the percentage of open-canopy forests in pine and oak ecozones.
- Objector Nantahala Pisgah Forest Partnerships suggests that priority treatments by ecozone be included in Objective Plan components and that the Forests revise the Integrated Ecosystem and Wildlife Habitat Objectives (ECO-O-02 thru 06), to include a reference to the collaboratively supported list of priority treatments. More specifically, "Include a Tier 1 Objective that 25% of regeneration harvest and 50% of thinning harvest would be listed priority treatments. At Tier 2, 50% of regeneration harvest and 75% of thinning harvest[...]would be priority treatments." Although individual projects would not be required to include priority treatments, half of the total regeneration harvest at Tier 2 would be priority treatments.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.7(e) - Plan components guide future project and activity decision-making.

FSH 1909.12, Section 22.1 provides guidance on the construction of and purpose of required plan components.

FSH 1909.12, Chapter 30 – Monitoring

### **Project Record**

Forest Plan, p. 1 describes the role of programmatic plans (vs project-level documents).



Forest Plan, pp. 71-73 - Integrated Ecosystem and Wildlife Habitat Management Approaches provides the reader with intent behind ecosystem management and emphasizes specific priorities and tools for accomplishing these objectives.; specifically reference considerations around recreation values.

Forest Plan, p. 175 - Highland Domes Geographic Area lists Panthertown Valley goals.

Forest Plan, pp. 223-224 - Management Area: Ecological Interest Areas contains EIA-related plan components and management approaches.

FEIS, p. 1-8 further describes the differences between plan-level and project-level environmental analyses.

## **Response**

Because objectors raised concerns about the degree of flexibility given to project-level decisions within the framework of the Nantahala and Pisgah National Forests Land Management Plan, it is important to reinforce the distinction between the roles of forest land management plans and site-specific, project-level planning, as supported by regulation and policy.

Forest plans are strategic in nature, making general decisions that are often referred to as programmatic decisions. That is, they provide the framework for integrated resource management and guidance for subsequent project and activity decision making for the Forests. Forest plans do not compel the agency to undertake any site-specific projects or guarantee specific outcomes, and they do not prioritize projects or activities. Rather, plans establish overall desired conditions and objectives that the individual national forest strives to meet. The regulation at 36 CFR 219.7(e) states that forest plans provide forest-specific guidance and information for project and activity decision making over the plan period, generally considered to be 10-15 years. Forest plans also establish limitations on what actions would be authorized and what conditions would be met during project level decision-making. Project-level environmental analysis will still need to be completed for specific proposals to implement the direction in the forest plan.

Priorities, or the focus of forest management, fit within the framework set forth in the forest plan and are developed and reassessed continually by forest leadership in collaboration with the public. Within the constraints of the Nantahala and Pisgah National Forests Land Management Plan, management adapts to achieve the vision that the forest plan lays out through desired conditions and objectives. Decision making is informed by feedback from monitoring that actively tests assumptions, tracks relevant conditions over time, and measures management effectiveness.

The Forest Plan, pp. 50-53 and 69-73 describes how terrestrial ecosystems will be managed based on ecological restoration priorities and describes integrated ecosystem and wildlife habitat objectives and management approaches that document how the Forests considered the social, economic and ecologic sustainability of the Forests. Priority treatments by ecozone, such as those requested by objectors, are already included in the plan's integrated management



approaches that outline priorities and tools for accomplishing work within groups of ecosystems, organized by moisture regime. This topic is further addressed in Planning, Issue 12: Prioritizing Tiered Objectives, above. Project-level planning is typically site specific and includes development of on-the-ground projects and activities that are designed to achieve the desired conditions and objectives of the forest plan. Projects and activities must be consistent with the forest plan. Project-specific analysis and decisions are still required to follow appropriate procedures. For example, site-specific project analysis required by the National Environmental Policy Act will be conducted to enact proposed activities on the ground, which will ensure compliance with the broader direction of the forest plan. Aided and informed by plan level monitoring, cumulative project outcomes move the Forests toward desired conditions outlined in the forest plan. Therefore, if the concerns that the objectors raise linger at the time a new project is being proposed, that would be the appropriate time to raise these issues.

One objector was concerned about the broad language used in plan components that may be interpreted to allow activities that could impact recreationists' experiences in Panthertown. Because this concern is specific to one geographic area, a more detailed response is warranted. In addition to the explanation above about the programmatic nature of forest plans, it is also worth noting that all management areas in Panthertown Valley (Ecological Interest Area, SIA, Matrix) emphasize resource objectives and include additional restrictions limiting treatments such as timber harvest. Plan direction is in place to maintain or restore ecological resilience, and to protect Forest resources including rare species and recreational values. Note that Ecological Interest Areas (the management area allowing the greatest flexibility in treatment options) benefit from a management style that is focused on restoring and improving the unique values present, including perpetuating or enhancing plant or animal species and communities that are of national, regional, or state significance. Top priorities in this management area would be to restore community composition by treating stands with uncharacteristic vegetation. In addition, HD-GLS-14 (Forest Plan, p. 175), plan direction specific to the geographic area in which Panthertown Valley resides includes the following: "Emphasize management actions that support and sustain the unique scenery, recreation activities, and experiences for visitors engaged in sightseeing, hiking, horseback riding, mountain biking, fishing, and climbing."

Additionally, for all vegetation management and prescribed fire activities, treatments around concentrated recreation sites will consider the recreation values and visitor safety of the areas.

See also the response to Special Interest and Designated Areas Issue 3: Panthertown Management Area Allocation.

Objectors are seeking management direction better suited at the site-specific project level. They will have opportunities to provide comments on and potentially help shape the design of future projects on the Forests. There is sufficient plan direction that address concerns at a programmatic level and no changes are required.

**Instruction(s):** None.

## **Issue 2: Impacts to Ecozones by Natural Disturbance**



**Objector(s):** Center for Biological Diversity; I Heart Pisgah

The objector's main concern is that the Forest Service does not consider how natural disturbance impacts different ecozones when making management decisions. They argue that each of the eleven ecozones the Forest Service identifies have unique recovery rates and return intervals. However, they state that there is minimal discussion of how these disturbances impact the ecozones in the Plan. For example, they list the types of disturbance that occur in the northern hardwoods ecozone. The objectors claim that although there is acknowledgement of these disturbances, there is no discussion for how these disturbances impact the ecozone. Since the Forest Service proposes various restoration activities to benefit structural development and promote diverse habitat in the northern hardwoods, the objectors argue the Forest Service must also analyze how disturbances work in tandem with management activities when trying to achieve the desired condition.

By not evaluating disturbance impacts, the objectors claim there is a risk of moving away from the natural range of variability. They are specifically concerned in areas where there are large amounts of logging. They note that the Forest Service uses vegetation management to augment natural disturbances to promote ecosystem resiliency, but it will exceed the natural range of variability if it does not also consider how natural disturbances modify forest structure and composition.

Another concern regarding disturbance impacts to ecozones is evaluating the effects climate change will have on natural disturbances. The objectors state that with climate change, there will be more intense and frequent storms and wildfires as well as more severe insect outbreaks. The objectors say there is a need for the Forest Service to consider the potential for an increase in natural disturbances so their management actions do not augment natural disturbances if it is not necessary. The objectors feel strongly that if the Forest Service does not analyze how disturbance impact ecozones and where these disturbances are most likely to be significant, improper forest management may result and cause poor forest conditions. As one objector points out, ensure there is an "accurately account for natural disturbance and old-growth forests in all modeling."

**Remedy(s) proposed by Objectors**

- The objectors propose that when the Forest Service is determining vegetation management plans, it should include sideboards that consider the effects of natural disturbance and where, when, and how management options should be pursued in different ecozones.

**REVIEW FINDINGS****Law, Regulation and Policy**

36 CFR 219.3: "The responsible official shall use the best available scientific information to inform the planning process required by this subpart."



36 CFR 219.6(b)(3): System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.

36 CFR 219.12(vi): Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.

NFMA 16 U.S.C. 1604 (g)(3): requires the Forest Service to “[specify] guidelines for land management plans developed to achieve the goals of the Program which [...] insure that clear-cutting, seed tree cutting, shelter wood cutting, and other cuts designed to regenerate an even-aged stand of timber will be used as a cutting method on NFS lands only where [...] the interdisciplinary review as determined by the Secretary has been completed and the potential environmental, biological, esthetic, engineering, and economic impacts on each advertised sale area have been assessed, as well as the consistency of the sale with the multiple use of the general area.”

## **Project Record**

FEIS, pp. 3-21-22: Desired conditions and management approaches with increased responsiveness to climate change.

FEIS, p. 3-104: describes brief foundation of ecozones and their management.

FEIS, pp. 3-107-108: introduces role of Spectrum model and how in addition to modeling the alternatives, several climate scenarios were developed that changed the natural disturbance patterns. This was used to estimate potential changes to management goals under different levels of natural disturbances.

FEIS Appendix A - Response to Comments addresses a variety of comments related to natural disturbance. FEIS Appendix A at pp. 9, 12-14, 18, 38-40, etc.

FEIS Appendix D. p. 2-3: Vegetation Modeling Methods describes how disturbance was incorporated into vegetation in greater detail.

FEIS Appendix D, p. D-8: Several climate scenarios were developed that changed the natural disturbance patterns. This was used to estimate potential changes to management goals under different levels of natural disturbances.

FEIS Appendix D, pp. 44 - 45: describes how the disturbance “prescription” was added to the models under the identified disturbance scenarios as well as the addition of a moisture class being added as a category reported out by forest type (Table 20).

FEIS Appendix D, pp. 19 - 23: describes modeling of future disturbance scenarios.

Draft ROD, p. 61 and pp. 65-66 addresses treatment of disturbances in the plan and in analysis.



Forest Plan, pp. 31-32 describes desired conditions and management approaches to take to adapt to increasing threats from natural disturbance.

Forest Plan, pp. 50-64, Terrestrial Ecosystems section, Wildlife Habitat Across Terrestrial Ecozones (Forest Plan, pp. 64-69) and Integrated Ecosystem and Wildlife Habitat Objectives (Forest Plan, pp. 69-73) outline plan components and management approaches that describe desired ecological conditions by ecozone as well as integrated management actions to help achieve these and provide high quality wildlife habitat resilient to increased threats from natural disturbance. Restoration objectives could be met using passive or active management strategies.

Forest Plan, pp. 296-297 and MQ 6-5-T2: What disturbances have occurred across the forests what proportions are natural disturbances? Indicators – number, type and degree of disturbances and proportion of that are natural disturbances; evaluation of disturbances on geophysical settings, ecozone, species at risk, unique or special habitats, recreational uses. Reporting Period - 6-years.

## **Response**

Because the objector expressed concern about natural disturbances not being evaluated for each ecozone, it is important to point to FEIS Appendix D Vegetation Modeling Methods that describes the treatment of ecozones in the various modeling efforts in detail. Many factors influence resiliency of the natural systems, and the Forests took steps to address and accommodate a range of disturbance factors and levels and their potential effects on the Nantahala-Pisgah's forest types and ecozones. There were some limitations on the parameters that each of the models could accommodate and still produce meaningful results. While the eleven individual ecozones were able to be run in ST-Sim and the NRV models, Forest Inventory and Analysis (FIA) forest types were used in the Spectrum models (Appendix D, p. D-2 notes that adding ecozones to the Spectrum model would produce too many analysis units for the model to properly function). These forest types were then cross-walked to ecozones. While not the cleanest crosswalk based on temporal differences and groupings of models, comparisons can still be made and interpreted at the ecozone level. Per an instruction in Timber Issue 1, the forest is adding a more complete explanation of the crosswalk between Spectrum FIA types and ecozones. A description of how and why forest type groups were used in lieu of ecozones is also provided. Appendix D, pp. 19 - 23 describes modeling of future disturbance scenarios.

There is additional documentation in the project record that addresses varying degrees and types of natural disturbance in the modeling, analyses, plan components, and the draft record decision. Specific pages are referenced above.

Discussion about the treatment of disturbance in the development of the Forest Plan can be found in the response to Climate Change Issue 3: Climate Change and Disturbance Regimes. More specifically, please reference the discussion about how the Forests updated assumptions about disturbances in the models in response to comments received on the earlier draft of the EIS. The response describes how disturbance and responses to disturbance through adaptation, are addressed in several planning documents including the FEIS and accompanying appendices, the Forest Plan, and the draft ROD. The response also dives deeper into aspects of the modeling



specific to disturbance. Monitoring questions (MQ 6-5-T2) are in place regarding the role natural disturbances play on the Forests.

In response to the remedy suggested by the objector, project-level analyses will be completed for proposed vegetation management projects tiered to the Forest Plan and the analyses will consider local conditions specific to that particular ecozone, historical responses to disturbance, both natural and anthropogenic, as well as what management actions, if any, would be appropriate to meet or move toward the plan's Terrestrial Ecosystem objectives and desired conditions. These evaluations will consider projections of future conditions and consider specific characteristics at the site that would affect resiliency. The project level analysis is the point in the process when specific actions are considered and decided upon.

**Instruction(s):**

See Climate Change Issue 3: Climate Change and Disturbance Regimes for instructions.

## **REFORESTATION AND SILVICULTURAL ACTIVITIES**

### **Issue 1: Silviculture and Reforestation**

**Objector(s):** Ruffed Grouse Society and American Woodcock Society; MountainTrue

The objector contends that the assumptions about how group selection openings were accounted for in the analysis resulted in an unsupported effects analysis and they raised several issues related to the location, objectives and effects of proposed silvicultural activities.

Objector Ruffed Grouse Society and American Woodcock Society claimed that the Spectrum model falsely assumes that open forest woodlands will be created and maintained in certain places in perpetuity, which they state is inconsistent with the multiple-use goals of the Forest Service. They also note that areas with shelterwood harvest or shelterwood/burning would be converted to open forests temporarily until the overstory is removed, at which time the stand would be considered young forest. They suggest that the plan needs to capture open forest conditions that would be created and maintained across the landscape and that the goal should not always be a woodland structural maintenance. The objector also claimed that the proposed group selection harvests would not contribute to landscape age-class diversity and should be larger ("minimum of 1 acre per young forest patch").

Objector MountainTrue presented a detailed analysis of forest types and the potential for silviculture to improve structural and compositions characteristics. Overall, the objector suggested that focusing on harvesting uncharacteristic vegetation (i.e., forest types that are not the most desired for a given site) would allow the Forest's to harvest timber and restore more desired tree species and habitats. An example is provided by an objector, "some excellent examples of U-class vegetation include: plantations, upland forests with > 30% dominance of white pine, poplar dominated oak ecozones, and low elevation pine-oak forests where yellow pines have been replaced by white pine and hardwoods. The acreages of these types of vegetation are significant and provide a low conflict opportunity for meeting the multiple use objectives of the forest."



## Remedy(s) proposed by Objectors

Specific suggestions by Objector Ruffed Grouse Society and American Woodcock Society include:

- The Plan needs to capture that open forest conditions will be created and maintained differently across the landscape. The goal should not always be woodland structural maintenance, and many stands that receive thinning and burning might be harvested at some point in the future.
- The Spectrum model should incorporate multiple trajectories towards achieving open forest conditions long-term. For example, 1) open forest created as part of a shifting mosaic of long-term silvicultural rotations in Matrix and 2) open forest created and maintained as woodlands in Backcountry. This should include an option for timber harvesting in prescribed burn units.
- Group selection treatments should not be included as contributing towards young forest conditions in the Plan unless the quantity, arrangement, interspersation, and juxtaposition of patches is considered and the treatment is implemented as a patch selection, wherein there's a minimum size of 1-acre per young forest patch.

Specific suggestions by Objector MountainTrue include the following:

- Focus timber harvest/regeneration on uncharacteristic vegetation in the High Consensus Management Area 1.
- Carefully restore spruce-fir forests in Flat Laurel Creek, Bearwallow Inventoried Roadless Area and stream corridors over 4,000 ft in the Balsam Mountains where hemlock is declining.

## REVIEW FINDINGS

### Law, Regulation and Policy

36 CFR 219.9 – the plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, compositions and connectivity.

36 CFR 219.10 Multiple Use

36 CFR 219.11 Timber requirements based on the NFMA

### Project Record

Forest Plan, p. 66 - Analysis that shows how much young forest is created relative to the Desired Condition (Table 3). This includes for Alternative E (at least) 33% of group selection harvest area contributing toward this Desired Condition. See also the FEIS, p. 3-120, Table 33.

Forest Plan, pp. 71 through 73 – Integrated Ecosystem and Wildlife Management Approaches.



Forest Plan, p. 291 – MQ 2-2-T2 – monitoring question regarding the trend in open forest conditions, measured by acres, location, and percent of open forest by ecozone and forestwide.

