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Nantahala and Pisgah National Forests

Draft Record of Decision

for the
Land Management Plan

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Draft Record of Decision for the
Nantahala and Pisgah National Forests
Land Management Plan

Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Swain, Transylvania, Watauga and Yancey Counties, North Carolina

Lead Agency: U.S. Forest Service

Responsible Official: **James E. Melonas, Forest Supervisor**
160 Zillicoa Street Suite A
Asheville, NC 28801

For information, contact: **Michelle Aldridge, Forest Planner**
National Forests in North Carolina
160 Zillicoa Street Suite A
Asheville, NC 28801
(828) 257- 4200
www.fs.usda.gov/goto/nfsnc/nprevision

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List of Acronyms

BASI	Best available scientific information
CAA	Clean Air Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DC	Desired Conditions
DEIS	Draft Environmental Impact Statement
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FPR	Forest Plan Revision
FW	Forest Wide
GA	Geographic Areas
GIS	Geographic Information System
MMCF	Million cubic feet
MOU	Memorandum of understanding
NEPA	National Environmental Policy Act
NF	National Forest
NFS	National Forest System
NFMA	National Forest Management Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
ORV	Outstandingly remarkable value
NOI	Notice of Intent
ROD	Record of Decision
ROS	Recreation Opportunity Spectrum
SCC	Species of Conservation Concern
SIO	Scenic integrity objectives
STD	Standard
SHPO	State Historic Preservation Office
THPO	Tribal Historic Preservation Office

USDA	United States Department of Agriculture
USDOI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

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Introduction

This draft Record of Decision (Draft ROD) documents my decision and rationale for approving the Nantahala and Pisgah National Forests Revised Land Management Plan (forest plan). The decision implements the Forest Service's 2012 Land Management Planning Rule at 36 CFR Part 219 and facilitates goals of the Department of Agriculture, including promoting sound land stewardship in partnership with communities.

Forest Setting

The Nantahala and Pisgah National Forests (Forests) are located in Western North Carolina (WNC) in an 18-county region. Pisgah National Forest (NF) was established in 1916 and Nantahala NF in 1920. The two National Forests together total approximately 1.04 million acres. The Nantahala and Pisgah National Forests are two of four forests administered by the National Forests in North Carolina. Further east in North Carolina are the Uwharrie and Croatan National Forests, which are covered by different land management plans (forest plans). This plan provides direction for the Nantahala and Pisgah Forests due to their similarity in forest resources. Since they share a forest plan, the Nantahala and Pisgah are often referred to together as "the Forest."

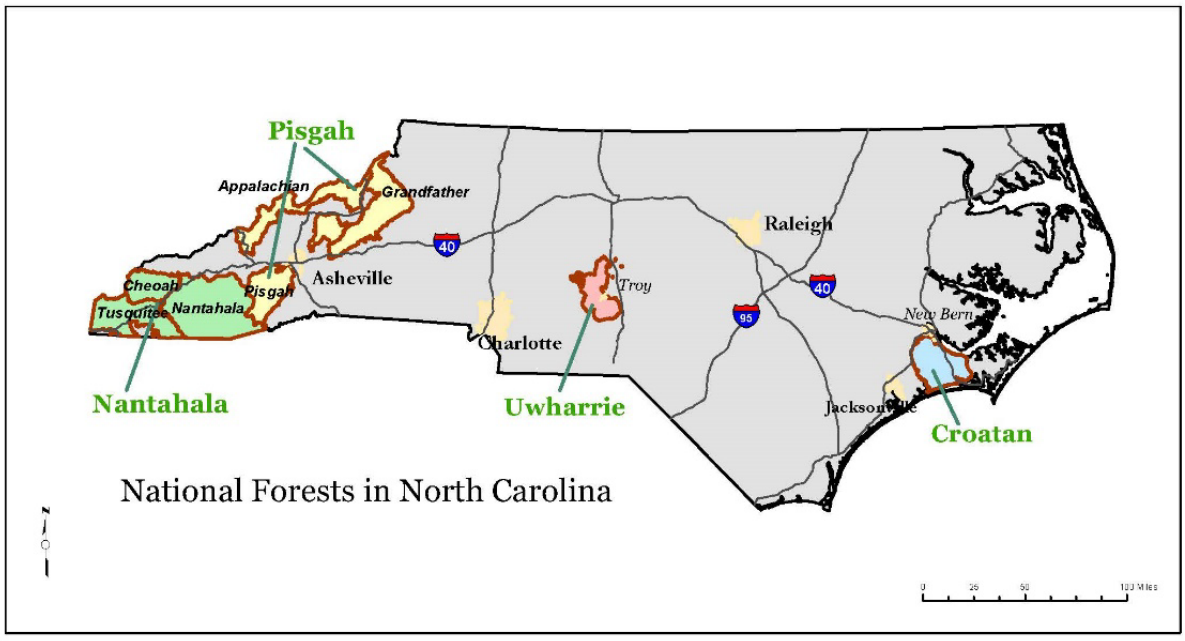

Figure 1. Vicinity map

The landscape of the Forests is diverse and characterized by mountain ranges with 125 peaks exceeding 5,000 feet overlooking numerous deep gorges and broad river valleys. Forest lands span from undeveloped backcountry to developed recreation areas bordering the urban corridor centered around Asheville and other Western North Carolina communities.

With over a half million acres across the mountains and valleys of southwestern North Carolina, the Nantahala NF is the largest of the four national forests in the state. "Nantahala" is a Cherokee word that is interpreted to mean the sun only reaches the forest

floor at midday – a fitting name for the Nantahala Gorge. The Nantahala NF is divided into three ranger districts: Cheoah, Nantahala, and Tusquitee. Elevations in the Nantahala NF range from 5,800 feet at Lone Bald in Jackson County to 1,200 feet in Cherokee County along the Hiwassee River below Appalachian Lake Dam.

The Pisgah NF is a land of mile-high peaks, cascading waterfalls, and heavily forested slopes. Comprised of more than 500,000 acres, the Pisgah NF is primarily a hardwood forest with whitewater rivers, waterfalls, and hundreds of miles of trails. This national forest is home to the first tract of land purchased under the Weeks Act of 1911, which led to the creation of the national forests in the Eastern United States. It is also home to the first school of forestry in the United States, now preserved at the Cradle of Forestry in America historic site and boasts two of the first designated wildernesses in the East. The Pisgah, Grandfather, and Appalachian Ranger Districts are scattered along the eastern edge of the mountains of Western North Carolina and offer visitors a variety of opportunities for outdoor recreation and enjoying the natural beauty of the mountains.

The Nantahala and Pisgah NFs 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. While a high percentage of non-National Forest System (NFS) lands across Western North Carolina are available to provide important benefits, Forest Service lands take the lead in providing forested and other natural environments available for the personal benefit of people through recreation, spiritual use, and access to forest products. In addition, there are national, state, county, and city parks as well as state-managed forest lands available for public use; although, many of these lands do not offer the wide range of public access and public use opportunities provided by the Nantahala and Pisgah NFs.