Forest Plan, p. 313 - Appendix B, Table B-4 Estimated Vegetation Management Practices. Summarized by “Even-aged/Shelterwood”, “Intermediate” and “Rx Fire”.

FEIS, p. 3-532 - Table 206 defines Group Selection as mimicking gap formation: Group Selection: Installing groups within a cove forest dominated with tulip poplar to mimic gap formation.

Appendix D at p.16: Gap analysis; Gaps are < 0.5 acres.

Appendix D at p.46 describes how group selection contributes to young forest: Group Selection – Further clarification of the group selection acres that contribute to young forest was made in Alternative E. When young management was calculated as an output of the model the acres of group selection (represented by the OtherHarvestAcres output) was multiplied by 0.33 to approximate those acres with the group selection analysis unit that were converted to young forest in the entry.

#### Appendix D – Spectrum Modeling

Appendix D, p. 7: Group selection – 1/4 acre.

Appendix D, p. 13: “For the purposes of this analysis, we define a young forest along the gradient from stand-replacement to fine scale. The disturbance should be of sufficient size to allow abundant sunlight to penetrate to the forest floor and thereby provide the opportunity for a well- developed ground or shrub cover and a tree component. The young forest would be patch of at least ½ acre with recent severe disturbance such that no mature canopy exists. It is a size where lateral crown expansion would not be a factor in canopy closure. This patch size creates edge for multiple species, but allows enough open space that recruitment of new, young individuals is available. The minimum patch size is less than stand replacement disturbances but larger than fine scale disturbances. It is less than the 1-acre minimum size used by Resources Planning Act Assessment for defining a forest, but it meets the policy of the minimum size for a regeneration unit using group selection in southern Appalachian forests. It provides for a wide range of wildlife species to use these patches.”

#### Response

As for the objector’s assertion that open canopy woodlands are maintained into perpetuity in the FEIS, the FEIS, p. 3-128 describes the current status of open canopy woodlands and notes that the 500-acre Buck Creek Serpentine Barrens are the only known managed woodlands on the Forests, and that it took 15 years to reach an open canopy woodland condition. The FEIS, p. 3-129 notes that “In Alternative E, another category of woodlands was estimated: ephemeral woodlands. Ephemeral woodlands are created by active management or natural disturbances and are not maintained through repeated or periodic burning. Gap clusters, which are small gaps that



occur at high densities for a given area and appear to be in a woodland-like condition are one example. This analysis assumed that wildfire creates woodland like conditions that are ephemeral because repeated periodic fire on the same area is not assured.” These excerpts from the FEIS document that the Forests are not maintaining all open canopy woodlands into perpetuity as implied by the objector.

Appendix D-46 describes how group selection contributes to young forest, noting that “Further clarification of the group selection acres that contribute to young forest was made in Alternative E. When young management was calculated as an output of the model the acres of group selection (represented by the OtherHarvestAcres output) was multiplied by 0.33 to approximate those acres with the group selection analysis unit that were converted to young forest in the entry.” For clarity, the Forests could elaborate on this explanation. Shelterwood harvest systems are either 2 or 3 steps systems that at final harvest results in a young forest. Neither harvest system is intended to maintain an area as young forest or open forest.

The Forest Plan, p. 303 documents that the Tier 1 objective for open forest woodland conditions is 300-600 acres annually, while Tier 2 objectives call for annually thinning and burning 600-900 acres of open forest woodland conditions. In addition, the Forest Plan, pp. 71-73 include Integrated Ecosystem and Wildlife Habitat Management Approaches specific to the objector’s suggestion for removing addressing uncharacteristic vegetation.

For a response on gap size, see the response to Ecological Integrity, Natural Range of Variation and Early Seral Habitat Issue 2: Natural Range of Variation. See also the response to Timber Issue 6: Allowable Sale Quantity and Projected Timber Sale Quantity.

The objector’s detailed suggestions for spruce/fir restoration is a site-specific method that could be evaluated and implemented during project-level planning and would incorporate the latest science.

**Instruction(s):**

**Clarification:** Explain how group selection prescriptions were counted toward the young forest objective.

## **TIMBER**

### **Issue 1: Spectrum Model**

**Objector(s):** Southern Environmental Law Center et al.

Objectors assert assumptions used in the Spectrum model are insufficient to support analysis conclusions in the final EIS. They assert that the analysis for the plan, and therefore the plan itself, is flawed because the plan does not account for sequential activities on the same acre. Instead, the plan consists of "management lock" by which each acre has a very specific purpose and does not account for multiple treatment types for a single acre. The objectors note that "This arbitrary limit distorts the Forests' choices and analyses. It likely causes Spectrum to "need" a



larger suitable base to meet its treatment objectives than a realistic model of management activity would require: Acres that could accommodate (or even benefit from) multiple treatment types are not permitted to pull double duty, even after many decades have passed. Spectrum is therefore forced to spread treatments over a larger suitable base, which we suspect biased the decision in favor of expanding the suitable base dramatically in the Plan. In a very real sense, Spectrum is therefore incapable of modeling management scenarios that would actually restore forests at the ecozone scale."

The objectors also believe that "...the difference between the acres assigned to "ecozones" and to "forest type groups" is so vast that it appears the Forests could not possibly have used the Spectrum model to determine the effects of plan components by ecozone" noting that "The most significant divergence involves the Forests' cove/mesic oak ecozones and the dry-mesic oak ecozone. Coves and mesic oak (within the ecozone framework) together account for 616,000 acres of the 1-million-acre landscape. These are the real-life acres of these forest types. Yet Spectrum recognizes only 232,000 acres as belonging to the single crosswalked forest type group into which those three ecozones (acidic cove, rich cove, and mesic oak) are merged (10CvHw, or "cove hardwood")." FEIS App. D p. D-3.

The objectors assert that the Plan comes up short in "providing for" NFMA's ecological goals, while the FEIS fails to analyze the full range of possible environmental impacts the Plan authorizes. They contend that because the FEIS only analyzes a single possible scenario within the Plan's much broader grant of discretion, it is unknowable whether the impacts it analyzes are the "actual" or even "probable" impacts of the Plan's implementation, as NEPA requires. The objectors provide examples of multiple treatments or scenarios such as prescribed fire and regeneration of forests that should be able to occur on the same acres.

### **Remedy(s) proposed by Objectors**

- Supplement the FEIS and modify the Plan's components to show that the 2012 Planning Rule's obligations will be met.
- If the Forests continue to rely on Spectrum, it will have to be reworked from scratch.
- As an alternative, adopt the Partnership alternative to avoid the problems discussed above.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.8 – Sustainability, including ecological sustainability

36 CFR 219.10 – Multiple Use.

36 CFR 219.11 – Timber Requirements based on the NFMA.

FSH 1909.12, 61 – Identification of lands not suitable and suitable for timber production.



FSH 1909.12, 64.32 – Projected Wood Sale Quantity (PWSQ), Projected Timber Sale Quantity (PTSQ), and Quantity of Timber Sold.

FSH 1909.12, 65.1 – Disclosure of Forest Vegetation Management Practices

### **Project Record**

FEIS, p. 3-107 and 3-108: “To analyze the alternatives of the EIS on vegetation, Spectrum software was use.” and “Some outcome measures were used as inputs in the ESE tool.”

FEIS, pp. 3-133 to 3-176 - Ecozones analysis.

FEIS, pp. 3-525 to 3-549 – Timber Resources Analysis.

FEIS Appendix B – Timber suitability analysis, analysis of lands potentially impacted by timber operations.

FEIS Appendix D – Vegetation modeling methods.

Project Record - NPFP Modeling Presentation – Power Point; FVS modeling documentation titled Keyser and Rodrigue 2014 FVSMModelingTechniques\_Final - Describes management alternatives available in the Spectrum model. This includes a mix of both silvicultural systems (including even-aged management options with intermediate treatments) as well as the timing choices available for each system. Several of these types indicate that management and prescribed fire are a part of the same prescription (e.g., Count 61 and 62). Additionally, the Spectrum model was allowed the choice of no treatment, including a “succession only” and “natural disturbance” option (Alt E).

Project Record - 2020.05.04 deep dive Q&A timber calculations, p. 8- “...there is not an exact match of forest type groups to Ecozones, especially since we do not have a current inventory of ecozones. An estimate of forest type to ecozones was made as a first approximation of the successional classes, and these were adjusted in the ESE model based on professional judgement.”

### **Response**

“Management lock” is a term for the solution to a standard Model 1 formulation used by the Spectrum model, as noted in Appendix D, p. D-7, which states that “When some portion of an analysis unit is assigned to a management action, that assignment is assumed to continue through the entire planning horizon.” The practice of enumerating full cradle-to-grave Model 1 prescriptions is an established and common practice in ecological modeling. Both the project record Forest Vegetation Simulator documentation and the narrative in Appendix D, p. D-7 indicates that “For any analysis unit...a range of management prescriptions...are made available.” In other words, while the model solution represents a “locked” prescription for an analysis unit, the model chose from a menu of possibilities that were not a pre-locked solution. Furthermore, the FVS documentation in the project record (Keyser and Rodrigue) indicates that



many prescriptions included prescribed fire; therefore, the Spectrum model had the opportunity to schedule both activities in a single yield stream.

For more clarification on this topic, the Forests could add to their record the seminal paper on forest management modeling “Techniques for Prescribing Optimal Timber Harvest and Investment Under Different Objectives – Discussion and Synthesis” (Johnson and Scheurman, 1977). This paper describes the standard Model 1 formulation which tracks an acres’ full cradle-to-grave implementation, referred to above as “management lock.”

As for the relationship between “Lands Potentially Impacted by Timber Operations” and the Spectrum model, Step 1 and Step 2 are included in in analysis unit acreages, not the supplemental suitability analysis. The timber suitability analysis clearly followed the guidance from FSH 1909.12, Chapter 60, which unlike the direction in the 1982 rule, does not factor in the financial feasibility of timber production. FEIS, p. 3-540. Therefore, the Lands Suitable for Timber Production was not dependent on the outcome of the Spectrum model as the objector surmises.

The objector states that the acres do not match in the crosswalk between cover type and Ecozone and that the Spectrum outputs based on cover type could not have informed the effects analysis, which is based on Ecozone. They assert that the most problematic crosswalk is the difference between the cove & mesic oak aggregated Ecozone and the “Cove Harwood” cover type (approximately 400,000-acre difference). Ecozone effects described in the FEIS are a result of the ESE tool outputs. While the FEIS, p. 3-108 acknowledges the difficulty in creating a “clean crosswalk” between ecozones and cover type, footnote 20 on page 3-108 notes that “Forest Inventory and Analysis (FIA) forest types were cross walked to modeled ecological zones based on a 2012 collaborative effort that involved state and research partners. Refer to the FEIS Appendix D, table 1B.” The FEIS notes that some Spectrum outputs were used as inputs in the ESE tool; this could use further explanation. While Appendix C states that in step 4) “Estimate outcomes of the indicators for each Alternative,” there is another statement in the timber deep dive document which states that “An estimate of forest type to ecozones was made as a first approximation of the successional classes, and these were adjusted in the ESE model based on professional judgement.”

**Instruction(s):**

**Clarification:** FEIS Appendix B – Add additional explanation to the Timber Suitability Analysis, including an introduction a brief description and the end product depicted in the table. Ensure that the steps and factors are linked to a line in the suitability table. Ensure that 2012 rule terms are used appropriately; “tentatively suitable” is out of data and “step” and “stage” should not be used interchangeably.

**Instruction:** Add the seminal paper on forest management modeling: Techniques for Prescribing Optimal Timber Harvest and Investment Under Different Objectives – Discussion and Synthesis (Johnson and Scheurman, 1977) to the record.



**Clarification:** Appendix D, Table 6 and associated narrative should indicate how multiple activities are included in yield streams. For example, “Clearcut with High Retention” may include a prescribed burning activity at which intervals(?) in the appropriate forest type(s).

**Instruction:** Include Alternative E in the “Model Contents and Structure” section of FEIS Appendix D, particularly to Table 5, p. D-6.

**Clarification:** The Forests should describe in the Appendices how the Spectrum outputs were used to inform the ESE tool and how the discrepancy between the cover type and ecozone crosswalk was addressed.

## **Issue 2: Forest Products and Open Woodland Desired Conditions**

**Objector(s):** Ruffed Grouse Society and American Woodcock Society; North Carolina Forestry Association

Objector states that the Plan's Integrated Ecosystem and Wildlife Habitat Objectives for thin and burn treatments to attain open forest woodland conditions are very low. They point out that desired conditions for open forest woodland conditions will never be attained based on the Spectrum model and the NRV model. However, they contend the Plan assumes that more "thin and burn" treatments will be applied non-commercially than through commercial timber harvesting, apparently because of poor site quality and remote locations.

Another objector also has concerns about the Forest Plan's ability to provide for open forest woodland conditions through its modified use of thinning and burning treatments in comparison to the original plan. This objector cites the Forest Plan and FEIS where spectrum modeling predicts only 85,635 to 187,450 acres will be restored and maintained as open woodlands, whereas desired conditions based on NRV are to maintain 360,000 to 480,000 acres as open woodlands.

The position both objectors take is that if more treatments were to take place to provide open forest woodland conditions, the local economy would thrive and be less likely to expand their reach into older forests and the desired conditions of the plan would be met. The objectors are also concerned that there is a misunderstanding of the local mill's ability to process forest products and would like everyone to understand that in the long run both the community and the environment would be better off if everyone supported their local businesses.

The North Carolina Forestry Association points out that the “non-commercial approach appears to be based on an incorrect assumption that regional partners, with access to small diameter harvesting equipment and established pulpwood markets, are not functional enough to meet higher levels of treated acres. This is a missed opportunity for low-grade forest product markets to support a cost-effective efficient means to achieve desired conditions. As presented in NCFA Comments on the Draft EIS, there is an extremely robust local market for small diameter wood that supports the pulp and paper industry, and regional biomass power boilers, consuming well over 2 million tons of small diameter wood fiber annually. This local market demand for small diameter wood, has been well established for over 116 years and is projected to remain well



beyond the life of this current forest planning cycle. When these small diameter wood markets cannot rely on adequate local supply of wood fiber, they are forced to extend their procurement reach, thereby consuming more fossil fuel and resources than would otherwise be necessary if there was a dependable, functional, and predictable supply of projects focused on Open Forest Woodland creation on the Nantahala and Pisgah National Forests.”

### **Remedy(s) proposed by Objectors**

- The Plan should increase the objectives for thin and burn treatments to attain open forest woodland conditions, and increase the amount of thin and burn treatments that can be completed with commercial timber harvesting.
- The Plan should increase commercial wood utilization from existing forest product markets (pulpwood) and emerging forest product markets (woody biomass) for small-diameter, low-grade wood products.
- The Plan should support an increase in commercial wood utilization from existing forest product markets (pulpwood) and emerging forest product markets (woody biomass) for small-diameter, low-grade wood products.
- The Plan should make it clear that the USFS will work with partners to attain higher levels of open forest conditions through commercial and noncommercial treatments by engaging in Stewardship Agreements and other partner agreements (CCSA or PA).
- The Plan should leverage the Tiered Objectives approach to set Tier 1 targets of open forest woodland creation that are achievable and based on expected budget conditions, while setting Tier 2 levels that more effectively approach Desired Conditions by fully engaging regional partner resources and robust market demand for small diameter wood.
- The Plan needs to capture that open forest conditions will be created and maintained differently across the landscape. The goal should not always be woodland structural maintenance, and many stands that receive thinning and burning might be harvested at some point in the future. The Spectrum model should incorporate multiple trajectories towards achieving open forest conditions long-term. For example, 1) open forest created as part of a shifting mosaic of long-term silvicultural rotations in Matrix and 2) open forest created and maintained as woodlands in Backcountry. This should include an option for timber harvesting in prescribed burn units.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.10 – Multiple Use

36 CFR 219.11 – Timber requirements based on the NFMA.

36 CFR 219.19 – Definitions: Timber harvest is defined as the removal of trees for wood fiber use and other multiple use purposes. Timber production is the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use.



FSH 1909.12, 61 – Identification of lands not suitable and suitable for timber production.

FSH 2409.19, 60.1 – Authority, lists the applicable laws, Item 9 – promotes project to promote biomass energy production on Tribal lands by providing them with reliable supplies of woody biomass from Federal lands.

FSH 2409.19, 61.2 – Appropriate Use of Stewardship Contracts and Agreements – relates to goal 7.d. Removing vegetation or other activities to promote healthy forest stands, reduce wildfire hazards, or achieve other land management objectives.

FSH 2409.19, 80.1 – Authority, lists applicable laws; FSH 2409.19, 80.2. Objectives - to partner with State agencies, counties, and Tribes (cooperators) to increase the pace, scale, capacity, and efficiency of restoration activities on National Forest System lands and improve coordination across ownership boundaries to achieve mutual objectives.

FSH 2409.19, 64.32 – The estimation of both the projected wood sale quantity and the projected timber sale quantity must take into account the fiscal capability of the planning unit.

## **Project Record**

Project Record - FEIS/FEIS Analysis/DisturbanceProcess4Spectrum.pdf.

Forest Plan, p. 25 - PI-G-01 - In order to encourage meaningful public participation during preparation of integrated landscape projects, the Forest Service should facilitate collaboration among state and local governments and Indian tribes and participation of interested persons, except where emergency situations warrant an expedited time frame.

Forest Plan, p. 27 - COM-O-01 - Every other year host a discussion with interested WNC local governments or their economic development offices to foster shared actions that support local jobs, attract tourism, and encourage coordination on public health and safety issues.

Forest Plan, p. 50 - Terrestrial Ecosystems - defining goals of ecosystem restoration, contemporary constraints and conditions may cause altered trajectories. NRV is to understand landscape ecological integrity and not a management target.

Forest Plan, p. 52 - ECO-DC-09 – outcomes of restoration including economic goals.

Forest Plan, pp. 65-66 - Table 3 WLF-DC-05 – vegetation desired conditions for Young Forests and Open Forest Condition.

Forest Plan, p. 70 - ECO-O-05 – Tier 1 and 2 objectives for thin and burn to “advance open forest woodland conditions.”

Forest Plan, p. 71 – Integrated Ecosystem and Wildlife Habitat Management Approaches – thinning and prescribed fire.



Forest Plan, p. 90 - TIM-DC-01 Stand conditions, such as composition, structure and health will improve using a variety of methods, such as stand improvements, slashing and felling, timber harvest, burning, etc.; TIM-DC-02 Timber harvest occurs on lands identified as suited for timber production, as well as lands identified as not suited for timber production. Together, these harvesting activities will provide a flow of wood products that benefit local communities; TIM-DC-03 Forest product commodity outputs contribute to the social and economic well-being of the people living in the area and help maintain a way of life long associated with western North Carolina; TIM-DC-05 – Products resulting from timber management that don't currently contribute to commercial markets can contribute to or expand niche-markets utilizing a broader suite of forest materials.

Forest Plan, p. 30 - Natural range of variation is used to evaluate landscape ecological integrity, but not as a management target. The Plan recognizes that open forest conditions may only be achievable over long time periods and multiple planning cycles. Tier 1 and Tier 2 objectives use the filter of reasonably foreseeable budget and potential expanded work with partnerships.

FEIS, Section 2.1.2 at 2-1 through 2-2 - How Public Involvement Influenced Alternative Development; FEIS, Section 2.2, Summary of Alternatives Analyzed in Detail; and FEIS, p. 2-5, Plan Direction.

FEIS, p. 3-128 to 3-131- Effects of alternatives on Open Canopy Woodlands. Explains the difficulty in achieving this condition due to the currently altered state of the ecosystem.

FEIS, 3-541 to 3-542 - Operability analysis (Table 210) indicates feasibility based on “fiscal capability” including “not all of the area identified as suitable is available and accessible for timber harvest due to current age and condition of the forest, landscape topography, and other constraints.”

Draft ROD, pp. 8 and 9 - Engagement with State and Local Governments, Indian Tribes, other Federal Agencies, and the Public.

The draft Record of Decision and the final Plan both make it clear that partners could be used to achieve a greater number of acres, as documented with Tier 2 objectives.

## **Response**

The Forests adequately identified acres available for harvest as well as acres feasible for harvest based on access and availability of financially feasible harvesting equipment. Except for Alternative A (current Forest Plan), the alternatives recognized that the Forest Service can do more with the help of partners and analyzed the possibility of greater capacity as part of the range of each alternative (FEIS, p. 2-2). These alternatives include a two-tiered approach to objectives which further expands the range of alternatives. The alternatives each consider a base tier of what the Forests can accomplish under current capacity (Tier 1) and a broader stretch objective of what could be accomplished with additional resources, personnel, partner, or volunteer support beyond current contributions (Tier 2). This approach was suggested by partners during the development of the draft plan. Because Tier 1 and Tier 2 objectives are



captured in all action alternatives (except for Alternative A), each action alternative itself provides a range of management activities that responds to public input. The analysis (FEIS, p. 3-542, Table 210) allows for evaluation of various acreages of timber harvest with increased access and road building. The analysis considers a range of implementation opportunities and structures the objectives commensurate with these opportunities. Numerous authorities exist for the Forests to work with partners to expand capacity and authorities can and do change; these authorities are found in existing Forest Service regulation and directives and need not be addressed in either the FEIS or final Plan.

Desired condition TIM-DC-05 explicitly details the Plan's adaptability to emergent and non-traditional product markets. Forest Plan, p. 90. Objectives must be designed to make progress toward attaining desired conditions and neither compel nor limit activity within the Plan area. If and when emerging markets, technologies, and efficiencies come to fruition, the Forest Plan has Desired Conditions for vegetation that allow for increased levels of restoration activities. Objectives that achieve the predicted NRV for open forest conditions in a single planning cycle are not required and the rationale for the objectives is explained in the FEIS at 3-128 through 3-131. Tier 1 objectives for open forest woodland conditions are consistent with expected budget conditions (36 CFR 219.7 (e)(1)(ii)). The natural range of variation is used to evaluate landscape ecological integrity, but not as a management target (Forest Plan, p. 50; see also the response to Ecological Integrity, Natural Range of Variation, and Early Seral Habitat Issue 2: Natural Range of Variation). The Forest Plan and analysis in the FEIS recognize that open forest conditions may only be achievable over long time periods and multiple planning cycles. Desired condition WLF-DC-05 (Forest Plan, pp. 55 and 56) and the FEIS, p. 3-130 describe factors in the landscape conditions that may have changed conditions and the ability to achieve the historic natural range of variation. The monitoring program will monitor progress toward achieving desired conditions for woodland and open forest conditions over time and enable adaptive management when needed (MQ-2-2-T2 – Forest Plan, p. 291).

The FEIS described the limits of the Spectrum model. The outputs of the model helped inform plan components, but were not intended to be the outcome or goal. As the FEIS, p. 3-542 clearly states "It must be noted that the intended purpose of this estimate is to inform planning at the forest wide scale and not to predict or design harvest projects. Projects require more site-specific analysis and consideration of fine scale information about the site and forest resources." As clearly stated in the FEIS, p. 3-543, "These analysis assumptions assisted with modeling in the EIS, however these outputs are not a plan decision; the determination of commercial harvest of any treatment occurs during site-specific project development."

Overall, Alternative E evaluated the role of natural disturbances in creating open forest conditions and ephemeral woodlands (FEIS, p. 3-130). The plan components TIM-DC-05, ECO-DC-09, ECO-0-05, and ECO-0-06 described multiple methods that could be used to restore open forest conditions. Forest Plan, pp. 52, 70 and 90. Needed shifts in species composition and regeneration would be project specific decisions.

**Instruction(s):** None.



### **Issue 3: Harvest Levels and Flexibility**

**Objector(s):** Southern Environmental Law Center et al.

The objector believes that the Plan needs "a mechanism to harness project level flexibility to achieve long-term goals. Requiring that half of timber harvests be in priority treatments, the Partnership believed, "would give the Forest Service a basis to conclude that the Plan will actually maintain and restore ecological integrity" over time, without limiting flexibility in any particular project. Current projects show how prescient that recommendation was."

The objector mentions that 60% of harvests in the Forests' current projects are located in the cove ecozone. They state that "project-level incentives tilt toward activities that are less likely to achieve our full range of restoration goals but are more commercially attractive." The objector would also like to see greater use of priority areas for harvest and regeneration and pacing of harvest to ensure time is allowed for restoration.

Objectors are concerned that "While harvest in coves can "help to pay for other needed work elsewhere," "too much young forest in cove ecozones" could cumulatively "impede our progress toward ecozone desired conditions."

#### **Remedy(s) proposed by Objectors**

- Objector believes that restoration inherently requires some attention to the proportions of different types of actions, because local decisions have to contribute to landscape-scale outcomes. They suggest that pacing is the solution to ensure that "flexible" project development doesn't result in doing the same easy, cookie-cutter things over and over again, moving away from NRV.

### **REVIEW FINDINGS**

#### **Law, Regulation and Policy**

See Timber Issue 1: Spectrum Model for a list of relevant law, regulation and policy.

#### **Project Record**

Forest Plan, p. 91 - TIM-S-01 states that "Timber production will not be the primary purpose for projects and activities, and shall complement ecological restoration. Confirm lands suitable and not suitable for timber production within project areas during site-specific analysis."

Forest Plan, p. 91 - TIM-S-03 states that "Timber harvest shall be carried out consistent with the appropriate mitigation of effects to soil, watershed, fish, wildlife, recreation and scenic and heritage resources."

Forest Plan, p. 91 - TIM-S-04 restricts timber harvest to areas where a site-specific finding determines that soil, slope or watershed conditions would not be irreversibly damaged, there is



assurance that such lands can be adequately restocked within 5 years after harvest, and that protection is provided for streams, streambanks, shorelines, lakes, wetlands and other bodies of water.

Forest Plan, pp. 50-52 – Discussion of Terrestrial Ecosystems, both background, Forest Landscape Pattern and Connectivity, and Ecological Restoration Priorities.

FEIS, Chapter 3. Timber Resources. Harvest systems and methods used by alternative. This section articulates that all action alternatives have increased emphasis on restoration of all vegetative tiers of forest communities and would employ all silvicultural systems available to meet the objectives of the forest plan, the goals of district level projects, and the collaborative efforts with partners. With desired conditions that include increased emphasis on restoring compositional and structural restoration at multiple scales, as well as increasing or maintaining species diversity and ecosystem function towards enhanced adaptive capacity in the face of climate change, future management would need to consider employing silvicultural systems that support complexity within their design. Several examples are included. General estimates of harvest types and management planned are included in Appendix B but this appendix is meant to support analysis and is not intended to be prescriptive. (FEIS p. 3-530 through 3-534).

FEIS Appendix D, p. D-11 – Constraints.

Project Record - Model runs, solutions, and summaries; FVS document on determining management practice information (yield tables).

## **Response**

For a response on the use of priority treatments in the revised plan, see Ecozones Issue 1: Conditions of Ecozones.

The plan direction clearly intends to move toward a more restorative ecosystem based approach for all ecosystems, including numerous desired conditions related to ecological integrity and how ecozones would be improved over time. This addresses the objector's concerns regarding over harvesting in any one ecozone. The intent for restoration is found in the plan as follows:

The Forest Plan, pp. 51- 52 describes the desired conditions for Terrestrial Ecosystems and includes ECO-DC-06, which states that “ecological restoration is focused on restoring the key characteristics of ecozone composition and structure, function and processes needed to maintain those key characteristics over time,” while ECO-DC-07 clearly notes that “across the landscape, ecozone composition improves over time through both active and passive restoration, leading to an increase in forest functions, resiliency, and adaptiveness.”

The Forest Plan, p. 52 describes ECO-DC-08, which states that across the landscape, ecozone structure improves over time. The Plan also describes ECO-DC-09 through ECO-DC-11 which discuss restoration of ecozones.



Forest Plan, Appendix B Table B-4 (p. 313) - Estimated Vegetation Management Practices summarizes estimated practices and clearly states that they should not be related directly to future forest level treatment needs and are not a commitment to take action. These actions are summarized by “Even-aged/Shelterwood”, “Intermediate” and “Rx Fire” by moisture class.

The draft ROD, pp. 25 - 26 clearly describes how the terrestrial ecosystem section of the plan is designed to support the health and resilience of forests across the landscape. NRV conditions are in the departure project record and the projected implementation does not directly compute cove openings.

**Instruction(s):** None.

#### **Issue 4: Payment in Lieu of Taxes (PILT) and Local Economy**

**Objector(s):** Clay County Commissioners

The objector states that their County relies on economic benefits and county payments from forest management, including recreation, tourism, and especially forest products. They encourage increased pace and scale of timber harvesting to enhance local employment and support businesses.

The objector does not support old growth management/networks in lands outside designated wilderness, research natural areas and corridors classed "wild" of designated wild and scenic river areas in our county. The objector opposes further Old Growth Management outside those lands. The passive approach for old growth on additional wilderness areas remaining idled from active management ordains impacts from natural forces of wild, wildfire, flood, native and non-native insects and diseases depredation.

The objector supports active forest management efforts to create early successional forests, open forest conditions and control of non-native invasive species.

The objectors have attended public meetings in Murphy, NC multiple times and other communities as well to express their opinions. To their knowledge these comments have not been recorded in the Forest Plan meetings and request that they be.

#### **Remedy(s) proposed by Objectors**

- Do not identify/protect old growth management/networks in lands outside designated wilderness, research natural areas and corridors classed "wild" of designated wild and scenic river areas in our county.
- Continue/Increase active forest management efforts to create early successional forests, open forest conditions and control of non-native invasive species.
- Acknowledge their comments/participation at meetings in the Forest Plan.

#### **Law, Regulation and Policy**



## National Forest Management Act

Secure Schools and Road Act - <https://www.congress.gov/bill/106th-congress/house-bill/2389>

36 CFR 219.4 - Requirements for public participation

36 CFR 219.10, section b.1 - Multiple use

36 CFR 219.10(b)(iv) Protection of congressionally designated wilderness areas as well as management of areas recommended for wilderness designation to protect and maintain the ecological and social characteristics that provide the basis for their suitability for wilderness designation.

36 CFR 219.10(b) (v) Protection of designated wild and scenic rivers as well as management of rivers found eligible or determined suitable for the National Wild and Scenic River system to protect the values that provide the basis for their suitability for inclusion in the system.

36 CFR 219.10(b) (vi) Appropriate management of other designated areas or recommended designated areas in the plan area, including research natural areas.

36 CFR 219.11 - Timber requirements based on the NFMA.

36 CFR 219.14(b) - Decision document and planning records.

36 CFR 219.14(b)(1) The responsible official shall keep the following documents readily accessible to the public by posting them online and through other means: assessment reports (§ 219.6); the plan, including the monitoring program; the proposed plan, plan amendment, or plan revision; public notices and environmental documents associated with a plan; plan decision documents; and monitoring evaluation reports (§ 219.12).

36 CFR 219.14(b)(2) The planning record includes documents that support analytical conclusions made and alternatives considered throughout the planning process. The responsible official shall make the planning record available at the office where the plan, plan amendment, or plan revision was developed.

FSH 1909.12, Section 24.41, Wilderness and 24.42 Wild and Scenic Rivers

## Project Record

Project Record - Clay County Outreach Meeting Notes\_042717.pdf ; Clay County resolution amendment\_080416.pdf ; Clay County letter\_access\_051517; Clay County.pdf request for copy of Clay county land use plan 07122018; County Outreach meeting notes-2017Clay County Outreach Meeting Notes04172017; Signed Letter to counties post listening sessions\_090916.pdf; Comparison of acres between Alternatives A and E in Clay County; Open house List of Attendees on 8/8/17.



FEIS, p. 3-586 through 3-594,

FEIS, Appendix H – Response to Comments, p. H-16 acknowledgement that the Forest Supervisor met with the Clay County Commissioners in April 2017.

Forest Plan, Appendix A - Consolidated Forest Plan Objectives

Forest Plan, Chapter 2 - Forestwide Plan Components

Forest Plan, pp. 84-86 – Designated Old Growth Network.

Forest Plan, pp. 87-88 – Insect and Disease

Forest Plan, pp. 90-96 – Timber Management Practices

Forest Plan, p. 269 - Background – Wilderness: In Wilderness, preservation of the natural environment free from human influences predominates. Timber harvest is not utilized as a management tool; however, prescribed fire or wildland fire use may occur where beneficial in maintaining historic fire regimes, perpetuating fire-dependent ecosystems, or reducing fuel loading which may pose a risk to adjacent private lands. Integrated pest management favoring biological controls may occur when used to eradicate or suppress non-native invasive pests. Non-commercial felling of trees with hand tools may also occur when used to construct or maintain trails.

Forest Plan, p. 272: CDW-S-14 Allow habitat manipulation only to perpetuate the wilderness resource and when essential to the survival or restoration of federally listed threatened or endangered species. Habitat manipulation requires the appropriate analysis and line officer approval and CDW-S-18 The areas are not suitable for timber production or harvest. Allow natural processes to determine the composition and distribution of plant species.