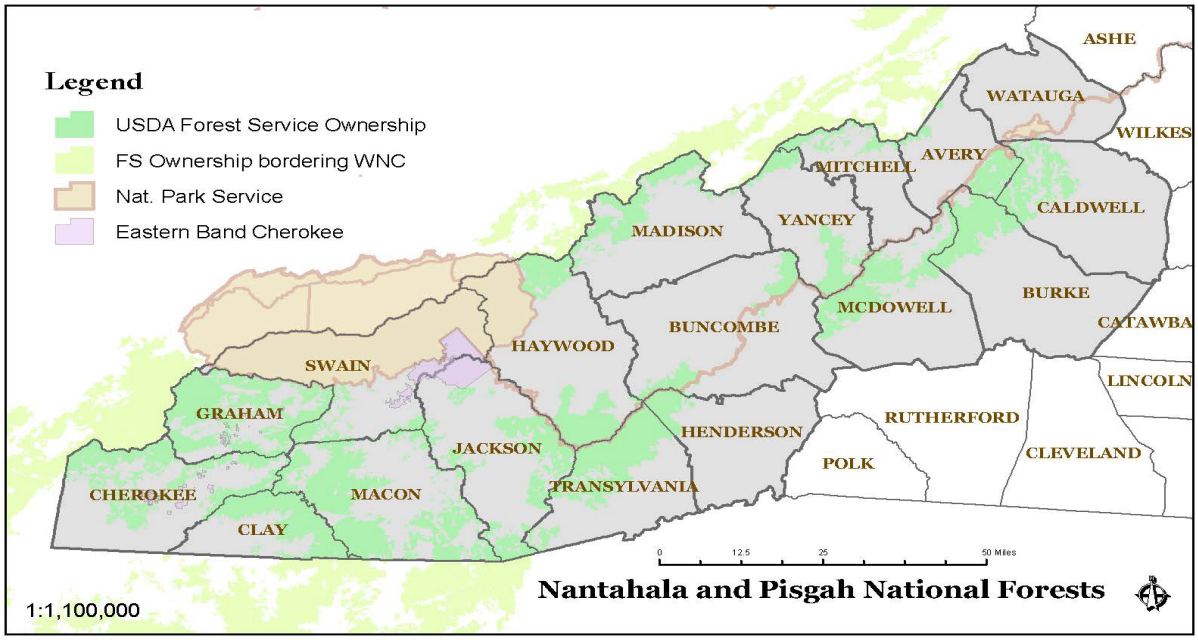

Figure 2. Nantahala and Pisgah National Forests in context with western North Carolina counties and Forest Service, National Park Service, and tribal lands

The rich cultural mosaic of the Blue Ridge Mountains and foothills of North Carolina has its origins in three separate continents—North America, Europe, and Africa. There are three major strands of this rich tapestry of cultural heritage including Cherokee Heritage, Scots-Irish Heritage, and African Heritage. Native American use of the area dates back to at least 11,000 years ago, and the Forests are home of the Cherokee, Creek, and Catawba peoples. The region is densely populated with archaeological and active cultural sites tied to these tribes.

The town of Cherokee, NC, located within the Qualla Boundary in the far western part of the state, is the cultural center of the Eastern Band of Cherokee Indians. Approximately 8,000 of the 13,000 enrolled members of the Tribe live within the Qualla Boundary. Other Cherokee lands in North Carolina include the 2,255-acre parcel in Graham County, home to the Snowbird community, and 5,320 acres scattered throughout Cherokee County.

The 18-county plan area is home to many third and fourth-generation residents. In addition, many retirees and second-home owners have relocated the area over the years, both groups citing the natural beauty and cultural opportunities of the area as major reasons for their move.

The WNC region has an abundant supply of fresh water and many localities depend on water coming from the NFS lands. 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. The unique geology of the Nantahala and Pisgah NFs has provided a distinctive opportunity for recreational mineral and gemstone collecting, reflecting the rich mining heritage of the region. The Forests contain areas of importance to members of several Native American tribes, ensuring that opportunities for traditional practices and access to sacred sites are preserved.

The Forests play an important role in sustaining the diversity of plant and animal communities present in the plan area. The Forests contain a greater proportion of high elevation forests and other high elevation ecosystems including high elevation red oak, northern hardwood, spruce-fir, and beech gap/boulder field forests and Southern Appalachian balds than are available in the surrounding landscape. These forest communities provide habitat for many rare or uncommon species of plants and animals such as Gray's lily, spruce-fir moss spider, and Carolina northern flying squirrel. Many of the plants and animals that comprise the highly diverse Southern Appalachian ecosystems may have opportunity to thrive across the broader landscape, but those that are rare or that require special conditions may be better protected or find refuge on parts of the landscape more common on NFS lands and the unique habitats found there. Additionally, as reflected by the multitude of high elevation areas, there are hundreds of miles of cold-water streams that support aquatic species of high ecological and public value, such as native brook trout.

Most forested land in WNC is privately owned; therefore, many residents and visitors do not have access for recreation, hunting and fishing, forest product gathering, or mineral collecting. The Nantahala and Pisgah NFs provide visitors and residents with that opportunity, providing access to both developed recreation areas and remote backcountry locations. The Forests are among the most visited national forests in the country and provide visitors with unique opportunities for a wide range of recreational activities and experiences that also provide economic support to surrounding communities. Many visitors

to the Forests are local; however, many also visit from neighboring states including Alabama, Georgia, Tennessee, Virginia, and West Virginia. The largest cities within an hour and a half driving radius include Atlanta, Knoxville, Chattanooga, Charlotte, and Winston-Salem. In addition, Asheville, NC, the Blue Ridge Parkway, and Great Smoky Mountains National Park draw large numbers of national and international visitors.

A wide range of developed and dispersed recreational opportunities are offered on the Nantahala and Pisgah NFs. The majority of gamelands open for hunting in WNC are located on the Nantahala and Pisgah NFs. Likewise, whitewater rafting and the economic benefits derived from outfitter guides are, for the most part, provided by rivers that run at least in partly through NFS lands. Additionally, the preponderance of public lands at high elevations that allows for passage of the Appalachian National Scenic Trail and unobstructed views from the Blue Ridge Parkway are economic drivers for local communities. These one-of-a-kind scenic attractions that are available on the Forests add to the sense of place for residents and draw tourists to the region that contribute to local economies.

Need for Change

The National Forest Management Act (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, 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.

Below is a summary of the Need for Change that was identified through public involvement early in the plan revision process. A more fully developed description of the Need for Change is available in the planning record.

Across All Forest Resources

- Address how forest management in all resource areas should be prioritized given varying budget and personnel levels likely to be available over the course of the planning cycle;
- Review the overall management area framework used in the 1987 Plan and consider modifications to reduce complexity and increase flexibility for restoration and creation of wildlife habitat;
- Update objectives to reflect realistic expectations regarding the amount of work that can be achieved within a planning cycle;
- Recognize and include plan components to guide and potentially enhance the role of the Nantahala and Pisgah NFs contribution to social and economic sustainability by supporting local cultures and economies through commodity production, including timber and other multiple-use products, and the service-based economy that includes recreation and tourism;

- Include plan direction regarding potential climate change impacts such as increases in storm events, flooding, wildfires, and other extreme weather;
- Incorporate opportunities for working across boundaries to manage landscapes with adjacent land managers, such as state and federal partners, tribes, and other land management entities;
- Update direction to be consistent with the 2012 Planning Rule and other recent laws and policies.

Ecosystems, Rare Habitats, and Rare Species

- Restore habitat components such as tree species composition and canopy structure in a variety of ecosystems, including young and old growth forest;
- Manage, maintain, or restore ecosystems, watersheds and rare habitats to better control non-native invasive species and to reconsider riparian area management;
- Address current and future forest health impacts including insect pests, diseases, and pathogens;
- Manage prescribed fire by incorporating direction with an integrated resource approach to prescribed fire activities and flexibility for restoration and maintenance of ecosystems;
- Identify priority watersheds for restoration;
- Clarify plan direction for the designated old growth network.

Wildlife and Fish Habitat

- 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.;
- Increase the amount of young forest across the landscape;
- Improve aquatic passage in streams.

Recreation and Scenery

- Transition recreational facilities to accommodate a sustainable level of use;
- Respond to changing trends in services, activities, and types of facilities desired by the public, while balancing those trends with fiscal reality;
- Address the sustainability of the trail systems considering changing trends in use, conditions, and maintenance capacity, including volunteer groups;
- Integrate scenery management as a part of ecosystem management for the national forests.