Draft ROD, pp.16-25 – Decision and rationale for the decision (selection of Alternative E).

## **Response**

Under the current plan, most timber management occurs in management areas 1B, 2A, 3B, 4A and 4D, which together comprise about 25,000 acres of Clay County. The selection of Alternative E allocates about 34,000 acres of Clay County to Matrix, which is the management area where the most timber management will occur. Alternative E recommends an additional 2,055 acres for wilderness in Clay County that would extend to the existing designated Southern Nantahala Wilderness. The old growth network in the county increases from about 14,500 acres in Alternative A to about 17,000 acres in Alternative E. The resulting allocation will enable continued multiple use management in the county, including ecological restoration (which includes timber harvest), as well as management for development of old growth characteristics, and preservation of wilderness characteristics.



The County supports active timber management in areas such as Wilderness/Wilderness Study Areas/Wild Rivers. Wilderness is congressionally designated after arduous study and recommendation and only Congress can reverse this designation. These areas are unsuitable for commercial timber harvest. See Forest Plan, Appendix E. Because of the purpose of Wilderness, the intent is for little if any human intrusion and or management to occur and the objector's recommendations cannot be met.

Outside of the designated old growth patches, there will be other places on the Forests where active management does not occur over the life of this plan and where the Forests will generally age toward older seral stages. Forest Plan, p. 84.

The suitability analysis determined where timber is suitable for timber production. See the FEIS, Social and Economic Resource section. Different areas receive different management emphasis and the majority of timber harvest would be outside the Wilderness areas. This is in line with national direction and the Forest Plan's purpose and need.

Clay County wants to have documentation of viewpoints described at the Forest Plan open houses in the Forest Plan Revision planning record including the meeting with the Forest Supervisor. As stated in FEIS, Appendix H, the Forest Supervisor reached out to county governments in 2017 and again in 2020, directly offering to meet to hear of their interests and concerns related to national forest lands along with providing them an opportunity to discuss forest plan revision efforts (FEIS, Appendix H, p.16).

The Forest Plan, Chapter 2 contains plan components related to working with local governments. For the desired condition, the Forest Plan, p. 25 includes: "PI-DC-03 Forest managers work with state and local governments, tribes, and partners across boundaries to achieve shared goals, to enhance our capacity for restoration, including the control of pests, non-native invasive species, and use of prescribed fire."

The Forest Plan p. 25 also includes: "PI-G-01 In order to encourage meaningful public participation during preparation of integrated landscape projects, the Forest Service should facilitate collaboration among state and local governments and Indian tribes and participation of interested persons, except where emergency situations warrant an expedited time frame." In addition, one of the Forest Plan objectives COM-O-01 (Forest Plan p. 27) states that for Tier 1, "every other year host a discussion at the Supervisor's Office with interested WNC local governments or their economic development offices to foster shared actions that support local jobs, attract tourism, and encourage coordination on public health and safety issues." This will allow a continuous opportunity for local governments to provide input on Forest Service activities.

The Responsible Official provided for adequate public involvement and the record reflects those efforts. In addition, the Forest Plan contains plan components that directly relate to involving county governments. The Responsible Official provided adequate rationale for his decision regarding the suitable timber base.

**Instruction(s):** None.



## Issue 5: Suitability of Timber Harvest

**Objector(s):** MountainTrue; Center for Biological Diversity; Southern Environmental Law Center et al.

An objector raises concerns with the level of acres described for timber harvest (commodity extraction), stating that over 60% of the entire plan area is open for logging, which includes post-harvest treatments using herbicides, burning, and other actions to produce certain species for future rotational harvesting practices. The objector continues: "The Nantahala portion of this national forest, that contains the Chattooga River headwaters, is designated for about 90,000 more acres of timber extraction actions than the Pisgah portion of the forest—although these forests are nearly the same size." The objector explains that so much attention to harvesting commercial timber is "at the expense of restoring biologically diverse, healthy native forest ecosystems."

Another objector agrees that timber harvest, especially commercial harvest can be detrimental to disturbance-sensitive dependent species when added to other disturbance events such as fire, floods, and grazing. They point out that in order to ensure rare, disturbance-sensitive species are not impacted, they believe that natural heritage areas and backcountry areas should be off-limit to timber harvest.

Objector MountainTrue asks that all areas such as Natural Heritage areas, existing old-growth forests, wilderness area, wilderness society's mountain treasures (inclusive of all IRAs) and the proposed management area 4 scenery (that were discussed by the Forest Service in October 2014) be removed from consideration of suitable for timber harvest. As the objector writes: "these are the areas that have the highest level of controversy regarding timber harvest and the highest potential benefit for managing disturbance dependent species."

### Remedy(s) proposed by Objectors

- The Final Plan must establish clear standards and guidelines in all management areas of the national forest, to ensure the long-term maintenance, preservation and restoration of native forests, and their full complement of natural and physical resources including clean water, productive and rich soils, and the biological diversity of native plants and animals—particularly endemic and/or at risk species.
- Special areas should be removed from the suitable timber base, including known existing old growth, NC natural heritage natural areas, and unroaded areas possessing remote character, and high ecological integrity and biodiversity values.

## REVIEW FINDINGS

### Law, Regulation and Policy

Timber suitability is defined by law in the 1976 National Forest Management Act (NFMA) 16 U.S.C. 1604 and by regulation at 36 CFR 219.11.



36 CFR 219.11 Timber requirements based on the NFMA (section in its entirety)

FSH 1909.12, Chapter 60.

### **Project Record**

FEIS, p. 3-117 – Forestwide Structure – Importance of diversity of forest age, which equates to greater diversity in forest structure.

FEIS, pp. 3-537 through 3-541 – Forest Land Suitable for Timber Production discussion.

FEIS Appendix A, p. 72-80 – comments and responses on Timber.

FEIS Appendix B, pp. 37-49.

Project Record - Draft Timber Suitability Process Paper, June1\_JAR (pdf) and Factors to Consider in Determining Timber Suitability (pdf); Data Preparation for Step TWO of the Nantahala and Pisgah Timber Suitability Analysis\_1 (pdf) and Timber Suitability Process Paper \_Stage 1 (pdf); FEIS Appendix B Analysis Methods finalized (pdf).

Final suitability spatial data located on the Nantahala and Pisgah National Forests Plan Revision's website.

### **Response**

The 1976 National Forest Management Act and the associated regulation at 36 CFR 219.11 along with policy found in FSH 1909.12 Chapter 60 lay out an explicit process for determining those lands both tentatively suited for timber management based upon technical factors and suited for timber management based upon final Plan direction. All of material in the project record shows that the Forests followed that mandated process with documentation of each assumption made on which areas to include and how to cast point and linear features as polygon features.

There is no indication in the project record that analysis was biased towards one forest or the other in either areas included or excluded from the suitable timber area. The Nantahala and Pisgah contain different landscape features including lands with administratively identified management objectives (such as different Inventoried Roadless Areas, Wilderness Study Areas, Experimental Forests, etc.). The features of each forest result in a difference in overall suitability. Objector CBD asserts that "The Final Plan relies extensively on timber harvest to create young forest conditions. Under Tier 1 scenario the Final Plan contemplates an annual increase of regeneration harvest from 650 to 1200 acres and 1,200 acres to 3, 200 acres under Tier 2 scenario (Final Plan at 70). They also state that "Tier 2, 1490 acres of natural disturbances would occur in ten years and 3,600 acres would occur in 20 years (FEIS at 3-123)." In response to that assertion, the draft ROD, p. 13 states that Forest Service recognizes Issues in Vegetation Management, noting that "There are differences of opinion about the use of scheduled



regeneration treatments to meet desired conditions. Some believe that harvesting trees to create young forest is a necessary method for sustaining resilient forest conditions. Others would prefer that regeneration is only used to improve species composition, rather than being used to regenerate young forest of the same forest type. As a result, there are differences of opinion about the acceptable management activities that can occur on lands suitable for timber production and what types of management activities can occur on lands not suitable for timber production.”

Based on National Forest Management Act requirements, Alternative E identifies 459,175 acres as suitable for timber production (Plan Appendix B) and clarifies that the identification of lands as suited for timber production does not mean that timber production is the primary purpose of management for those lands. The plan’s first timber standard states that timber production will not be the primary purpose for projects and activities and shall complement ecological restoration (TIM-S-1). As is explained in FSH 1909.12, Chapter 60, Section 61.2, lands can be identified as suited for timber production when timber production is a desired secondary use of the land and timber production is compatible with the desired conditions or objectives of those lands, when timber production is anticipated to continue after desired conditions have been achieved, when a flow of timber can be planned and scheduled on a reasonably predictable basis, and when regeneration of the stand is intended.

The draft ROD p. 61 states that “Natural disturbances were included in the analysis of Alternative E, the preferred alternative. Historic patterns of disturbances formed much of basis for that analysis. Disturbance patterns were adjusted to for several climate scenarios in order to sense how changes in disturbances could affect management goals as cited in the revised.” Adequate forest plan standards and guidelines exist to respond to the objector’s request “to ensure the long-term maintenance, preservation and restoration of native forests, and their full complement of natural and physical resources including clean water, productive and rich soils, and the biological diversity of native plants and animals—particularly endemic and/or at risk species.”

Areas that are removed from the potentially suited area as part of the determination of lands in an alternative that do not meet the desired conditions objectives of the plan were addressed in the analysis. Appendix B at pp. 43-48 shows that for Alternative E, each of those areas was removed from the suitable timber base, including non-forested lands. Further factors include lands on which timber production is prohibited or lands withdrawn from timber production which include wilderness areas, wilderness study areas, inventoried roadless areas, and designated wild river segments. Lands on which there is no reasonable assurance that lands can be adequately restocked within 5 years of final regeneration harvest include FS Veg site index data of lands with low site indices, unproductive lands, brush species or non-stocked lands. Lands on which technology to harvest timber is not currently available without causing irreversible damage were also removed, which include bogs rock outcrops, hydric soils, and slopes greater than 70%. Other areas removed from timber production include riparian and lake buffer areas, critical habitats, designated old-growth, and other management areas not already mentioned above, based on administrative decision (including the Appalachian Trail, Backcountry, Cradle of Forestry, Cultural Heritage Corridors, Ecological Interest Areas, Experimental Forests, Roan Mountain, Scenic Byways, and Special Interest Areas).



The Forests concurred that there was an error in including the land in the Chattooga Wild & Scenic River corridor as suitable for timber production; this will be corrected in the final documentation.

See State Natural Heritage Areas for a response on the allocation of North Carolina Natural Heritage Natural Areas. See Old Growth Issue 1: Logging in Old Growth and Defining Old Growth for a response on harvesting activities in old forests. See Wilderness Issue 1: Wilderness Study Areas and Recommended Wilderness for a response on the allocation of lands that were inventoried but not recommended for wilderness in the wilderness inventory and evaluation. See NEPA Issue 3: Alternative E Fails to Address Concerns Raised by the Public for a response on the allocation of the Wilderness Society's Mountain Treasures.

**Instruction(s):**

**Instruction:** Correct the error that was made by including the land adjacent to the Wild & Scenic Chattooga River as suitable.

**Clarification:** Factor 4 – is non-forest – provide further explanation as to why wildlife openings were included in the non-forest category.

**Clarification:** Clarify how suitability calculations changed between B/C/D and E, and E modified.

**Voluntary modification:** Address the differences between alternative E and the others in how the LOFTIS SWD prescription is reported.

**Instruction:** Clarified acre discrepancies between different versions of the suitability process documentation in Appendix B.

## **Issue 6: Allowable Sale Quantity and Projected Timber Sale Quantity**

**Objector(s):** Stacey MacDonagh; Friends of Big Ivy; Forest Keeper; Mary Ellis; I Heart Pisgah; North Carolina Forestry Association; Ruffed Grouse Society and American Woodcock Society; Graham County; I Heart Pisgah; Friends of Big Ivy; Southern Environmental Law Center et al.

Several objectors expressed concerns related to timber harvest activities, including determining timber suitability, Allowable Sale Quantity (ASQ) and Projected Timber Sale Quantity (PTSQ). The criticisms ranged from objecting to timber harvest in general to very detailed disagreement with the methods used to identify land suitable for timber harvest and calculate sustainable yield. They also suggest the numbers are skewed because the plan does not take into account other land bases and owners, as purported, "the plan fails to properly consider "all lands" when calculating the amount of regeneration harvests needed to create more young forests. Rather than employing an "all lands" analysis across the 18-county region, the Forest Service improperly relies on a much narrower assessment of forests on adjacent public lands to inflate the importance of regeneration harvests to create young forests in the plan area and discount the amount of young



forests elsewhere in the region. Most of the broader landscape throughout the 18-county area is comprised of privately owned, younger forests and the Forest Service needs to reexamine the purported need to use regeneration harvests to create much of the same habitats.”

Objectors contend that the Forests are in violation of NEPA in that the alternatives were not compared equally stating that “The Forest Service Has Failed to Provide an Apples-to-Apples Comparison of Its Alternatives. The FEIS comparison of alternatives is fundamentally misleading because it does not compare apples to apples. Alternative A, the current plan, sets a target of 3,300 acres per year of regeneration harvest young forest creation—a figure that is higher than comparable objectives in action alternatives. See Amendment 5 ROD at 7. Yet the FEIS assumes that Alternative A would result in only 650 acres per year—less than 20% of that total. In contrast, the FEIS assumes that Alternative E (like the other action alternatives) would reach 100% of their objectives, for timber harvest, fire, and the works.[...]The high discount rate on Alternative A is straightforward to understand: it represents the Forests' historical performance under the old plan. FEIS at 2-16 (assumptions based on "actual accomplishments"). Nowhere does the FEIS explain, however, why this same discount rate is not applied to the action alternatives. Why is Alternative E expected to achieve 100% of its objectives when Alternative A could manage only 20%?”

Objectors also assert that “The FEIS provides inconsistent information regarding timber volume outputs as a result of Alternative E. In one section, the FEIS states that "For Tier 1, Alternative E values are around one and a half times greater than Alternative A, yet just over 1 MMCF lower than the other action alternatives. Tier 2 values are still more than double Alternative E tier 1 outputs, close to or exceeding three times the values for Alternative A (PWSQ and PTSQ respectively), and approximately 2 to 2.5 MMCF lower than the other action alternatives." (USDA Forest Service, 2022b, p. 3-537). In another section, the FEIS states that "In Tier 2, Alternative E produces the most volume followed by Alternative B and then Alternative D and C. The difference between the alternatives in Tier 2 becomes more apparent as the harvest levels are applied to more acres and management area differences become more relevant." (USDA Forest Service, 2022b, p. 3-545). These statements seem to contradict each other. Will Alternative E result in more timber volume outputs and PWSQ/PTSQ or less?”

Objectors contend that riparian management zones were incorrectly included in the estimate of land that may be suitable for timber production in violation of the 2012 Planning Rule, thereby wrongfully increasing the sustained yield limit.

A number of objectors expressed concern that the revised plan will quadruple logging and that the proposed timber harvest will adversely affect a range of forest resources. Objectors claim that that the effects of this level of timber harvest were not analyzed sufficiently.

Objectors disagree with the plan and FEIS assumption that timber harvest will improve ecological conditions and contribute to forest restoration. The objectors suggest that the current plan would overharvest certain ecozones, resulting in less available timber harvest in the future, in violation of NFMA. As one objector puts it, “the Pisgah-Nantahala—the most visited national forest in the country—prioritizes timber over recreation without any justification other than a purported and inflated need for young forests. This need is inaccurate due to modeling errors and



inaccurate inputs. In addition, the plan provides no analysis of Alternative E's massive timber harvest increases on water quality or terrestrial and aquatic species. It claims that balancing age classes results in healthier forests, but it fails to address the specific impacts of quadrupling timber harvests on water or endangered species. It is impossible for a quadrupling of timber harvests to have no negative impacts on water or species, yet the plan seems to make this claim. It certainly lacks proper analysis of impacts to water and species.” Objectors also point out that the economic analysis shows recreation is far times more beneficial to local economy than harvesting.

In contrast, several objectors argue for increased timber harvest and preference of even-aged management over uneven-aged silvicultural.