Designated Areas

- Clarify and update plan direction regarding designated areas including Special Interest Areas, Roan Mountain, the Appalachian Trail, and Experimental Forests;

- Conduct inventory and evaluation of potential additions to Wilderness and identify the eligibility of rivers for inclusion in the National Wild and Scenic Rivers System. Reconsider previous recommendations for Wilderness and update plan direction regarding management of Wilderness and Wilderness Study Areas (WSA), and other designated areas;

- Clarify management direction for the congressionally designated Cradle of Forestry in America;

- Clarify management for continued recreation at Bent Creek Experimental Forest while ensuring research objectives are met.

Roads

- Manage roads given the reality of limited maintenance funds combined with the public's desire for motorized access to the Forests;

- 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 forests.

Cultural and Tribal Resources

- Recognize and manage traditional cultural properties and sacred sites, such as the Trail of Tears;

- Consider landscapes of cultural value in management area direction, including Cherokee town sites, historic trail corridors, and high elevation balds.

Special Uses

- Update plan language regarding special use permitting.

Using the above Need for Change that was defined in 2014, and extensive additional public involvement, the Forest Service established parameters for the development of the land management plan in 2016, such that all alternatives would do the following:

- Provide for multiple uses that include a balanced level of timber harvest, recreation, wildlife, water, and wilderness in compliance with the Multiple Use Sustained Yield Act and NFMA.

- Improve forest health and resiliency by increasing the pace and scale of restoration above current levels; maintaining and improving the diversity of forest vegetation, especially young forest, open forest, and old growth conditions; and control invasive species.

- Improve wildlife habitat for the wildlife species that depend on the Forests, including federally listed species and species of conservation concern, rare and unique habitats, as well as resident and migrant game species, pollinators, birds, bats, fish, and more.

- Contribute to clean and abundant water. The plan contributes to sustainable surface water and ground water flow, protects water quality through national forest lands, maintains fish and wildlife habitat, controls erosion, restores streams and streamside zones, and continues to provide a source of drinking water to communities in WNC.
- Improve the Forests' world class recreation opportunities for year-round outdoor play and exercise. Provide for both developed and dispersed recreation on land and water, from an outdoor multiple-use trail system to indoor facilities, ensuring opportunities and sites are sustainable for the future.
- Enable forest access for visitors, including hunting and fishing and gathering of forest products, as well as providing for the needs of federally recognized tribes.
- Contribute to local economies by collaboratively providing resources, improvements to infrastructure, sustainable levels of renewable forest commodities, and contributing to local businesses, tourism, and sustainable community growth.
- Contribute to the economy from timber receipts, outfitter and guide permits, recreation, and tourism. Sustain the Forests' scenic beauty and cultural resources, enabling the Forests to remain a destination for spiritual renewal and connecting to our shared history.
- Manage existing administrative and congressionally designated areas which will not be changed during revision. These areas include:
    - The Cradle of Forestry Historic Site
    - Wild and Scenic Rivers
    - Inventoried Roadless Areas
    - Research Natural Areas
    - Experimental Forests
    - National Scenic and Historic Trails such as the Appalachian Trail and the Trail of Tears
    - Wilderness
    - Wilderness Study Areas
- Recognize the value of partners in shaping our shared future. The plan demonstrates how other agencies, government and non-government partners, volunteers, and visitors contribute to sustaining these Forests and will identify and help facilitate additional opportunities to work together for shared goals.
- Build upon input from the public, governments, federally recognized tribes and best available science.

- 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.

Engagement with State and Local Governments, Indian Tribes, other Federal Agencies, and the Public

A land management plan (Plan) that is reflective of diverse interests and communities can only be successfully implemented through sustained public involvement in an environment that is welcoming and inclusive. The final Plan and final Environmental Impact Statement (EIS) was built on an unprecedented degree of public and government involvement for the Nantahala and Pisgah NFs. The high level of collaboration and input provides a foundation for equitable benefits from the Forests and an increased understanding of the values of the diverse communities and individuals that care about the planning area. The Plan's strong emphasis on public involvement has provided a platform for diverse interests to work together to create a more inclusive and collaborative Plan.

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. 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 and Pisgah NFs plan revision process, representing diverse interests.

Public and government involvement is not just part of plan development – it will be an integral part of plan implementation, monitoring, and adaptive management. One of four plan themes is Partnering with Others, outlining how forest managers will work with other Federal, State, and local governments, Federally Recogonized Tribes, and partners across boundaries to achieve shared objectives as we implement the Plan. Working collaboratively allows the Forest Service to accomplish more work on the ground than any one entity could accomplish alone. The first section of plan direction outlines desired conditions for working with others, stating that public involvement will lead to better outcomes for forest resources. During implementation, public and local government involvement will allow for continued learning and understanding between the Forest Service and others and will promote a common understanding of resource opportunities and challenges. The Plan intends that proactive efforts reach both traditional and non-traditional users and lead to a greater citizen understanding, appreciation, advocacy, and participation in forest stewardship and conservation.

Input from public and government engagement has been used to:

- Document the current condition and trend of forest resources;
- Identify how the planning area is valued, how it can benefit local communities and how it can preserve traditional cultures;

- Identify the need for change;
- Draft plan direction by resource topic;
- Develop a management area structure;
- Create a geographic area chapter;
- Create alternatives;
- Inform the analysis of effects;
- Inform the final plan and environmental analysis.

Key stages of public input included meetings prior to formal plan initiation, the plan assessment, identifying the Need for Change, the wilderness inventory and evaluation process, and development of plan content. The Notice of Intent (NOI) to Prepare an EIS was published in the *Federal Register* on March 12, 2014. Thousands of submitted comments reflect the strong values people have for the Nantahala and Pisgah NFs 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 DEIS was initiated on February 14, 2020. Comments received during the comment period can be viewed in the Comment Analysis and Response Application (CARA) reading room at https://cara.ecosystem-management.org/Public//ReadingRoom?Project=43545. Response to these public comments can be found in appendix A.

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

Federal Agencies, State and Local Governments

Federal Agencies

The Forest has coordinated with adjacent **USDA Forest Service** national forests, including the Cherokee NF, George Washington-Jefferson NF, Francis Marion and Sumter NFs, and the Chattahoochee-Oconee NF on cross-boundary issues, such as management of rivers, trails, management areas, and resource topics that span across state boundaries. The Nantahala and Pisgah NFs have also worked with the Southern Regional Office on issues that span more than just these forests, and with the Southern Research Station to incorporate best available science on a host of topics including disturbance modeling in the natural range of variation, climate change, and traditional ecological knowledge.

The Forest also worked with the **National Park Service**, including the Blue Ridge Parkway, the Great Smoky Mountain National Park, and the National Scenic and National Historic Trail offices on cross boundary and adjacent lands initiatives. Management for the Blue Ridge Parkway and Great Smoky Mountains National Park were reviewed to facilitate complimentary actions in the Plan when possible (See Appendix G).

The Forest has worked closely with the **U.S. Fish and Wildlife Service** (USFWS) on the plan as it relates to effects on threatened and endangered species. USFWS has been involved in the development of the species of conservation concern list, development of plan components, and the analysis of impacts to federally listed species.

The **Bureau of Land Management** (BLM) is a cooperating agency in the Nantahala and Pisgah NFs plan revision because the BLM has legal jurisdiction over the federal mineral estate underlying the Nantahala and Pisgah NFs. The BLM has cooperating agency status to provide information and special expertise related to subsurface mineral resources. The Forest Service is not making an oil and gas availability decision in this land management plan.

State Agencies

The Forest Service has worked closely with the **NC Wildlife Resources Commission** (NCWRC) on the development of plan objectives and management area boundaries, incorporating wildlife needs. The Commission's Species of Greatest Conservation Need list was incorporated into the forest wildlife analysis and in developing the Forest Service list of Species of Conservation Concern. The NCWRC works directly with the Forest Service on managing habitat needs and is an active member in forest plan collaborative groups. Relevant NCWRC management plans were reviewed to facilitate complimentary actions in the forest plan when possible. (See Appendix G.)