### **Remedy(s) proposed by Objectors**

- Most of the broader landscape throughout the 18-county area is comprised of privately owned, younger forests and the Forest Service needs to reexamine and analyze the purported need to use regeneration harvests to create much of the same habitats.
- The FEIS should clarify the timber sale volume outputs from Alternative E. If volume outputs are lower than Alternatives B, C, and D, as it appears in sections of the FEIS, the FEIS should increase timber sale volume outputs to at least be consistent with B, C, and D, if not higher. The Plan should not assume that more mesic forests will be managed through uneven-aged treatments instead of even-aged treatments and the Plan should not constrain treatments in mesic forests. Even-aged treatments can be appropriate to help achieve desired conditions across all ecozones.
- Commercial timber harvesting is the most cost-effective means to create young and open forest desired conditions. Therefore, commercial timber harvesting should be included as the primary means to create young and open forest conditions.
- The Plan should increase Projected Wood Sale Quantity and Projected Timber Sale Quantity.
- Use commercial timber harvesting as the primary means to create young and open forest conditions.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

#### **Multiple Use Sustained Yield Act**

See Timber Issue 5: Suitability of Timber Harvest for a list of relevant laws, regulations and policies.

36 CFR 219.2 Levels of planning and responsible officials - Forest Service planning occurs at different organizational levels and geographic scales. Planning occurs at three levels - national strategic planning, NFS unit planning, and project or activity planning.

36 CFR 219.10 Multiple Use – see section in its entirety.



FSH 1909.12, Chapter 60, sections 61 through 64 – see sections in their entirety. Particularly FSH, 1909.12, Chapter 61 – Identification of Lands as Not Suitable and Suitable for Timber Production and FSH 1909.12, Chapter 64.32 – Projected Wood Sale Quantity, Projected Timber Sale Quantity, and Quantity of Timber Sold.

FSH 1909.12, Chapter 21.12 – Considerations when Preparing New or Revised Plans - For all lands - FSH 2409.19, Section 60.1 – Authority, lists the applicable laws, Item 9 – promotes project to promote biomass energy production on Tribal lands by providing them with reliable supplies of woody biomass from Federal lands.

FSH 2409.19, Section 64.32 – The estimation of both the projected wood sale quantity and the projected timber sale quantity must take into account the fiscal capability of the planning unit.

### **Project Record**

FEIS, p. 2-28, Alternatives Considered but Eliminated from Detailed Study - An alternative that allows for only passive management of the Forests in which natural processes dominate without human intervention.

FEIS, pp. 3-525 -548, particularly pp. 3-536 -538 and p. 3-548 and FEIS, p. 541- Land potentially impacted by timber operations (operability analysis).

FEIS, p. 3-544 - ‘Spectrum model assumptions were updated in Alternative E based on public comments. Compared to Alternatives B, C and D, the regeneration harvests in Alternative E reflect a more balanced suite of regeneration treatments in cove forest types. Tier 1: Alternatives B, C, and D generate slightly more than double the average annual volume of either Alternative A or the average historic value. As a result of updated assumptions for Alternative E, this alternative is estimated to provide approximately three times the volume of Alternative A. Within the action alternatives, Alternative E produces slightly more than 25% greater volume than the other action alternatives. Alternative C produces slightly more volume than Alternative D or Alternative B in Tier 1. Alternative B would be roughly 9,000 CCF less than Alternatives C and D. Alternative B harvests in more dry oak and mixed hardwoods forest-type groups than Alternatives C or D, likely contributing to its lower overall volume and volume per acre estimates. Alternative E likely produces more volume than the other action alternatives because of the more balanced mix of regeneration harvests in the cove forest types that includes some even-aged regeneration harvest as well as uneven-aged group selection. Tier 2: Tier 2 of the action alternatives show a greater increase in the modeled annual volume harvested compared to current harvest levels. The differences between the four action alternatives are more noticeable in Tier 2, with Alternative E producing slightly more CCF/year and CCF/acre estimates than Alternatives B. Alternative D is slightly less in overall volume and annual CCF produced than Alternative B. Alternative C would be less in total acres harvested and annual volume produced Than the rest of the action alternatives. In Tier 2, Alternative E produces the most volume followed by Alternative B and then Alternative D and C. The difference between the alternatives in Tier 2 becomes more apparent as the harvest levels are applied to more acres and management area differences become more relevant.”



FEIS, pp. 3-567 through 3-594 – Social and Economic Resources.

FEIS, Appendix A, p. 76 – Response to comments regarding timber cutting.

FEIS, Appendix B p. B-66 – Analysis Methods Sections - Timber Suitability Analysis, Analysis of Lands Potentially Impacted by Timber Operations.

FEIS, Appendix D – Vegetation modeling methods.

Draft ROD, p. 3 - The Nantahala and Pisgah NFs supply timber to local mills, including high-quality hardwoods that may not be as available from private forest lands. Firewood, plus a wide variety of medicinal, edible, and horticultural and craft plants, is available from these national forests by permit, whereas other public lands may not provide those benefits.

Draft ROD, p.26 Plant and Animal Diversity section that addresses species groups, rare species, and unique habitat needs, providing plan direction needed for plants, animals, and unique habitats that is not covered at the broader scale.

Draft ROD, pp. 54-55 - Alternatives Considered but Eliminated from Detailed Study.

Forest Plan, pp. 69-70, Chapter 2, Forest Plan Components, Integrated Ecosystem and Wildlife Habitat Objectives.

Forest Plan, p. 70, Chapter 2, Forest Plan Components – Terrestrial Ecosystems, Integrated Ecosystem and Wildlife Habitat Objectives ECO-O-02: Young forest habitat: Increase new young forest conditions by using silvicultural practices on between 650 to 1,200 acres annually (Tier 1). Increase new young forest conditions by using silvicultural practices on between 1,200 to 3,200 acres annually (Tier 2).

Forest Plan, pp. 74 - 83, Plant and Animal Diversity section - Discussion of management of unique (rare) habitats.

Forest Plan, pp. 90-91, Chapter 2, Forest Plan Components, Timber Management Practices.

Forest Plan, pp. 92 and 93, TIM-S-07 - Design, construct and maintain erosion control features to meet soil and water quality standards.

Forest Plan, p. 270 - CDW-DC-03 - Natural processes shape habitat and determine the selection, distribution, and population of wildlife species, although the recovery of threatened and endangered species may be promoted. Where present, rare communities and associated species continue to exist.

Forest Plan, p. 272 - CDW-S-14 - Allow habitat manipulation only to perpetuate the wilderness resource and when essential to the survival or restoration of federally listed threatened or



endangered species. Habitat manipulation requires the appropriate analysis and line officer approval.

Forest Plan, Appendix B pp. 309-313 – Timber Calculations.

Project Record - Fox 2011, et al. Western North Carolina report card on forest sustainability, Gen. Tech. Rep. SRS- p.142; Keyser and Rodrigue - FVS Modeling for the National Forests of North Carolina Land and Resource Management Plan (undated); Stream Buffer Process for Timber Suitability Analysis. - p. 1: Identify perennial and intermittent streams from USGS NHD. Most recent NHD uses inconsistent mapping (disclaimer on USGS website); backed up several versions to improve consistency (2012 NHD) across the Forests.

## Response

In response to the objector's assertion that the Forests failed to take an "all lands approach", see issue Planning Issue 1: All Lands Approach to Planning. The Forest Service can only manage lands under National Forest Service System jurisdiction. The FEIS, p. 3-548 states that "Within the 18-county area of Western North Carolina, the Nantahala and Pisgah NFs make up only roughly 22 percent of the land area (1,044,393 acres) and the ownership of Western North Carolina's timber is dominated by private ownership (Fox et al. 2011)." Therefore, while the objectors are correct that taking into account land bases under other ownership may benefit the objective of creating young forest, the Forest Service cannot dictate what may occur on private or other government lands. If regeneration harvests are needed to meet the Forest Plan objective of young forests (ECO-O-02), these harvests need to occur on NFS lands. As explained in the FEIS, Appendix D at D-11, the analysis area is the national forest boundary.

The FEIS, p. B-66 notes that "The DEIS assumed that only a portion of the timber harvested was processed within the 18-county analysis area. This was based on information from the USDA Forest Service Forest Inventory and Analysis Timber Product Output Database. The FEIS refines this general assumption and the results of the analysis show the impact when all timber harvested is processed within the 18-county analysis area." This refers to the timber harvested on NFS lands. Although some assumptions may be made about what timber harvest may occur on adjacent ownerships, there is no assurance that this management will happen and therefore is speculative. In order to achieve the amount of young forests that the Forest Service desires on the landscape, the Forests assessed the condition on National Forest System lands. As indicated in the draft ROD at pp. 8-12, the Forests are committed to achieve partnerships with other owners.

In terms of an apples-to-apples comparison between alternatives, this is challenging given the timber calculation requirements have changed between the 1982 rule and the 2012 rule requirements. Under the 2012 rule, Allowable Sale Quantity (ASQ) was replaced with two more contemporary metrics that better capture the total volume of both products that meet utilization standards and those that do not. These updated calculations, known as Projected Wood Sale Quantity (PWSQ) and Projected Timber Sale Quantity (PTSQ), were completed as defined by FSH 1909.12, Chapter 60, Section 64.32 (FEIS, p 3-540). The FEIS explains the difference between the 1982 rule requirement of ASQ and the 2012 rule requirement of PTSQ (FEIS p. 3-535 and p. 3-536), noting the similarities and differences between the required calculations. The



Forests facilitated comparison between Alternative A and the action alternatives by re-calculating Alternative A using the same methods as the action alternatives (FEIS p. 3-536). The results show that the revised plan will increase timber outputs above current levels when implementing at Tier 1 levels of activity, and more at Tier 2 levels of activity.

In terms of comparison of alternatives, Alternative A provides the baseline for the effects analysis. Management practices would continue under the direction. Where annual accomplishments have varied from forest plan assumptions, or where recent budgets have resulted in different activities than the levels planned for in 1994, the actual accomplishments are used. See the FEIS, p. 2-16. The number of acres harvested at 20% of what was presented in the 1994 Forest Plan was a result of many factors and changes between 1994 and the present, such as limitations in personnel, fluctuations in the timber demand, budget, changes in land base, policy changes such as the 2001 Roadless Rule and was based on the last five years of actual harvest (FEIS p. 3-526).

Objectors accurately reflect that the 1994 Plan authorizes a much higher level of regeneration activity (3300 acres annually) than is currently being implemented under Alternative A (650 acres annually). The FEIS and ROD comparison tables could be clearer that the annual harvest activities that are shown for Alternative A are indicative of recent years, rather than the total amount that is authorized in the current plan. As noted above, the current plan authorizes a slightly higher amount of annual harvest levels than the revised plan, so in this regard the revised plan does not quadruple harvest.

The assertion that the revised plan quadruples harvest is further flawed in the assumption that Tier 2 objectives will be met each year. The Plan and FEIS are clear that the Tier 1 objectives are the intent of the plan, and Tier 2 will only be attempted if additional capacity or resources become available. From a pure Tier 1 perspective, the final plan calls for between 650 acres to 1,200 acres of annual regeneration, which cannot be equated to four times the current level of 650 acres. The Forests are acutely aware that the levels of harvest anticipated in the current plan were not met in the recent past and does not, as the objectors assert, expect to achieve 100% of the Tier 2 objectives identified (FEIS, p. 5-326 and Final Plan, p. 5). The Draft ROD, p. 20 states “Specifically, the Forest Service can only achieve Tier 2 objectives over the long-term with additional resources. By identifying what we can accomplish with the help of partners, we aim to incentivize shared stewardship and build partnerships to accomplish more on the ground, together.”

The action alternatives have similar numbers if not exact numbers as the low number for Tier 1 for many resources. Timber harvest (FEIS, pp. 2-23 -25, Table 1) shows the same 650 acres used for Alternative A are also used for the lower end of the range for Tier 1 for Alternatives B, C, D, and E. Volume comparisons differ, due to the changes in how timber suitability is calculated between the 1982 Planning Rule and the 2012 Planning Rule.

The Forests intentionally analyzed the effects of harvest at Tier 2 levels to ensure that the effects on resources of greater levels of activity were considered. By using Tier 2 numbers in the analysis of the Forest Plan, the total effects on other resources from timber harvest, roads and fire can be shown. If the higher numbers had not been used, then the effects would not have been



analyzed at the Forest Plan level and may have limited management activities over the life of the Plan. However, the Forests do not indicate an expectation to meet these Tier 2 numbers annually, as the objectors assert.

The amounts of PWSQ/PTSQ are shown in Forest Plan, Appendix B. While these are estimates of the volume that is expected to be sold during the plan period, the actual volume sold and harvested are often less due to the fiscal and personnel capability of the Forest and considering the plan resource components for protection and mitigation. Although the best information was used in determining these estimates for the Forest Plan, often additional resource concerns are found during project planning and may lower the amount of suitable timber.

In the EIS, when PTSQ/PWSQ are compared to other volume-based analyses, there appears to be contradictory statements. This is because the PTSQ and PWSQ were calculated directly from the Spectrum volume estimates, while the forest product outputs analysis in Chapter 3 derived its volume estimates from Spectrum acres and the forest vegetation simulator product class volumes. While these analyses were intended to convey different information, readers are trying to correlate the tables, leading to confusion. These calculations should be updated to use similar methodology in the final EIS.

Objectors assert that riparian management zones were incorrectly included in the estimate of land that may be suitable for timber production in violation of the 2012 Planning Rule, thereby wrongfully increasing the sustained yield limit. See the responses to Hydrology and Soils Issue 1: Ephemeral Stream Protection and Hydrology and Soils Issue 2: Erroneous Riparian Management Zone Identification.

Objectors also contend that there was no analysis on the impacts of increased harvest on water quality or that the effects to terrestrial and aquatic species were analyzed. This is inaccurate as the FEIS includes the analysis of the effects of proposed harvest levels on forest resources in Chapter 3, including the effects of harvest on water quality, terrestrial and aquatic species, endangered species further identified in the project record section above. See the responses to Hydrology and Soils Issue 3: Protection of Drinking Water Sources; Hydrology and Soils Issue 4: Water Quality Impacts and Reliance on BMPs; Aquatic Species Issues (all) and Threatened & Endangered, Sensitive Species and Species of Conservation Concern (all) for a discussion as to how these species were considered.

Objectors disagree that timber harvest will improve ecological conditions or contribute to forest restoration. The FEIS considers an alternative but not in detail that relies exclusively on passive management. It states, “The forest plan assessment shows that all forest ecosystems are departed from their natural range of variation; and restoration of structure, function, composition, and processes would not be possible under custodial management. Additionally, the diversity of species that depend on young forest conditions would not be provided for under this alternative. Minimizing human intervention would also increase susceptibility of the forest to insect and disease outbreaks, which would create increased fuel-loading and increase the risk to other resources and to adjacent private lands” (FEIS p. 2-28) The final plan includes timber harvest as a tool and as a result “The suite of objectives in Alternative E moves us toward healthier ecosystems, providing plan direction at the landscape scale, ecosystem scale, and focusing on



needs of individual habitats” (Draft ROD p. 21). As such, timber harvest is not included in the plan exclusively as an economic need, but an ecological one as well.

Because of the recreational interest on the Forests, the FEIS, p. 3-593 documented that “all action alternatives include the Interface management area which was designed around the places that people have heaviest use of the forest, reflecting locations of key access that will be sustained. Interface management area direction provides a focus on forest management that is consistent with a high quality recreation experience. All action alternatives have approximately the same acreage of Interface MA, except in areas where there is a more restrictive management area (i.e., Appalachian Trail, Recommended Wilderness).” The incorporation of the Interface management area, when combined with the Forests approach of using timber harvest as a means to achieve restoration, demonstrates that the Forests fully considered the importance of the recreation and tourism industry across the plan area. Overall, the FEIS, pp. 3-567 through 3-594 fully documented the economic contributions from the recreation and tourism industry.

In response to the assertion that the plan would overharvest certain ecozones, resulting in less available timber harvest in the future, Chapter 3 of the EIS includes an analysis of ecological conditions for each ecozone (EIS Section 3.3.2.3). The forestwide plan standards indicate that timber harvest is not the primary objective, but is instead a tool to support ecological health; the plan also provides monitoring of ecological conditions to allow for adaptive management if needed.

Objectors also contend that the projected wood sale quantity and projected timber sale quantity all decreased substantially between all draft alternatives and alternative E in the revised Forest Plan. Timber harvest has been included in the revised Forest Plan because it responds to the Multiple Use Sustained Yield Act and National Forest Management Act mandates. Timber harvest will occur as described in the Forest Plan under Timber Management Practices Desired Conditions and the Integrated Ecosystem and Wildlife Habitat Objectives (Forest Plan, pp. 69-70) and Forest Health Objectives (Forest Plan, p. 88).

For context, in terms of the amount of timber that will be harvested across the entire Nantahala and Pisgah National Forests for the life of the plan, the FEIS p. 3-543 notes that “on a forest of just over one million acres, the total acres likely to have timber supporting potential commercial operations varies between 265,000 and 235,000 acres across the action alternatives (sum rows 3 and 4).