The Forests also worked with the **NC Forest Service** on topics such as prescribed burns and shortleaf pine restoration. They are involved in an all-lands implementation strategy to ensure U.S. Forest Service implementation meets shared priorities of the Plan and the State Forest Action Plan. Relevant NCFS management plans were reviewed to facilitate complimentary actions in the forest plan when possible. (See Appendix G.)

The Forest Service has worked with the **NC Heritage Program (NCHP)** on managing state recognized rare biological communities known as NC Natural Heritage Natural Areas. The Forest Service coordinated with the Heritage Program on the development of the Species of Conservation Concern list, the identification of Special Interest Areas on the Forest, plan direction to maintain and restore unique habitats, and plan direction to coordinate during project development.

The **NC Department of Agriculture and Consumer Services, Agricultural Programs** has been represented and has provided input to the collaboratives and directly to the Forest Service. Relevant NC Department of Agriculture management plans were reviewed to facilitate complimentary actions in the land management plan when possible. (See Appendix G.)

Local Governments

There are five **Councils of Government** (COGs) in the land management plan area. They are designated by both state and federal governments as the official agency for the administration of various funds and programs. COGs provide services and resources which might not otherwise be affordable or available to local governments. They serve as technical, economic, and planning resources for their areas and administer regional projects and programs. The majority of the eighteen counties in the forest plan area are represented by three COGs. The Southwestern Commission includes Cherokee, Clay, Graham, Haywood, Jackson, Macon, and Swain Counties and the Eastern Band of Cherokee Indians. Land of Sky Regional Council includes Buncombe, Henderson, Madison, and Transylvania Counties. High Country COG includes Avery, Mitchell, Watauga, and Yancey Counties within the forest planning area. The Western Piedmont COG includes Burke and Caldwell Counties, and the Isothermal Planning and Development Commission includes McDowell

County within the planning area. The forest reached out to the three primary COGs for the planning area, meeting and communicating with them on numerous occasions.

The Nantahala and Pisgah NFs are divided into six Ranger Districts located within **18 counties** in Western North Carolina: Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Swain, Transylvania, Watauga, and Yancey Counties. Each county is represented by a County Commission composed of four to seven elected county commissioners and additional county managers and staff. District Rangers interact with these elected officials and staff through email, phone calls, and in person meetings and discussions. All the counties within the Nantahala and Pisgah NFs, and the City of Asheville were engaged throughout the planning process, and there continues to be regular contact between district rangers and local officials. (See Appendix H.)

The 2012 Planning Rule requires a review of planning and land use policies of other governments, where relevant to the plan area. The review provided insights into local values across the planning area, along with a better understanding of local interests, priorities, and government capacity. The Nantahala and Pisgah NFs Proposed Land Management Plan has been informed by input from these government entities and generally compliments their plans. Sixty-two plans were considered in the Plan development process to achieve mutual benefits where possible. Common resource management issues such as controlling invasive species, the threat of unwanted wildfire, and general species management were reviewed and found broadly compatible within a shared-stewardship approach. Unique values of specific areas helped shape the proposed plan's Geographic Areas chapter, a chapter that was added in direct response to public input. Reference to other government entities is found throughout the Plan. Relevant county management plans were reviewed to facilitate complimentary actions in the land management plan when possible. (See Appendix G.)

Federally Recogonized Tribes

Prior to European and American settlement, the lands presently included in the Nantahala and Pisgah National Forests were part of the Cherokee and Creek tribal homelands. Federally recognized Native American tribes with historic ties and interests in the management of the Forests are consulted and often act as partners in cultural resource management and other resource programs.

Native American tribes associated with the plan area include federally recognized tribes with historic ties and interests 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
- Thlopthlocco Tribal Town

- United Keetoowah Band of Cherokee Indians
- Shawnee Tribe

These tribes have had an opportunity to engage in the development of the Assessment, Plan, and EIS, through presentations, correspondence, and meetings. Input from formal consultation has been integral to the development of the Tribal Resources and Cultural Resources sections of the Plan, along with the Heritage Corridors Management Area, Geographic Areas chapter, among others. The Plan ensures that traditional ecological knowledge and places of tribal significance are recognized and valued in the plan.

Public Involvement

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.

Issues

Issues raised during the plan development process help determine the scope of the analysis and shape the alternatives. The issues below are summarized from thousands of written public comments and hundreds of hours of conversations with concerned citizens and partners. While they are described as discrete issues below, they are interrelated and should be considered in the broader context of multiple-use management. For example, the amount of forest allocated to special designations has an impact on the amount of forest available for timber harvest and potentially the contributions to local economies. Access and recreation are closely related in terms of the type of recreation experiences and activities that the public is pursuing and their options for accessing the Forests.

Issue: Vegetation Patterns and Wildlife Habitats

This issue refers to the desired amount of young forest, old forest, and interior or core forest on NFS lands. Generally, the supply of very young forests and very old forests is limited in the plan area and there is support for providing more, although there is disagreement about the best tools for forest management and the appropriate locations for these seral stages. Regarding management tools, public interests range from favoring mechanical enhancement of young forest through silvicultural management (including timber harvest and prescribed fire) to favoring natural disturbance processes without human intervention. There are locations on the Forests where some individuals desire natural disturbances, while others see opportunities for active management to create young forest habitat.

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.

There are differences of opinion about the best way to provide old growth forest conditions, including whether the forests should be allowed to age naturally or be manipulated to expediate the development of old growth characteristics, and how much forest should be managed as old growth.

There are also differences of opinion about the best way to manage areas that have rare and unique ecological communities and values and whether these areas should be allocated to special interest areas with specific management area direction.

Vegetation patterns are inextricably linked to plant and animal species found in forest habitats, therefore management of young, old, open, and closed forests leads to disagreements about the best way to manage for species diversity and abundance. 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.

Issue: Special Designations

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.

Issue: Access

The access issue is related to the extent of the road and trail systems that provide access to Nantahala and Pisgah NFs. System roads are the primary means of motorized access to the national forests; however, they are also a source of concern regarding the environmental effects on water quality, wildlife habitat, and the social impacts on remote settings. The

current road system has a backlog of maintenance needs. One perspective desires to reduce system road mileage by eliminating closed roads or other roads that are determined to be "not needed" and limiting new road construction. Another perspective is to open roads that are currently closed for motorized use by the public, particularly during hunting seasons for big game and to allow access to an aging population.

There is disagreement about the use of road building to access unroaded parts of the Forests. Some forest plan objectives would require additional road building to accomplish the objectives, and opinions differ about where road building should be allowed.

There is disagreement about how and when new trails should be added to the designated system and how many trail miles are needed to provide ample access and opportunity to different recreation interests (linked to recreation issue below as well). Trail users generally wish to retain and increase trail miles for some uses, while the current trail system is financially unsustainable.

Issue: Recreation

Many forest users have an activity they want perpetuated or enhanced and many have a preferred setting in which to enjoy that activity. Forest visitors seeking developed recreation generally desire different forest settings than hunters and anglers. Trail uses can be incompatible, such as horse-riding, hiking, or mountain biking, and some users prefer separate locations to emphasize different types of experiences. Some recreation experiences on the Forests exclude others – for example, mountain biking is prohibited in recommended wilderness, leading to tension when deciding where to emphasize wilderness characteristics versus future mountain biking opportunities. Another multiple use tension arises from the issue that some recreationists do not desire to see or experience multiple-use management of the Forests, such as timber management, while they are recreating.