Of the resulting acreage above, only an estimated 107,000 to 113,000 acres that would be available if current levels of road construction are maintained across the action alternatives. To put this another way, currently about 10 percent of the forest stands could foreseeably support commercial timber operations if current levels of road construction are maintained with about 90 percent of the forest unlikely to be impacted by timber operations. Operability could increase if additional roads are added.

All of these totals are programmatic estimates, and site-specific conditions would likely further reduce the land operable for commercial timber harvest, including local topographic considerations, mitigations necessary for public health and safety, threatened and endangered species, rare ecological communities, cultural resources, scenery, and recreation. Even within



Matrix where the largest amount of timber harvest operations are expected, a sizable portion of the management area could not currently be harvested.

Given these constraints, the consolidated terrestrial ecosystems objectives in the plan that would use timber harvesting (regeneration and thinning), identify roughly 22,000 acres per decade (Tier 1) or up to roughly 47,000 acres per decade (Tier 2). This equates to approximately 2.1 percent (Tier 1) to 4.5 percent (Tier 2) of the total land base over a decade being impacted by timber harvesting.”

To take those numbers one step further, Tier 1 harvest per year would be no more than 2,200 acres across the 1.04 million acre forests and under Tier 2, harvest per year would be no more than 4,700 acres. This equates to 0.2% and 0.45% respectively of the acres of forest per year that could possibly experience timber harvest.

In response to the objector's request for increased timber harvest and preference of even-aged management over uneven-aged silvicultural systems, the FEIS modeled a suite of even aged management prescriptions across all alternatives at both Tiers. Alternative E was the most balanced in the silvicultural systems model, from all alternatives (FEIS p. 3-545).

In response to the objector's statement that timber harvest should be the primary means to create young and open forest conditions, the plan describes on p. 70 that timber harvest is anticipated to account for most (approximately 80% or more) of young forest creation during the life of the plan. The plan notes that open forest woodland conditions are restored and maintained using a combination of both timber harvest and prescribed fire and both commercial and non-commercial treatments (p. 70). The plan recognizes that commercial harvest is a tool that can improve forest composition, structure and health (DC-TIM-01) and that Industries can rely on Forest Service timber for high quality commercially valuable products (DC-TIM-04).

#### **Instruction(s):**

**Instruction:** Ensure the PTSQ/PWSQ and forest product output class analysis, tables and narrative use the same methodology.

**Clarification:** Add a footnote to the comparison table acres of harvest to indicate this is based on recent activity levels although the current plan authorizes 3,300 acres of regeneration annually.

## **FIRE AND FUELS**

### **Issue 1: Prescribed Fire and Best Available Science**

**Objector(s):** MountainTrue; Southern Environmental Law Center et al.

The objectors agree that the use of prescribed fire could create and maintain early successional habitat. Yet, the objectors disagree with the Forest Service's modeling, which projects that less than 1/3 of 1 percent of the acres burned would result in early successional habitat. Objectors believe that these figures are inconsistent with the proportion of burned area the FEIS's analysis



predicts as being turned into young forest patch—"approximately 3 to 5 percent." FEIS, App. D p. D-17.

The objectors assert that the best available science indicates that frequent prescribed fire will lead to substantially greater levels of young forest habitat than what was originally modeled. The objectors are concerned about thinning and burning treatments in xeric forest types and feel they are adequate, compared to the plan components. Specifically, they do not like that the Forest Service does not commit to targets of this treatment or limit this treatment in the Plan. They argue that since the Forest Service has not successfully created woodland in mesic to moderate forests, they should limit this treatment.

Objectors cite Steve Norman's work which shows a single application of prescribed fire historically moved about 1.3 percent of the landscape into a young forest condition, on average, which is consistent with the objector's analysis of burning for young forest—1,050 acres out of 97,000 treated—in recent years on the Nantahala-Pisgah. Please see DEIS Comments at 28, 29. Using Norman's 1.3 percent means that Spectrum should model at least 5,800 acres of young forest created by fire alone each decade of in Tier 2. Objectors contend that Norman's 1.3 percent figure is the most conservative estimate the Forests could justify for young forest creation resulting from generally low intensity, low frequency prescribed fire.

Objectors believe that burning at the levels expected in Alternative E would involve frequent and repeated burns; for Alternative E, Tier 2, a total of 307,738 acres are allocated for prescribed fire and an additional 29,794 acres are allocated to burning for young forest creation. Objectors state that "On this footprint, approximately 44,000 total acres of fire would occur each year, with an average fire return interval of about 7.7 years. Prescribed fire is currently being applied at a rate of 8,500 acres per year (i.e., the levels that produced the effects described by Norman). See FEIS at xiv. On the same footprint available for prescribed fire, that would equate to a 40-year return interval. With such low frequency, it is not surprising that Norman did not detect levels of young forest creation consistent with the NRV. However, as Norman observed, increased frequency will increase levels of young forest creation. NFNC Report at 16. Attachment 7. The best available science shows that burning with this frequency should move a substantial portion of the treated acres into young forest, and an even greater portion into "open" forest."

Objectors cite that applying the Smokies' assumptions here, where the entire burning footprint would receive at least three passes of fire on average in the first 20 years, up to about 58,447 acres of early seral habitat (ESH) would be created, along with about 175,341 acres of open forests. In other words, the Forests could achieve NRV for young forests and half of their open forest objectives without cutting a single tree. Another coefficient for the effects of fire falls between Norman's observations and the Smokies' assumptions, and it is the figure that the Forest Service saw fit to use in its own NRV models.

Objectors "calculated the percent of total fire for Dry Mesic Oak and Dry Oak modeled to create young forest per NRV. According to the Forests' NRV models, 4.4% of fire in Dry Mesic Oak is "replacement" fire, and 5.2% of fire in Dry Oak is replacement fire. These NRV estimates are roughly consistent with the FEIS's prediction that 3-5% of fire should be high severity, which the Norman work shows will create young forest on 95% of the acres burned. NFNC Report; FEIS



App. D at D-17. Five percent young forest-creation rates for prescribed fire during the life of the plan would create about 2,200 acres of young forest each year at Tier 2 levels of burning—more than an order of magnitude greater than the figures used by the Forests' models. While the best available science cannot predict precisely how much young forest will be created by fire, it is absolutely clear that it will be more than the Forests have predicted. Again, the Spectrum model and FEIS project less than 1/3 of one percent. But even if fire is infrequent, 1.3% is the lowest defensible figure that can be based on actual observations, and this would result in about 572 acres per year caused by burning rather than 140—an increase of 432 acres per year that the analysis does not account for. This would add up, in dry forests where early seral habitat lasts for 20 years, to 8,640 additional acres of early seral habitat at a given time. Furthermore, it is mathematically impossible for Tier 2 levels of fire to affect the same areas only infrequently on the landscape where it will be applied. The best available science says that frequent, repeated fire will lead to substantially greater levels of young forest habitat than historical levels. Even if the Forests do not apply the same coefficient as the Smokies, they must at least ensure that the Spectrum model assumptions are consistent with the NRV model's estimate of 5%, which would yield approximately 2,200 additional acres of young forest each year. This would add up to an additional 44,000 acres of ESH".

### **Remedy(s) proposed by Objectors**

- To satisfy the Planning Rule's BASI requirement and NEPA, the Forests must engage with this issue and the literature it relies on and explain its predictions of the effects of repeated fire treatments. Currently, that explanation is absent.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.3 - Role of science in planning. The responsible official shall use the best available scientific information to inform the planning process required by this subpart for assessment; developing, amending, or revising a plan; and monitoring. In doing so, the responsible official shall determine what information is the most accurate, reliable, and relevant to the issues being considered. The responsible official shall document how the best available scientific information was used to inform the assessment, the plan or amendment decision, and the monitoring program as required in §§ 219.6(a)(3) and 219.14(a)(3). Such documentation must: Identify what information was determined to be the best available scientific information, explain the basis for that determination, and explain how the information was applied to the issues considered. [81 FR 90737, Dec. 15, 2016]

36 CFR 219.8(a)(1)(v) – Sustainability; Ecosystem integrity – the plan must include plan components, including standards and guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account...Wildland fire and opportunities to restore fire adapted ecosystems.

### **Project Record**



FEIS, pp. 2-4 to 2-5 Alternative E emphasizes an increase in in prescribed fire as a tool to be applied with other vegetation management methods to meet multiple forest management objectives ranging from hazardous fuels reduction to habitat restoration.

FEIS, pp. 2-10 to 2-12 Plan Direction states that the achievement of the Alternative E Tier 2 objectives for young forest and open forest creation annually can only be accomplished if there are substantial increases in funding that the Forest can utilize to increase prescribed fire planning, implementation and monitoring staffing and equipment through the life of the plan. Currently the Forest operates within budgetary and personnel resource levels that enable optimal achievement of Alternative E Tier 1 level objectives. The plan has been written to enable the Forests to act effectively if increased base or special project funding can be obtained in the future. Alternative E acreage could only be attained and maintained if substantial quantities of funding were to be added to the current Forest budget, which is not currently anticipated.

The record lists 37 reference sources of scientific based literature and guidance regarding fire effects and applications that were utilized to develop the plan.

Forest Plan, p. 299 - Forest Plan Monitoring Question MQ 7-10-T1 “How effective are prescribed fires for providing community protection as well as restoration of native ecosystems and wildlife habitats?”

See also Fire and Fuels Issue 2: Prescribed fire in Old-Growth for more plan content applicable to this response.

## **Response**

The Final Plan and the associated FEIS Alternative E Tier 2 prescribed fire annual treatment acres on the Forests could amount to 45,000 acres per year total with an expected creation of up to 3,200 acres per year of early successional, young forest conditions. The objectors feel that the modeling used to derive the expected creation of young forest underestimated the potential for prescribed fire treatments to create young forest conditions over the life of the plan. A few things that should be considered when evaluating the potential for Alternative E Tier 2 prescribed burning to achieve the 3,200 acres per year creation of new young forest conditions are: current and expected funding levels for project implementation, the number and frequency of treatments required to achieve young forest conditions when burned under typical prescribed burn plan parameters, and the variability of forest types across landscapes and burn units.

After review of the methods and models utilized to conduct the analysis of expected fire effects within areas that are treated with prescribed fire under Tier 2 conditions, the Forests Interdisciplinary Team (IDTs) approach and assumptions are adequate for gauging the potential effects of low to moderate intensity prescribed fire within the 6 primary forest types identified. The integration of NRV from Landfire with the SPECTRUM model analysis provides a more rigorous inspection of potential fire effects to forest condition change than dependence upon the standard SPECTRUM modeling alone.



Steve Norman's analysis that is described in FEIS, Appendix D on p. 17 asserted that 3-5% of acres burned under wildfire conditions would likely result in what can be considered high severity fire. The same section of Appendix D describes landscape anomalies that were identified based upon geographic and terrain in some areas of the forests that promote higher intensity fires under drought conditions which inflated the potential average potential for high severity fire effects to occur. The prescribed fire and other fuels management activities that the Forests identify in the plan will not be implemented under such undesirable conditions and should result in far less high severity fire than the objectors imply.

Any acres that the Forest has proposed to treat with prescribed fire will only be burned within the constraints identified in an approved prescribed fire plan (FSM 5142.6). These plans identify a suite of environmental factors and conditions within the fuel bed and atmosphere that influence fire behavior and intensity such that when strategically placed and sequenced ignitions are applied to the fuel bed an acceptable range of fire behavior characteristics will result that meet specific and measurable forest management objectives. Assumptions that all 44,000 acres will actually be burned when on average up to 35% of the ground within larger burn units (>500 acres) does not burn at all during prescribed fires such as riparian areas that are typically not available to burn due to high fuel moisture levels leaving "green" areas within the burned area but are not excluded from the annual total prescribed fire area totals.

Fire effects monitoring data for prescribed burns on National Forest System lands in the Appalachian Mountains indicate that most burns result in low to moderate fire intensity, except when and where higher intensity fire is planned and desired to meet management objectives – see Bates, Peter, Adam Coates, Jane Dell, and Don Hagan. 2021. Combining monitoring and research to better understand prescribed fire effects in the southern Appalachians. Fire Learning Network Webinar. Feb. 17, 2021. See the following web address for details: <https://tnc.app.box.com/s/6iyksl6mnym86qm5nfa316cvlf92xs4e>.

Fuel moisture, fuel composition, terrain features and weather scenarios are identified in prescribed burn plans to mitigate the potential of high severity fire except in areas specifically identified for higher intensities that will achieve management objectives. Further, monitoring questions will address how prescribed fires are restoring native ecosystems and wildlife habitats.

The draft ROD's Rationale for Decision (pp. 21-23) adequately addresses the desired creation of early successional and open forest habitat under the proposed prescribed fire and possible wildfire occurrence within the life of this plan to meet the long-term ecological goals of the Forests.

**Instruction(s):**

See the instruction for Climate Change Issue 3: Climate Change and Disturbance Regimes regarding the effect of wildfires on young forests.

**Clarification:** Provide more clarification to identify the percent of high severity burn area within mesic and xeric conditions in Appendix D. This additional information should clarify why a reduction in management in regeneration prescription would occur within the xeric and moderate



moisture classes due to assigning more land from wildfires to young forest (Appendix D, p. D-23).

## **Issue 2: Prescribed Fire in Old Growth**

**Objector(s):** Southern Environmental Law Center et al.

The objector is concerned about the acres of prescribed burning in old-growth permitted in the Forest Plan. They state that over the course of the Plan, the Forests permit burning on 7,800 per year in old forests in the first decade of the plan, 11,500 acres per year during the second decade, and by period 14, burning in old forests has reached 35,350 acres per year. The objectors then argue that the Forests do not have an accurate inventory of the acreage of old-growth on the forest and because of this the Forests cannot be sure of the environmental consequences of prescribed burning in old-growth. They claim that prescribed burning will transition old-growth to young forest. Without knowing the amount of old-growth on the forest, the Forest Service risks transitioning too much old-growth to young forest through prescribed fire.

### **Remedy(s) proposed by Objectors**

- Survey previously identified old growth and ensure it is carried forward into the Plan's Old Growth Network.

## **REVIEW FINDINGS**

### **Law, Regulation and Policy**

36 CFR 219.8(a)(1)(v) – Sustainability; Ecosystem integrity – the plan must include plan components, including standards and guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account...Wildland fire and opportunities to restore fire adapted ecosystems.

Forest Service Manual (FSM) 5140, Section 5141 Hazardous Fuels Management and Prescribed Fire Planning; Section 5142, Prescribed Fire; Section 5142.6 – Prescribed Fire Plans documenting the preparation of a site-specific Prescribed Fire Burn Plan prepared in accordance with the Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484; PMS 484-1).

### **Project Record**

Forest Plan, p. 85: OGN-O-01 - Enhance or accelerate the development of old growth conditions over time, by actively managing 250 acres for each ten-year interval through activities. Management approaches: Methods for enhancing old growth condition could include increasing downed woody debris within all size classes by felling variable size trees, creating woodlands in appropriate ecozones by thinning and prescribe burning, enhancing the composition of native



species, creating snags by girdling trees, and harvesting products as a side benefit of removing uncharacteristic vegetation.

Forest Plan, p. 85: OGN-S-01 - In patches identified as part of the designated old growth network, allow vegetation manipulation, including thinning, woodland creation and prescribed burns and limited soil disturbance...

Forest Plan, p. 18 under Ecosystems, Unique Habitats, and Rare Species – “Manage prescribed fire by incorporating direction with an integrated resource approach to prescribed fire activities and flexibility for restoration and maintenance of ecosystems.”

Forest Plan, p. 50 under Terrestrial Ecosystems – “Other restoration objectives will require active management to maintain or restore ecological conditions. For example, restoration activities include prescribed burning to maintain or restore fire-adapted ecosystems.”

Forest Plan, p. 70 under Integrated Ecosystem and Wildlife Habitat Objectives:

- ECO-O-02 - Tier 1: Increase new young forest conditions by using silvicultural practices on between 650 to 1,200 acres annually. Tier 2: Increase new young forest conditions by using silvicultural practices on between 1,200 to 3,200 acres annually. Management approach: Young forest creation will be accomplished using both timber harvest and prescribed fire. Timber harvest will account for most (approximately 80% or more) of young forest creation during the life of the plan.
- ECO-O-05 - Tier 1: Annually thin and burn 300 to 600 acres to advance open forest woodland conditions. Tier 2: Annually thin and burn 600 to 900 acres to advance open forest woodland conditions. Management approach: Open forest woodland conditions are restored and maintained using a combination of both timber harvest and prescribed fire and both commercial and non-commercial treatments. This will include regeneration in a portion of the woodland during the maintenance phase. The maintenance phase requires repeated prescribed fire treatments.
- ECO-O-06 - Tier 1: Apply prescribed fire on 10,000 acres to 20,000 acres annually to restore and maintain fire adapted ecozones, create woodlands, and reduce hazardous fuels. Tier 2: Apply prescribed fire on 20,000 acres to 45,000 acres annually to restore and maintain fire adapted ecozones, create woodlands, and reduce hazardous fuels. Management approach: Annually, determine a planned level of prescribed fire based on resource availability, weather conditions, and other factors. The priority fire adapted ecozones include shortleaf pine, pine-oak/heath, dry oak, and dry mesic oak ecozones. Prescribed fire would be prioritized where federally listed and SCC species habitat require frequent burning.