Recreation demands on the Forests are increasing, and this must be balanced with the reality that recreation has varying degrees of impact on forest resources and maintaining recreation infrastructure requires funding. In order to be sustainable, recreation use must be ecologically sound, socially supported, and economically feasible to maintain by the Forests and partners. There are different views of how to improve recreation sustainability and how future recreation projects should be planned.

Issue: Economic Contributions of the Forests

Many residents of WNC depend on the Forests for their way of life, for food from hunting and gathering, and sometimes for their professional livelihoods. The importance of economic and social contributions of the Forests to the surrounding communities is an issue that has been raised by many commenters and local governments. While some outputs from management can be easily valued, such as timber receipts, firewood permits, and recreation fees, contributions of other goods and services are more difficult to measure, such as wildlife habitat and diversity, scenic landscapes, recreational tourism, clean water, and clean air. There are diverse perspectives about the best mix of management techniques to provide benefits for recreation and tourism, outfitter and guides, forest product industries, and quality of life in the surrounding communities.

Issues not Addressed in the Revised Forest Plan

Two issues of note that are not addressed in the revised forest plan are 1) an availability decision regarding oil and gas leasing on the Nantahala and Pisgah NFs and 2) management of the Chattooga Wild and Scenic River. Due to the geology, there is low potential for commercial development of oil and gas deposit and the oil and gas availability decision was not included in this forest plan revision process. If technologies change and there is interest in commercial interest in developing those resources, the oil and gas availability will be re-evaluated at that time. 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.

Themes

Based on discussions with the public, the plan revision effort centered around four themes: connecting people to the land, sustaining healthy ecosystems, providing clean and abundant water, and partnering with others. These themes are described below in the context of my decision, and apply forestwide across all resource areas.

Decision and Rationale for the Decision

Nature of the Decision

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.

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. 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.

Decision

I have reviewed the environmental analysis disclosed in the FEIS, the planning record, comments from our State and local government partners, Indian tribes, other Federal agencies, and the public and considered how the revised plan meets the identified needs to change and the requirements of 36 CFR 219. Based on this review, I have selected

Alternative E as described in the accompanying Nantahala and Pisgah NFs Final Environmental Impact Statement (FEIS) and the Revised Land Management Plan.

With this decision, I approve the following:

1. **Forestwide plan components** (Forest Plan, Chapter 2), including desired conditions, objectives, standards, guidelines, goals, and a determination of suitability of land for timber production, that meet the social, economic, and ecological sustainability requirements of the 2012 Planning Rule.

2. **The identification of geographic areas and their goals** (Forest Plan, Chapter 3), including: Bald Mountains, Black Mountains, Eastern Escarpment, Pisgah Ledge, North Slope, Highland Domes, Great Balsam, Nantahala Mountains, Nantahala Gorge, Fontana Lake, Hiwassee, and Unicoi Mountains Geographic Areas. *(36 CFR 219.7 (d); FSH 1909.12, chapter 20, section 22.2).*

   The identification of management areas and their applicable plan components (Forest Plan, Chapter 4), including Interface, Matrix, Backcountry, Ecological Interest Areas, Special Interest Areas, Administrative Sites, Research Natural Areas, Experimental Forests, Appalachian National Scenic Trail, National Scenic Byways, Heritage Corridors, Wild and Scenic Rivers, Congressionally Designated Wilderness, Recommended Wilderness and Wilderness Study Areas, Roan Mountain, and Cradle of Forestry in America. *(36 CFR 219.7 (d); FSH 1909.12, chapter 20, section 22.2).*

3. **The plan monitoring program** (Forest Plan, Chapter 5). *(36 CFR 219.7 (f)(i)(iii); 36 CFR 219.12.3; FSH 1909.12, chapter 30).*

4. **Identification of watersheds that are a priority for maintenance or restoration** (Forest Plan, Chapter 2: Watershed). *(36 CFR 219.7 (f)(i); FSH 1909.12, chapter 20, section 22.31).*

5. **Identification of riparian management zones** (Forest Plan, Chapter 2: Streamside Zones). (36 CFR 219.8 (a)(3)(ii); FSH 1909.12, chapter 20, section 23.11e).

6. **Identification of the eligibility of rivers in the plan area for Wild and Scenic River designation** and plan components associated with their management, for the following newly eligible rivers: Cullasaja River; Fires Creek; Flat Laurel Creek; Santeetlah Creek; South Toe River; Thompson River; West Fork of the Pigeon River; and Whitewater River. (36 CFR 219.7 (c)(2)(vi); FSH 1909.12, chapter 80).

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.

Together these desired conditions, objectives, suitability of lands, standards, guidelines, management areas, and geographic areas will provide a management framework for the Nantahala and Pisgah NFs until amended or revised.

The identification of species of conservation concern will be made by the Regional Forester in coordination with the Forest Supervisor.

The Bureau of Land Management (BLM) is a cooperating agency in the Nantahala and Pisgah NF plan revision, because the agency has legal jurisdiction over the federal mineral estate underlying the Nantahala and Pisgah NFs.

Rationale for the Decision

Based upon my review of all alternatives, I have decided to implement Alternative E which incorporates public comments between the draft and final plan. This alternative will support the next 20 years of work to keep the national forests healthy so they can continue to supply clean water to communities, contribute to the region's economy and cultural fabric, and be a place of respite and recreation. This decision was developed and shaped by public comments throughout the plan revision process and creates the framework for us to work with partners into the future. The plan provides strategic direction to guide future decision making, while also enabling the development of projects to meet the specific needs of local conditions.

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. Meanwhile, more Americans than ever are enjoying their public lands, spending time in the forest connecting to the natural world, recreating, exercising, and creating memories with their families to inspire and empower the next generation of conservation leaders. This increased use of the Forests puts pressure on our existing infrastructure.

Alternative E is designed to help us move toward our long-term goals in the face of these pressures because:

- It establishes a clear vision for each ecological community on the forest.
- It emphasizes forest places and uses that are important to people.
- It identifies an additional tier of work beyond current Forest Service capacity that may be accomplished with the help of partners.
- It builds on thousands of ideas that citizens, organizations, and governments shared during plan development.
- It ensures that all interests benefit from the implementation of our multiple use mission.

Compared to the other action alternatives, Alternative E accelerates the development of young forest and open forest, which are currently underrepresented on the landscape, while also ensuring that there are places on the landscape where development of old growth characteristics will be prioritized. The alternative also identifies a new Ecological Interest Area management area, that focuses on improving the mix of species of different ecosystems, ensuring that we manage for the right forest communities in the right places.

Alternative E recognizes the balance of both active and passive management in managing these forests. In the birthplace of modern forestry practices in North America, this alternative sets objectives for natural resource professionals to increase the pace and scale of restoration through silviculture and fire practices. At the same time, Alternative E recommends some large undeveloped areas for wilderness, recognizing their historical, scientific, educational, geologic, and ecological benefits and also providing more opportunities for solitude and retrospective or primitive recreation.

Alternative E focuses on sustainable recreation, recognizing more explicitly than other alternatives that there are some known locations where our trail system does not meet the public demand, and takes steps to address the issue collaboratively. The Alternative E plan direction on sustainable trails will ensure the forest is not only using the latest trail design principles but also emphasizes working with recreation clubs, volunteer groups, and others to help in long-term trail maintenance and recreation management planning, which is key to continuing to provide a quality experience for increased visitors in the years to come.

Above all, this alternative recognizes that the future of public lands is larger than just the work of the Forest Service, and values the contributions of State and local governments, non-governmental partners, and citizens in working together toward our shared goals. The first section of the plan addresses public involvement, illustrating our continued commitment to involve the public during project planning, and the second section focuses on community connections and the benefits the forests will continue to provide people. The planning process has involved an unprecedented amount of engagement from the public. Continued public involvement will be an integral part of plan implementation, monitoring, and adaptive management. We are committed to working with partners and the public as we implement the new plan.

To that end, the plan tries something no other plan in the country has done – identifying stretch goals for nearly all objectives if additional capacity in the form of resources or help from others is available during plan implementation. 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.

On this land that has been managed by the Forest Service for just over 100 years, I am especially proud of the work we have done with Federally Recognized Tribes in the development of this plan. Alternative E recognizes that tribal connections in Western North Carolina extend to time immemorial. This alternative honors and redeems our trust responsibility to tribes, recognizing tribes and tribal members as partners in managing the national forests, and valuing traditional ecological knowledge and places of tribal significance.

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.

In addition to these facets of Alternative E, there are several more elements of this alternative that support my decision to select it as our revised forest plan. More information about the specific features of this alternative are described below in the context of our four plan revision themes.

Connecting People to the Land

From the very beginning, the forests of Western North Carolina have been recognized for their importance to people. The rich cultural mosaic of people who have called this region their home look to the forest for spiritual renewal, traditional uses like hunting, fishing, and gathering, scenic beauty, year-round outdoor play and exercise, and economic opportunity.

The final plan identifies 12 distinct geographic areas of the forest, each of which identifies local goals and opportunities for connecting people to the land. The Interface Management Area provides a focus on concentrated recreation use includes developed and dispersed recreation sites, National Recreation Trails, trail heads, scenic overlooks, waterfalls, access corridors, and recreation hub areas where the public accesses the forest. Not all recreation occurs in Interface, since some activities such as hunting or trail use bring visitors into Matrix and other recreationists deep into Backcountry and wilderness, but Interface is important because this is where access to the forest begins. Together, geographic area goals and the new Interface Management Area highlight recreation opportunities and settings to increase the quality of visitor experiences.

The Nantahala and Pisgah NFs are among the most visited forests in the country and that visitation is increasing every year. Ensuring visitors have a quality experience is important to us. Alternative E places an emphasis on sustainable recreation and increased collaboration with recreation users. In particular, Alternative E provides guidance on sustainable trails that limits new construction and adoption of authorized routes to those

developed collaboratively, using modern design principles. The alternative will ensure that new trails meet the latest design standards, while incentivizing relocation of unsustainable system trails, construction of short connectors to form loops, closure of unauthorized routes, collaborative planning, and strengthening partnerships with volunteer or recreation organizations.

Unlike other alternatives, Alternative E does not quantitatively restrict the total miles of trails that can be developed, but it will result in a heightened emphasis for ensuring that new trail developments are economically, ecologically, and socially supported for the long term. The final plan provides a framework for collaborative trail planning within geographic areas to develop a sustainable trail network that provides quality recreation opportunities while also addressing and decommissioning user created trails.

Other Alternative E sustainable recreation plan direction calls for developing trail loop opportunities, developing a strategy with the climbing community for managing climbing opportunities, developing an operations and maintenance guide for dispersed campsites, identifying sites where non-commercial mineral collection can be conducted with surface penetrating tools, and providing guidance on recreation special uses, such as outfitter and guides and special events.

Alternative E provides plan direction to support economic development and tourism in local communities, support the forest products industry and nontimber forest product collection, maintain the forests' scenic integrity, and sustain our cultural and historic resources.

Alternative E emphasizes the importance of ensuring that all Americans have access to their public lands. The plan contains an objective for increasing the mileage of seasonally open roads in Interface and Matrix by 5-10% over the life of the plan, prioritizing recreational access, such as for hunting and fishing, using existing roads. This will increase motorized access to parts of the forest that would otherwise be accessible only by hiking, biking, or horse.

Sustaining Healthy Ecosystems

The Nantahala and Pisgah NFs support a diversity of forest communities from southern pine to northern hardwood forests. When compared to the southern Appalachian Region, the forests contain a proportionally greater amount of high-elevation forests and southern Appalachian balds, rare plant and animal communities, and headwater streams than the greater region.

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. Under the heading of terrestrial ecosystems, integrated ecosystem and wildlife habitat objectives describe the actions that we will take to move toward long-term goals, including but not limited to:

- Doubling annual young forest creation practices under Tier 1 (from 650 to 1,200 acres), and accomplishing even more with the help of partners or additional resources in Tier 2 (up to 3,200 acres).
- Incorporating a new objective based on input from the public comment period that emphasizes using fire and mechanical harvest to restore open forest conditions.

- Increasing the emphasis on prescribed fire for restoring fire to fire-dependent ecosystems, with up to 20,000 annual acres as an objective in Tier 1, and up to 45,000 annual acres in Tier 2.
- Increasing objectives for nonnative invasive species treatments, community and forest stand improvement practices, unique habitat restoration, and watershed projects.

Following the integrated objectives, the plan uses management approaches to prioritize tools and techniques for accomplishing this important work.

The final plan also contains distinct subsections for wildlife habitat across ecozones, the designated old growth network, forest health, timber management practices, and fire.

Alternative E also provides the ecological and habitat conditions to contribute to the recovery of federally threatened and endangered (T&E) species, provide conditions for the long-term persistence of Species of Conservation Concern and contribute to overall habitat diversity. Alternative E:

- Clarifies how the FS will partner with the U.S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission, and North Carolina Natural Heritage Program in working to maintain, enhance, and restore plant and animal diversity;
- Clarifies that the Forest Service will coordinate with the North Carolina Natural Heritage Program to discuss projects in and adjacent to Natural Heritage Natural Areas (NHNAs), so that the FS has an understanding of the unique characteristics of these areas, and their locations during planning and implementation. Alternative E replaced the annual objective from the other action alternatives with a guideline, so this coordination will happen at each project that overlaps with or is adjacent to an NHNA, rather than once a year.
- Adds an objective and standard associated with managing and restoring *Hudsonia montana* and *Liastris helleri* populations to provide habitat for their persistence on the forest.
- Identifies a suite of objectives to focus on restoration and maintenance of rare habitats, including wetlands and Southern Appalachian bogs, Carolina hemlock bluffs, grassy balds, spruce fir forests, and more.

Alternative E supports sustaining healthy ecosystems through a land management allocation that:

- Allows for active management needs to manage for young and open forest conditions across multiple management areas. Forest modeling anticipates that about 120,000 acres across the forest have potential active management prescriptions over the next 200 years, under Tier 1 objectives, which could increase up to 270,000 acres at Tier 2 activity levels (see EIS, Chapter 3 Forest Structure).

- 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.)

- Includes a new Ecological Interest MA that emphasizes management to enhance or maintain high quality ecological communities and their local attributes.
- 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.

Providing Clean and Abundant Water

Water is a life-sustaining resource for the Nantahala and Pisgah NFs and the natural and local communities that depend on it. Beyond ecological communities, forest waters also support municipal water supplies, tribal lands, agriculture, and industry. Increasing development pressures and impacts of climate change will make water from the forests even more vital in the next generation.

Alternative E, just like the other action alternatives, identifies priority watersheds for watershed restoration activities during the next 20 years, spread across the forest. The plan calls for the development and implementation of watershed restoration action plans for these areas with a focus on restoring stream, wetland and native riparian vegetation, floodplain connectivity, stream channel function, and performing road and trail maintenance.

Beyond priority watersheds, Alternative E also emphasizes aquatic habitat through objectives to improve aquatic organism passage, conduct stream channel improvement projects using natural channel concepts, and maintain and expand the occupied range of native brook trout, freshwater mussels, and other aquatic species. The plan also includes an objective to develop and implement a forestwide road maintenance plan that will promote public safety, prevent erosion and sedimentation, protect water quality, and maintain access to the Forests with an emphasis on priority watersheds.

Alternative E establishes streamside zones where activities contribute to improving the condition and function of the larger stream ecosystem. This increases the emphasis on whole stream ecology compared to the current forest plan, and strengthens the ecosystem-based approach to project planning. Based on public input, Alternative E differs from the draft plan because it increases the distance of the streamside zone around intermittent streams. The final 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 the streamside zone is 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.