Forest Plan, p. 90 under Timber Management Practices: Timber management and prescribed fire are often used in combination to meet forest plan objectives and desired conditions. For example, in fire adapted forest communities prescribed fire and timber management are used in the same silvicultural prescription to achieve open structural conditions or woodlands that are typical on xeric sites and sites of moderate moisture potential.

Forest Plan, pp. 98-100 - Fire and Fuels section in its entirety.



Forest Plan, p. 291, Monitoring Question MQ 2-3-T2 “What old growth characteristics are accruing in the designated old growth network?”

Forest Plan, p. 299, Monitoring Question MQ 7-10-T1 “How effective are prescribed fires for providing community protection as well as restoration of native ecosystems and wildlife habitats?”

Forest Plan, pp. 313-314 – Estimated Vegetation Management Practices, Table B-4, documenting the decadal prescribed fire estimates by Tier, documenting total treatments in Tier 1 for the decade equates to 199,994 acres (19,999 acres per year) and Tier 2 for the decade equates to 440,010 acres (44,010 acres per year); specifically states that “Estimated practices listed here are approximations and should not be related directly to future forest level treatment levels. The estimated practices are not a commitment to take an action or a proposal for such action, and variation may occur. The Tier 1 estimated practices are based on Forest’s fiscal capability, while Tier 2 estimates what may be possible with additional resources and capacity. Refer to the Terrestrial Ecosystem and timber management sections of the forest plan for examples of priority treatments and design criteria.”

FEIS, p. 3-363 describes the above-mentioned plan components for old-growth that contribute to the persistence of the Carolina northern flying squirrel on the Forests.

Draft ROD, p. 22 - “Alternative E supports sustaining healthy ecosystems through a land management allocation that: Increases the size of the designated old growth network by more than 54,000 acres, up to about 265,000 acres. The adjusted designated old growth network includes all ecozones, moisture conditions, and elevation gradients. Alternative E would provide a larger designated old growth network than any other alternative; it would take several decades to achieve such a large network under any other alternative. This alternative includes more large old growth patches, thereby increasing the network’s overall resiliency and connectivity across the forests. Old growth conditions take decades to develop, and the establishment of this network will improve the forest’s ability to ensure the landscape develops old growth characteristics over time. (See EIS, Chapter 3 Designated Old Growth Network.) “

Draft ROD, pp. 44-45 - Outside the designated OG network, the draft ROD notes that “[t]he District Ranger, or the Forest Supervisor for multi-district projects, will retain the option of how to manage old trees, old stands, or old growth forest patches in the project itself, depending on the management area direction, site-specific conditions, and ecological needs in the area. If an area is identified as best managed for old growth characteristics, then the project can manage for those conditions, but the area will not be added to the forest-wide Designated OG Network.”

## **Response**

The plan components described above provide for adequate protection of designated old-growth and old-growth outside of the designated system with regard to prescribed fire. Forest Plan components do not prescribe high rates for prescribed fire in old growth. As noted above, it does however explain that multiple management tools may be utilized to maintain and enhance the old



growth character of some stands and to protect them from potential damage from insects, disease and wildfire.

Integrated Ecosystem and Wildlife Habitat Objectives, especially ECO-O-06 ensure that the Forests carefully considers where prescribed fire will be applied and prioritizes prescribed burning where federally listed and SCC species habitat require frequent burning, and to maintain fire adapted ecosystems.

Any acres that the Forests have proposed to treat with prescribed fire will only be burned within the constraints identified in an approved prescribed fire plan (FSM 5142.6). These plans identify a suite of environmental factors and conditions within the fuel bed and atmosphere that influence fire behavior and intensity such that when strategically placed and sequenced ignitions are applied to the fuel bed an acceptable range of fire behavior characteristics will result that meet specific and measurable forest management objectives. Due to the inherent variability of characteristics and constraints within the landscapes that the Forest Service manages it is often necessary to design the prescribed fire plan to exclude specific areas within burn units or apply fire within them in a modified approach to reduce or sometime increase intensity based on management objectives.

In the view of hazardous fuel reduction and protection of old growth integrity, it is essential to treat the forested landscapes around the designated areas under prescribed fire conditions to reduce the risk of stand replacement catastrophic wildfire occurring in the old growth stands under drought conditions. As identified in the Forest Plan, some of the old growth stands may require introduction of a single very low intensity fire if it is determined that the area is beyond its required fire return interval. The burn plans for these areas would be specifically prepared to ensure the old growth character will be maintained and improved.

The FEIS and Forest Plan adequately addresses the objectors concerns on old-growth management. Because an implementation prescription is prepared and carried out in-line with the stated and documented objectives of the project, no additional analysis or documentation is needed at the plan level. Monitoring questions will ensure that old growth conditions are accruing in the designated old growth network and that prescribed burning is achieving the desired objectives.

**Instruction(s):** None.



## Appendix A: List of Eligible Objectors and Interested Persons

**Table 1: List of Eligible Objectors and Affiliation, if applicable:**

<b>Objectors</b>	<b>Organization/Group</b>
Aaron Biggs	
Aaron Kelly	
Aaron Maret	
Abby Artemisia	
Abby Senseney	
Adrian Smith	
Adrienne Frey	
Alan Harper	
Alan Smith	
Alea Tuttle	
Alexis Lamere	
Alicia Hulse	
Alyssa Sacora	
Amanda Lowe	
Amanda Rodriguez	
Amber Baker	
Amelia Latham	
Amy Armantrout	
Amy Arrendell	
Amy Brown	
Amy Fahmy	
Amy Pick	
Amy Richards	
Andrea Burgess	
Andrea Snyder	
Andrew Ashburn	
Andrew Campbell	
Andrew Kotikovsky	
Andrew Wadsworth	
Andrew Williams	
Andy Johnson	
Andy Lupenko	
Andy Runkle	
Angel Alvarez	
Anita Newman	
Ann Green	
Anna Johnson	



<b>Objectors</b>	<b>Organization/Group</b>
Anna Littman	
Anna Young	
Anne Montarou	
Anne Winicki	
Anthony Scrimenti	
Arnold Smith	
Arthur Hagar	
Asher Mclaughlin	
Ashley Fleetwood	
Ashley Jones	
Ashley Smith	
Astrid Keup	
Aubrey Mast	
Audra McClelland	
Austin Stroker	
Axa Tolonen	
Axel Ringe	
Barbara Benson	
Barbara Bowman	
Barbara Brooks	
Barbara Harper	
Barbara McMahan	
Barbara Roggow	
Barbara Tucker	
Barry Diznoff	
Becky Mckee	
Becky Sims	
Ben Prater	Defenders of Wildlife
Bernice Peltier	
Beth Coakley	
Beth Goins	
Beth Russo	
Beth Smith	
Beth Stanberry	
Betsy Savely	
Betty Diznoff	
Betty Gunz	
Beverly Nichols	
Bill Lundeen	
Bob Bowles	



<b>Objectors</b>	<b>Organization/Group</b>
Bob Brucker	
Bobbie Ball	
Brad Martin	
Brandon Adams	
Brenda Choi	
Brenda Cooke	
Brenda Michaels	
Brett Dillingham	
Brian Davis	
Brian Grasso	
Brian Miller	
Brownie Newman	
Bruce Hlodnicki	
Bruce Jones	
Cam Bolin	
Camie Rodgers	
Candice Anderson	
Carl Nyberg	
Carol Collins	
Carol Craig	
Carol George	
Carol Stephenson	
Caroline Sévilla	
Carolyn Kanter	
Carolyn Pilgrim	
Carolyn Potts	
Carolyn Riley	
Caryn Graves	
Casey Merriman	
Cassie Crawford	
Catherine Mcnamara	
Catherine Smith	
Catherine Starkweather	
Chanda Farley	
Charles Cohen	
Charles Smith	
Chase Martin	
Chelsea Rath	
Chelsea Wakstein	
Cheryl Morrison	



<b>Objectors</b>	<b>Organization/Group</b>
Chloe Smith	
Chris Davenport	
Chris Drumright	
Chris Hazynski	
Chrissy Tingle	
Christi Dillon	
Christina Morrison	
Christina Torres	
Christine B.	
Christine Drea	
Christine Rich	
Christopher Evans	
Christopher Fox	
Christopher Rogers	
Christopher Sacco	
Christy-Lynn Clevenger	
Cindy Grimes	
Cindy Hamilton	
Cj Smith	
Claire Mcguire	
Claudia Reed	
Clayton Gibb	
Cody Dubois	
Colonel Meyer	
Connie Lippert	
Connie Raper	
Corey Shane	
Courtney Fincher	
Courtney Timmerman	
Croitiene Ganmoryn	
Curtis Smalling	Audubon NC
Cynthia Allen	
Cynthia Benkert	
Cynthia Bernett	
Cynthia Hicks	
Cynthia Simonds	
D Provance	
Dale Haas	
Dan Coburn	
Dan Eichenbaum	



<b>Objectors</b>	<b>Organization/Group</b>
Daniel Foscue	
Daniel Harris	
Danna McIntock	
Darlene Wolf	
David Adams	
David Brown	
David Busch	
David Funsten	
David Jones	
David Long	
David Nelson	
David Reid	Sierra Club
David Sharpe	
David Smith	
David Smuhl	
David Thompson	
David White	
David Whitmire	Fish and Wildlife Conservation Council
Dawn Martin	
Deana Shelton	
Deanna Andrews	
Debbie Davis	
Debbie Hill	
Debbie Mcmannis	
Deborah Hage	
Deborah Lewis	
Deborah Smith	
Deborah Williams	
Debra Miller	
Debra Roberts	
Deidra Smith	
Deirdre Perot	Backcountry Horsemen of NC
Denise Lytle	
Denise Mills	
Deniz Bolbol	
Dennis Miller	
Devon Seltzer	
Diana Lewis	
Diane Bauknight	I Heart Pisgah
Diane Saunders	



<b>Objectors</b>	<b>Organization/Group</b>
Don Bergey	
Don Thompson	
Donna Adams	
Donna Coleman	
Donna Durfee	
Donna Johnson	
Donna Lewis	
Donna Smith	
Donna Thomas	
Donna White	
Doug Elliott	
Doug Franklin	
Douglas Trimbach	
Dr John Brooks	
Dwight Koeberl	
Ed Stein	
Edward Markushewski	
Edward Smith	
Eileen Fonferko	
Elaine Becker	
Elaine Eudy	
Elaine Harlan	
Elaine Robbins	
Elaine Tully	
Elak Swindell	
Eliana Cloutier	
Elicia David	
Elisabeth Bechmann	
Elizabeth Butler	
Elizabeth Davis	
Elizabeth Knowlton	
Elizabeth Roberts	
Elizabeth Smith	
Elizabeth Wright	
Elsa Enstrom	
Elsa West	
Emilio Ancaya	
Emily Crose	
Emily Diznoff	Friends of Big Ivy
Emily Driskill	



<b>Objectors</b>	<b>Organization/Group</b>
Emily Euchner	
Emily Martin	
Emily Monteith	
Emily Ohare	
Emily Sagovac	
Emily Smith	
Emma Martin	
Emmalee Hunnicutt	
Eric Hensgen	
Eric Naji	
Eric Smith	
Eric West	
Erica Gunnison	
Erika Howards	
Erin Whitley Hawks	
Ernst Mecke	
Esther Manheimer	
Evan Cohen	
Evelyn Coltman	
Evelyn Parker	
Fay Bracken	
Felicity Hohenshelt	
Finn Harlan	
Forrest Green	
Frances Mcaroy	
Fred Oswald	
Freddie Williams	
Freya Harris	
Gary Nelson	
Geneine Payne	
George Weaver	
Ginger Norman	
Glenda Zahner	
Glenn Middleton	
Gloria Shen	
Gloria Sundquist	
Grace Anderson	
Greg McGuffey	
Greg Warren	
Gudrun Dennis	



<b>Objectors</b>	<b>Organization/Group</b>
Hannah Borababy	
Hannah Furgiuele	Kylee Jackson, Program Director, Forest Keeper - Friends of Big Ivy
Hannah Helmey	
Hannah Jones	
Hannah Stampe	
Heather Jones	
Heather Richardson	
Helen Crawford	
Hilary Knause	
Hugh Irwin	Yes as individual and as The Wilderness Society
Ian Brownlee	
Irene Snavely	
Jackie Schieb	
Jacqueline Cahelo	
James Brunton	
James Forero	
James Haddad	
James Jackson	
James Martin	
James Mulcare	
Jan Modjeski	
Jane Marquet	
Jane White	
Jane Williams	
Janet Black	
Janet Parkins	
Janet Peterson	
Janet Robinson	
Janet Schmidt	
Janet Tice	
Janice Phillips	
Jason Banks	
Jason Kimenker	Friends of Panthertown
Jason Marino	Graham County
Jason Totoiu	Center For Biological Diversity
Jeannie Adair	
Jeff Kulp	
Jeff Lewis	
Jeffery Blanton	



<b>Objectors</b>	<b>Organization/Group</b>
Jeffrey Graham	
Jelica Roland	
Jen Dombrowski	
Jennifer Alaine	
Jennifer Bass	
Jennifer Bowman	
Jennifer Brandon	
Jennifer Harris	
Jennifer Henry	
Jennifer Johnson	
Jennifer Jones	
Jennifer Martin	
Jennifer Murphy	
Jennifer Pharr Davis	
Jennifer Pick	
Jeremy Schewe	
Jeri Tatum	
Jesse Williams	
Jessica Anderson	
Jessica Claudio	
Jessica Cleary	
Jessica Heiden	
Jessica Locicero-Walsh	
Jessica Martin	
Jessica Rowe	
Jessica West	
Jill Pyrz	
Jim Long	
Jim Melton	
Jim Miller	
Jinn Fuller Renfro	
Jl Angell	
Joan Candalino	
Joan Davis	
Joan Harris	
Joan Hughes	
Joan Naylor	
Joan Smith	
Joann Emerson	
Jocelyn Stowell	



<b>Objectors</b>	<b>Organization/Group</b>
Jody Gibson	
Jody Horsman	
Joe Anderson	
Joe Lappin	
Joe Vogler	
John Bowles	
John Bromer	
John Caldwell	
John Crawford	
John Edwards	
John Ende	
John Fox	
John Franklin	
John Friestad	
John Geiger	
John Hatcher	NC Forestry Association
John Kelly	
John Martinez	
John Miller	
John Mitchell	
John Morris	
John Oda	
John Pasqua	
John Powers	
John Stimatz	
John White	
Johnny Hall	
Jonathan Harrah	
Jordan Sellers	
Joseph Appleton	
Joseph Herbst	
Joseph Quirk	
Joseph Stewart	
Joseph Wenzel	
Joseph Wilson	
Josh Kelly	MountainTrue; Callie Moore will also attend
Joy Lew	
Judith King	
Judith Rose	
Judith Smith	



<b>Objectors</b>	<b>Organization/Group</b>
Judy Moran	
Judy Rhodes	
Judy Thomas	
Justin Moore	
Justin Plunkett	
Justin Sharpe	
Kaitlin de Varona	
Karen Lawrence	
Karen Morris	
Karen Peterson	
Karen Spradlin	
Karen Stickney	
Karen Wilson	
Karin Heiman	
Karl Plank	
Karola Windweh	
Kat Shaw	
Kate Kenner	
Kate Lamar	
Katherine White	
Katherine Williams	
Kathi Ward	
Kathleen Caldwell	
Kathleen Myers	
Kathryn Brown	
Kathryn Sacco	
Katie Harris	
Katie Hicks	
Keith Cutler	
Keith Krueger	
Kelly Hollinger	
Kelly Paliuca	
Kelsey Kennedy	
Ken Bosch	
Ken Goldsmith	
Ken Turco	
Ken Wilson	
Kenneth Casebeer	
Keren Giovengo	
Keri Evjy	



<b>Objectors</b>	<b>Organization/Group</b>
Kevin Colburn	
Kevin Herschman	
Kevin O'Donnell	
Kevin Vaught	
Kicab Castaneda-Mendez	
Kim Porter	
Kim Robinson	
Kimberly Field	
Kimberly Hurtt	
Kristen Granados	
Kristin Shepard	
Kyle Molnar	
Kyle Steele	
Laura Beth Finley	
Laura Davis	
Laura Guttridge	
Laura Mitchell	
Laura Olinger	
Laura Staples	
Laura Taylor	
Lauren Richie	
Laurie Rowe	
Lawrence Holtzman	
Lawrence Jasud	
Leah Davis	
Leah Miller	
Leah Swann	
Leanne Apfelbeck	
Leslie Pardue	
Leslie Smith	
Lewis Porter	
Lila Ryman	
Linda Henson	
Linda Jennings	
Linda Jones	
Linda Martin	
Linda Voelker	
Linda Wilson	
Lindsey Sprague	
Lisa Barrett	



<b>Objectors</b>	<b>Organization/Group</b>
Lisa Hanson	
Lisa Isenhardt	
Lisa Kruss	
Lisa Mazzola	
Lisa Salazar	
L. Marshall	
Lonna Richmond	
Lori Ugolik	
Lorri Bura	
Louise Bahnson	
Lucy Wetzel	
Luke Cannon	
Luke McLaughlin	
Lydia Garvey	
Lyndee Weaver	
Lynn Maust	
Lynne C.	
Lynnea Ekstrom	
Madison Moore	
Madison Wright	
Mae Basye	
Mallory Tillotson	
Marcia Nelson	
Marco Pardi	
Mardy Weinstein	
Margaret Brown	
Margaret Newell	
Margaret Silver	
Margaret Steele	
Margaret Walker	
Mari Mennel-Bell	
Maria Miranda	
Marianne Lazarus	
Marija Minic	
Marilyn Mueller	
Marjorie Angelo	
Mark Berman	
Mark Canright	
Mark Fishburn	
Mark Grzegorzewski	



<b>Objectors</b>	<b>Organization/Group</b>
Mark Kennedy	
Mark Koritz	
Mark Reback	
Mark Smith	
Mark Warren	
Marlena Lange	
Marshall Hance	
Martha Huggins	
Martha Misenheimer	
Martin Wieland	
Marty Bostic	
Mary Crowe	
Mary Decraemer	
Mary Ellis	
Mary Gallagher	
Mary Gutierrez	
Mary Johnson	
Mary Lucey	
Mary Palmer	
Mary Reed	
Mary Rose	
Mary Shabbott	
Mary Walker	
Mary Walls	
Maryann Piccione	
Matt Reynolds	
Matthew Johnson	
Matthew Miller	
Matthew Peterson	
Matthew Pospishil	
Matthew Reid	
Maureen Sheahan	
Max Royal	
Max Salt	
Maya Keefer	
Megan Bennett	
Megan Sutton	NP Forest Partnership
Megan Taylor	
Meghan Baker	
Meghan Gemma	



<b>Objectors</b>	<b>Organization/Group</b>
Melissa Arnold	
Melissa Booth	
Melissa Gaskins	
Melissa Griffin	
Melissa Milano	
Melissa Williams	
Meredith Dowling	
Meredith Wharton	
Meryl Pinque	
Michael Cox	
Michael Eisenberg	
Michael Fisher	Carolina Mountain Club
Michael Forward	
Michael Frey	
Michael Hall	
Michael Johnson	
Michael Lee	
Michael Lightweaver	
Michael Nelson	
Michael Newman	
Michael Perkins	
Michael Stewart	
Michael Stone	
Michael White	
Michel Valin	
Michele Laporte	
Michele Villeneuve	
Michelle Chambers	
Michelle Mackenzie	
Miguel Perez	
Mike Baker	
Mike Williams	
Missy Gluckmann	
Missy Kendrick	
Morgan Crawford	
Morgan Smith	
Morley Schloss	
Mustafa Kocabasi	
Myra Dewhurst	
N Coyle	



<b>Objectors</b>	<b>Organization/Group</b>
Nancy Brown	
Nancy King	
Nancy Martin	
Nancy Stamm	
Nancy Walsh	
Nancy White	
Nancy Wilson	
Natalie Martin	
Natalie Martinez	
Nathan Buchanan	
Nathan Morrison	
Nic Coker	
Nicholas Holshouser	
Nicholas Miller	
Nick Biemiller	Ruffed Grouse Society & American Woodcock Society - also Charles Rainer
Nick Morse	
Nicole Hayler	Chattooga Conservancy
Nicolette Ludolphi	
Nina Hart	
Norm Wilmes	
Owen Doll	
Pablo Bobe	
Paisley Pahlmann	
Pam Norman	
Pamela Budd	
Pamela Sullivan	
Pat Taylor	
Patricia Adams	
Patricia Derrough	
Patricia Dishman	
Patricia Field	
Patricia Nielsen	
Patricia Quinn	
Patrick French	
Patrick Stevens	
Paul Franklin	
Paul Howard	
Paul Mills	
Paul Russell	



<b>Objectors</b>	<b>Organization/Group</b>
Paul Schmalzer	
Paul Smith	
Paul Williams	
Paula Bell	
Paula Morgan	
Peter Broderson	
Peter Krull	
Peter Shillingsburg	
Philip Croll	
Philip Johnson	
Phoenix Miller	
Pierce Lynch	
Polly Medicott	
Querido Galdo	
Rachel Obrien	
Rachel Rhodes	
Rachel Robinson	
Raphaël Ponce	
Ray Derrickson	
Ray Hearne	
Ray Yow	
Raymond Gibson	
Rebecca Brown	
Rebecca Clark	
Rebecca Cook	
Rebecca Elkin	
Rebecca King	
Rebecca Wood	
Rebekah Colours	
Rhetta Jack	
Rhonda Bradley	
Richard Bir	
Richard Fehr	
Richard Kite	
Richard Mccrary	
Richard Melvin	
Richard Spotts	
Richard Thomas	
River Harlan	
Rob Lenfestey	



<b>Objectors</b>	<b>Organization/Group</b>
Rob Peck	
Robert Belknap	
Robert Fingerman	
Robert Johnson	
Robert Jones	
Robert Puca	
Robert Ward	
Robert Wolf	
Roberta Moore	
Robyn Biren	
Robyn Reichert	
Rocquelle Woods	
Rodney Love	
Roger Vaughan	
Rolf Friis	
Ronnie Cutshall	
Rosalind Andrews	
Rose Campbell	
Rosemary Tann	
Rustan Adcock	
Ryan Williams	
Sallie Paar	
Sally Casey	
Sally Rogers	
Sam Evans	SELC with Laura LaFleur; Henry Gargan
Sam Hay	
Sam Klontz	
Sandra Arapoudis	
Sandra Hazzard	
Sandra Lee	
Sandra Winner	
Sara Bell	
Sara Evans	
Sarah Amedoro	
Sarah Brown	
Sarah Davis	
Sarah Dietrich	
Sarah Ghoujegli	
Sarah Holland	
Sarah Mcdonald	



<b>Objectors</b>	<b>Organization/Group</b>
Sarah Sanford	
Sarah Stewart	
Sarah Valentine	
Sarah Yancey	
Saskia Santos	
Scott Lewis	
Scott Macmorran	
Sean Mack	
Sean Simonds	
Sharon Downs	
Sharon Johnson	
Sharon Kaplan	
Sharon Mora	
Shawn Feehery	
Shea Olinger	
Shelby Hodge	
Shelton Steele	
Sherri Hodges	
Sherrod Brady	I Heart Pisgah
Sherry Lewis	
Shirley Harris	
Sonya Cook	
Stacey Macdonagh	
Stacy Roberts	
Stephanie Hein	
Stephen Boletchek	
Stephen Welgos	
Steve Livingston	
Steven Lee	
Steven McBride	
Steven Sy	
Steven White	
Sue Biederman	
Susan Becker	
Susan Brown	
Susan Campbell	
Susan Fischer	
Susan Ford	
Susan Galante	
Susan Hindman	



<b>Objectors</b>	<b>Organization/Group</b>
Susan J Morris	
Susan Jones	
Susan Loscalzo	
Susan Schuchard	
Susan Severino	
Susan Wade	
Suzanne Boothby	
Suzanne Dickson	
Suzy Berkowitz	
Suzy Lawrence	
Tamara Matheson	
Tammy Wood	
Tanya Gerard	
Tanya Tracy	
Tara Foss	
Tari Gerst	
Taylor Brown	
Taylor Bunch	
Teresa Pitts	
Terri Lefler	
Terry Palmeri	SORBA/IMBA
Theodore Spachidakis	
Theresa Wood	
Thomas Gallo	
Thomas Johnson	
Thomas Leonard	
Thomas Rose	
Thomas Sedano	
Thomas Webb	
Tiffany Ehnes	
Tim Kellogg	
Tim Watkins	
Todd Snyder	
Todd Williams	
Tom Hoffman	
Tom Jackson	
Tracy Feldman	
Trish Peters	
Tyler Green	
Una Jean Harrison	



<b>Objectors</b>	<b>Organization/Group</b>
Valerie Brown	
Valerie Hildebrand	
Vicki Rogers	
Vicky Brandt	
Victor Mariano	
Victoria Baker	
Virgene Link-New	
Virginia Mendez	
Warwick Hansell	
Wes Sessoms	
Wes Weaver	
Whitney Brasington	
Will Foster	
Will Harlan	I Heart Pisgah
Will Sims	
William Arrants	
William Cline	
William Floyd	
William Goodson	
William Horton	
William Lewis	
William Mccullough	
William Willis	
Win Southworth	
Windee Willoughby	
Xyara Asplen	
Yvonne Fisher	
Zachary Lesch-Huie	Access Fund and Carolina Climbers Coalition - along with Mike Reardon, Daniel Dunn, Erik Murdoch, and Katie Goodwin
Zachary Porch	
Zax Milkereit	

**Table 2: List of Interested Persons/Organizations:**

<b>Interested Persons Request</b>	<b>Organization</b>
Will Jared Matthews	
Luke Cannon	
Kyle Briggs, Andrea Leslie and Ryan Jacobs	NC Wildlife Resources Commission
Deirdre Perot	Back Country Horseman of NC



Interested Persons Request	Organization
Terry Palmeri	Southern Off-Road Bicycle Association and IMBA Southeast Region Executive Director
Una Jean Harrison	Red Root Native Nursery/Friends of Big Ivy
Manley Fuller	North Carolina Wildlife Federation
Sam Evans	Southern Environmental Law Center, et. al.
Megan Sutton	The Nature Conservancy of North Carolina
Will Harlan	I Heart Pisgah
Joseph Owle/Michael LaVoie	Eastern Band of Cherokee Indians
Nicholas Holshouser	
John Culclasure	
Misty Buchanan	NC Natural Heritage Program
Julie White	
Michael Cheek; Greg Smith; Sean Brogan; Ron Myers	North Carolina Forest Service
Drew Ball	Appalachian Trail Conservancy
Martha Brimm	
Melissa Coe	
Gina Diggs	
Don Lendle	
Sue Hayden	
Gina Diggs	
Eli Celli	
Michael Sullivan	
Juliana Henderson	
Kim Porter	
Bill Floyd	
Nick Biemiller	Ruffed Grouse Society and American Woodcock Society
Jane Thomas	
Natalie Nicklett	
Ryland Bowman	
Nicole Hayler	Chattooga Conservancy
Travis Hutchins	Northwest North Carolina Mountain Bike Alliance
Timothy Downs	
Kevin Colburn	American Whitewater
John Hatcher	North Carolina Forestry Association



## **Appendix B: Acronyms Used**

ATV - all-terrain vehicle  
ANST – Appalachian National Scenic Trail  
BA - basal area  
BMP - best management practice  
BRP- Blue Ridge Parkway  
CCF - hundred cubic feet  
CEQ - Council on Environmental Quality  
CFR - Code of Federal Regulations  
CFS - cubic feet per second  
CIP - Capital Investment Program  
CMAI - culmination of mean annual increment  
CWA - Clean Water Act  
CWD - Coarse Woody Debris  
DBH - diameter at breast height  
DC - Desired Conditions  
DEIS - Draft Environmental Impact Statement  
EA - Environmental Assessment  
EIS - Environmental Impact Statement  
EPA - Environmental Protection Agency  
ESA - Endangered Species Act  
FEIS - Final Environmental Impact Statement  
FIA - Forest Inventory and Analysis  
FMP - Fire Management Plan  
FRCC - Fire Regime Condition Class  
FSH - Forest Service Handbook  
FSM - Forest Service Manual  
FVS - Forest Vegetation Simulator  
GA – Geographic Area  
GIS - Geographic Information System  
HUC - Hydrologic Unit Code  
IDT - Interdisciplinary Team  
IRA – Inventoried Roadless Area



LMP - Land Management Plan  
LWD - Large Woody Debris  
MA - management area  
MBF - thousand board feet  
MCF - thousand cubic feet  
MMBF - million board feet  
MMCF - million cubic feet  
MOU - memorandum of understanding  
MVUM - Motor Vehicle Use Map  
NAAQS - National Ambient Air Quality Standards  
NEPA - National Environmental Policy Act  
NF - National Forest  
NFMA - National Forest Management Act NFS - National Forest System  
NFSR - National Forest System Road  
NPS - National Parks Service  
NRCS - Natural Resources Conservation Service  
NRI - Natural Resource Inventory  
NVUM - National Visitor Use Monitoring  
NWPS - National Wilderness Preservation System  
OHV - off-highway vehicle  
PTSQ - Projected Timber Sale Quantity  
RIM - Recreation Information Management  
RMO - Road Management Objectives  
RNA - research natural area  
ROD - record of decision  
ROS - Recreation Opportunity Spectrum  
ROW - right-of-way  
SCC - Species of Conservation Concern  
SHPO - State Historic Preservation Officer  
SIO - Scenic Integrity Objective  
SMS - Scenery Management System  
SPMO – semi-primitive motorized  
SPNM – semi-primitive non-motorized



SYL - Sustained Yield Limit  
T&E - threatened and endangered  
TAP - Transportation Analysis Process  
TSI - timber stand improvement  
USDA - U.S. Department of Agriculture  
USDI - U.S. Department of Interior  
USFWS - U.S. Fish and Wildlife Service  
USGS - U.S. Geological Survey  
WSA - Wilderness Study Area  
WSR – Wild and Scenic River



## Plan Component Coding Acronyms

The forest plan displays plan components with code identifiers to distinguish them from other language of the plan. The forest plan also uses a unique coding system to reference plan components more easily. Plan components are identified using the following pattern: LOCATION-TYPE-##-. The series of letters before the first dash references either the forestwide resource topic or the geographic area or management area. The second series of letters reference the type of plan component (Desired Condition, Objective, Standard, Guideline or Goal). The final series provides a number for easier identification of plan components. For example, the code AIR-DC-01 refers to the Air Resources section of the plan, Desired Condition number 1; while BAC-S-11 refers to the Backcountry Management Area, Standard number 11. See the acronym guide to the coding system below.

Location	Forestwide Resource	Geographic Areas	Management Areas
	PI = Public Involvement COM = Community Connections AIR = Air CC = Climate Change GEO = Geologic Resources WSD = Watershed SLS = Soils WTR = Water AQS = Aquatic System SZ = Streamside Zones ECO = Terrestrial Ecosystems WLF = Wildlife PAD = Plant and Animal Diversity OGN = Designated Old Growth Network FHL = Forest Health TIM = Timber FR = Fire and Fuels LSU = Lands and Special Uses TA = Transportation and Access FAC = Facilities REC = Recreation SC = Scenery CR = Cultural Resources TR = Tribal Resources NTFP = Non-timber Forest Products MIN = Minerals & Energy CE = Conservation Education & Interpretation	BAM = Bald Mountains BLM = Black Mountains EE = Eastern Escarpment PL = Pisgah Ledge NS = North Slope HD = Highland Domes GB = Great Balsam NM = Nantahala Mountains NG = Nantahala Gorge FL = Fontana Lake HW = Hiwassee UM = Unicoi Mountains	INT = Interface MAT = Matrix BAC = Backcountry EIA = Ecological Interest Areas SIA = Special Interest Areas AT= Appalachian National Scenic Trail Corridor SB = National Scenic Byways HC = Heritage Corridors WSR = Wild and Scenic Rivers RNA = Research Natural Areas CWD = Congressionally Designated Wilderness RW = Recommended Wilderness and Wilderness Study Areas EXF = Experimental Forests RM = Roan Mountain CF = Cradle of Forestry in America
TYPE	Plan component		
	DC = Desired Condition O = Objective S = Standard G = Guideline GLS = Goals		