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 in the climate change, geological resources, facilities, transportation and access, and recreation sections, and broadscale monitoring questions are poised to help us recognize when we need to adapt our management.

Partnering with Others

The Nantahala and Pisgah NFs collaborate with partners to enhance its mission to sustain the National Forests in North Carolina. Forest managers work with other Federal agencies, State and local governments, Tribes, and diverse partners across boundaries to achieve shared objectives. Working collaboratively allows us to accomplish more work on the ground than any one agency could do alone.

As I described above, Alternative E innovates in defining opportunities to work with others through development of the Tier 2 objectives and Tier 2 monitoring questions.

All of the Plan's resource sections identify opportunities to work with others to achieve resource work. Where coordination with others is required by law, regulation, or policy, such as in the protection of endangered species, cultural resources, or national trails, coordination with government partners is reflected by plan standards. Where coordination with other governments is intended beyond these laws, this is reflected in guidelines or objectives. Management approaches throughout the plan identify tools and practices for working with others.

The Forest aims to become a partner of choice for volunteers and local communities as well as local and national organizations. Alternative E includes an objective to ensure that volunteers and service participants have the coordination to conduct their work in a safe and efficient manner and are recognized for their time in service, significant accomplishments, and exemplary safety records.

Additionally, each geographic area contains goals for partnering with others. The boundaries of each geographic area extend beyond the lands managed by the Forest Service in order to set these goals in the context of the larger landscape. While the plan direction will only apply to the management of National Forest System lands, the plan aims to recognize opportunities that benefit multiple land managers.

Alternative E is explicit in our commitment to ensure that all are welcome to the national forests. To serve the American public, we must build community, welcome new voices and diverse perspectives into the conversation, and create an environment where everyone is welcome, is treated equitably, and is valued. Alternative E includes a desired condition to

ensure the diversity of forest visitors, volunteers, and partners continues to grow through existing and new relationships, so that citizen involvement becomes more representative of the nation's demographics and interests. It also includes an objective to expand the suite of environmental education programs to better reach diverse audiences. There are management approaches and tools in the plan to reconnect young people from all walks of life with nature and their cultural heritage. There is plan direction to work with partners to expand the diversity of forest visitors, volunteers, and partners, and increase public land employment pathways across all demographics.

Requirements of the Planning Rule

The Land Management Plan has been prepared in compliance with the Forest Service's 2012 Land Management Planning Rule at 36 CFR Part 219 and meets the specific Rule requirements at sections 219.8 through 219.12 as follows.

219.8 Sustainability

The plan must provide for social, economic, and ecological sustainability within Forest Service authority and consistent with the inherent capability of the plan area (36 CFR Part 219.8).

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:

- Final Plan Chapter 2 physical resource sections that describe management direction for Air, Climate Change, and Geological Resources.
- Final Plan Chapter 2 sections that describe management direction for Watersheds (including Priority Watersheds), Soils, Water, Aquatic Systems.
- Final 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.
- Final 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 habitats 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.

- Final 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.
- Final 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.
- Final Plan Chapter 3, Geographic Area goals for sustaining healthy ecosystems, in consideration of the all-lands context.

The 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 (Final Plan, Chapter 1) and across 12 geographic areas (Final 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.
- 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 (Final Plan, Chapter 2).

219.9 Diversity of plant and animal communities

The plan must maintain the diversity of plant and animal communities and the persistence of native species in the plan area, within Forest Service authorities and consistent with the inherent capability of the plan area (36 CFR Part 219.8).

The approach for providing plant and animal diversity across the Forests requires both coarse-filter and fine-filter plan direction. The coarse-filter direction focuses on maintaining or restoring ecological integrity and resilience of ecosystems, and should account for the needs of most native species that occur on the Forests. Additionally, the plan contains fine-filter direction that provides for specific habitat needs that are not met by the coarse-filter direction.

By meeting the requirements for providing ecological integrity per 219.8 (above), the revised plan meets the coarse filter requirements for diversity of plants and animals in 219.9(a). Those sections also focus on maintaining or restoring the diversity of ecosystems and habitat types throughout the plan area.

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.

After review of the Plan and final EIS, I find that the plan components will provide the ecological conditions necessary to maintain viable populations of the identified species of conservation concern within the plan area, within the authority of the Forest Service, and within the inherent capability of the plan area. These conclusions are based on the biological analysis and evaluation documented in the final EIS, Chapter 3.

219.10 Multiple uses

The revised 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 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 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 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 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.

There is not a grazing or range program on the Nantahala and Pisgah NFs.

219.11 Timber requirements based on NFMA

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.

In accordance with National Forest Management Act requirements, the revised plan includes standards and guidelines that:

- Identifying lands not suited for timber production (Final Plan, Appendix B, Timber Analysis).

- Prohibit timber harvest for the purpose of timber production on lands not suited for timber production;

- Limit timber harvest to only those lands where soil, slope, and/ or other watershed conditions would not be irreversibly damaged;

- Require that timber harvest be carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, and aesthetic resources;

- Limit the size of openings that may be cut during one harvest operation with standards describing particular conditions under which exceptions for larger openings may be allowed; and
- Require that regeneration of even-aged stands is limited to stands that have reached the culmination of mean annual increment of growth.

  (Final Plan, Chapter 2, Timber Management Practices)

The plan identifies that the quantity of timber that may be sold from the national forest is limited to the Sustained Yield Limit of 45.0 MMCF per decade (Plan Appendix B).

The planning rule also requires land management plans to provide information regarding possible actions that may occur in the plan area during the life of the plan, including the planned timber sale program, timber harvesting levels, and the proportion of probable methods of forest vegetation management practices expected to be used (16 U.S.C. 1604(e)(2) and (f)(2)). This information is contained in Plan Appendix B.

219.12 Monitoring

I recognize the importance of applying an adaptive management approach to plan implementation and tracking our progress over time. Therefore, the Plan includes a monitoring program (36 CFR 219.7 (c)(2)(x) and 219.12) that is designed to test our assumptions, track relevant conditions over time, measure our management effectiveness, and evaluate the effects of our management practices. The plan monitoring program (Final Plan, Chapter 5) addresses what I believe to be the most critical components of informed management of the forest resources. The Plan's monitoring program (Final Plan, Chapter 5) includes a broad range of monitoring questions and associated indicators, organized around the eight requirements of the 2012 Planning Rule. Every monitoring question relates to one or more desired conditions, objectives, standards, or guidelines. However, not every plan component has a corresponding monitoring question.

Several changes were made to the monitoring program in response to public input, including informal discussions with stakeholders and formal comments we received on the draft EIS. Similar to forest plan objectives, monitoring questions were developed at two tiers: Tier 1 anticipating existing capacity, budget and resources, and Tier 2 that identifies what additional questions could be monitored with the help of partners or additional capacity. For many Tier 2 questions, relationships with partners currently exist, and partners are currently engaged in monitoring collection or data interpretation, while other Tier 2 questions would not be possible without additional resources or capacity.

A biennial monitoring evaluation report will be prepared to indicate whether a change to the land management plan, management activities, or monitoring program may be needed—or whether a new assessment may be warranted, based on new information. This report will be made available to inform the public and to encourage feedback on the methods and how we are doing in meeting our plan goals. It is important to note that while monitoring results are expected to be reported biennially, not all monitoring questions are expected to be evaluated that frequently.

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.

This monitoring program is not intended to depict all monitoring, inventorying, and data-gathering activities undertaken on the forest. Consideration and coordination with broader-scale monitoring strategies adopted by the Southern Region, multi-party monitoring collaboration, and cooperation with state and private forestry as well as research and development, as required by 36 CFR 219.12(a), will increase efficiencies and help track changing conditions beyond national forest boundaries to improve the effectiveness of the plan monitoring program. In addition, project and activity monitoring may be used to gather information for the plan monitoring program where it provides relevant information to inform adaptive management.

Components of the Decision

Preliminary Administrative Recommendations

Recommended Wilderness

Wilderness is the portion of the National Forests that is managed for preservation of the natural environment, predominantly free from human influence. A part of the revision process includes identifying and evaluating lands that may be suitable for inclusion in the National Wilderness Preservation System and determining whether to recommend any such lands for wilderness designation.

Public interests range from support for fewer acres in recommended wilderness to support for tens or hundreds of thousands of acres of additional area designations across the Forests, and few topics were as polarizing as this one. Comments in support of wilderness identified reasons such as preserving forests for future generations, providing additions to existing wilderness in neighboring states, and ensuring habitats are preserved in the face of climate change. 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, including the creation of young forest habitat and mineral exploration; the loss of forestry related jobs and vehicular access; the loss of maintained wildlife fields; that 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 (such as prohibitions on bicycles and other mechanized transport).

The EIS addressed these different perspectives by analyzing a range of alternatives, recommending 11,193 acres (Alternative C) to 126,333 (Alternative B), and three intermediate acreages in Alternatives A, D and E. Based on our analyses and input from local governments, Tribes, interested organizations, and the public, I am recommending fourteen areas (49,098 acres) for inclusion in the National Wilderness Preservation System on the Nantahala and Pisgah NFs. Four of these recommended areas are existing designated Wilderness Study Areas, eight are extensions to designated wilderness (seven in NC, one in Tennessee), and two are new standalone areas. All of the recommended wilderness areas have the social and ecological characteristics that warrant congressional consideration and have received public comment in favor of recommendation.

Table 1: Recommended Wilderness Areas

Recommended Wilderness Area	Acres	Geographic Area
Bald Mountains	6,319	Bald Mountains
Southern Nantahala Wilderness Ext., Barkers Creek	998	Nantahala Mountains
Southern Nantahala Wilderness Ext., Chunky Gal	2,055	Nantahala Mountains
Craggy WSA*	3,222	Black Mountains
Harper Creek WSA*	7,044	Eastern Escarpment
Joyce Kilmer-Slickrock Wilderness Ext., Deep Creek-Avey Creek (Ext. #2)	1,912	Unicoi Mountains and Fontana Lake
Joyce Kilmer-Slickrock Wilderness Ext., Sugar Cove Branch (Ext. #4)	326	Unicoi Mountains
Lost Cove WSA*	5,681	Eastern Escarpment
Mackey Mountain	7,872	Black Mountains
Shining Rock Wilderness Ext., Dark Prong (Graveyard Ridge)	939	North Slope
Shining Rock Wilderness Ext., Sam Branch (Sam Knob)	688	North Slope
Snowbird WSA*	8,335	Unicoi Mountains
Southern Nantahala Wilderness Ext., Indian Ridge (Trail Ridge)	1,052	Nantahala Mountains

Recommended Wilderness Area	Acres	Geographic Area
Unicoi Mountains/Upper Bald River	2,655	Hiwassee and Unicoi Mountains
Total Acres	**49,098**	

* Recommended area boundaries differ slightly from the designated Wilderness Study Area due to boundary refinements made adjacent to roads.

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, 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.

Plan direction for lands within the wilderness inventory that are not recommended

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.

Table 2. Management area allocations for all lands that were evaluated in the inventory for potential additions to wilderness.

Inventory and Evaluation Area Name	Acres in Management Areas
Ash Cove	3,358 Backcountry; 1,442 EIA; 1,084 Matrix
Bald Mountains	4,068 Backcountry; 1,316 ANST Corridor; 34 Matrix;
Bearwallow	4,131 Backcountry
Black Mountains	10,472 Backcountry; 113 SIA; 1,432 RNA; 426 Matrix
Boteler Peak	5,605 Backcountry; 410 SIA; 4,497 Matrix;
Cantrell Top	705 Backcountry; 90 Heritage Corridors; 2,869 Matrix
Cedar Rock Mountain	501 SIA; 771 EIA; 2,195 Interface; 5,215 Matrix
Cheoah Bald	5,014 Backcountry; 3,543 ANST Corridor; 8 SIA; 246 Interface; 587 Matrix
Craggy Mountain	7,403 SIA; 51 RNA; 8 Interface
Daniel Ridge	3,351 SIA; 636 EIA; 2,121 Scenic Byways; 1,204 Interface; 4,381 Matrix
Deerpark Mountain	1,809 ANST Corridor; 39 SIA; 771 EIA; 193 Interface; 488 Matrix
Dobson Knob Ext. B	5,925 Backcountry; 542 Heritage Corridor; 82 SIA; 1,419 Interface; 3,793 Matrix
Ellicott Rock Wilderness Extension	371 Backcountry; 43 Interface; 409 Matrix
Fishhawk Mtn	2,064 SIA; 1,105 Interface; 2,498 Matrix
Harper Creek	185 WSA; 99 Backcountry; 113 Interface; 30 Matrix
Harper Creek Ext Sugar Knob	3,995 Backcountry; 647 Interface; 1,527 Matrix
Highlands of Roan	4,905 Roan Mountain; 278 Heritage Corridor
Jarrett Creek	8,358 Backcountry; 121 Scenic Byways; 41 Interface; 441 Matrix
Joyce Kilmer-Slickrock Ext. 3	1,207 Backcountry
Joyce Kilmer-Slickrock Ex.t 1	3 SIA; 887 EIA; 208 Scenic Byways; 411 Interface; 2,022 Matrix

Inventory and Evaluation Area Name	Acres in Management Areas
Joyce Kilmer Slickrock Ext. 2, Deep Creek-Avey Creek	443 EIA
Laurel Mountain	5,699 Backcountry; 803 Scenic Byways; 6 Cradle of Forestry; 1,098 Interface; 3,339 Matrix
Linville Gorge Wilderness Extension	2,745 Backcountry; 5 Interface; 89 Matrix
Linville Pinnacle Ext	104 Scenic Corridor; 195 Interface; 321 Matrix
Lost Cove	262 WSA; 12 Interface
Mackey Mountain	6,095 EIA; 256 Interface; 744 Matrix
Middle Prong Wilderness Extension	1,870 Backcountry; 4,803 Matrix
Nolichucky Gorge	1,603 Backcountry; 126 ANST Corridor; 728 Matrix
Overflow Creek	19 Backcountry; 3,247 WSA; 152 Experimental Forest; 301 Interface; 201 Matrix
Panthertown Valley	1,914 SIA; 2,481 EIA
Piercy Mountain Range	1,206 SIA; 2,456 EIA; 86 Heritage Corridor; 1,054 Interface; 4,131 Matrix
Pigeon River	2,048 Backcountry; 1,681 ANST Corridor; 262 EIA; 117 Interface; 1,881 Matrix
Santeetlah Headwaters	985 SIA; 1,551 EIA; 1,913 Scenic Byways
Shining Rock Ext Dark Prong	1,059 Backcountry; 10 Scenic Byways; 324 Interface
Shining Rock Wilderness Ext.-Sam Branch	1,883 Backcountry; 19 Scenic Byways; 52 Interface
Siler Bald	2,102 ANST Corridor; 147 Heritage Corridor; 16 Interface; 4,032 Matrix
Slide Hollow	104 Backcountry; 95 ANST Corridor
Snowbird	152 WSA; 4 Backcountry; 463 Interface; 2,603 Matrix
South Mills River	9,338 Backcountry; 78 Scenic Byways; 908 EIA; 24 Cradle of Forestry; 709 Interface; 6,043 Matrix
Southern Nantahala Ext - Indian Ridge	1,050 Backcountry; 721 ANST Corridor; 30 SIA; 394 Interface; 1,098 Matrix
Southern Nantahala Wilderness Ext., Barkers Creek	214 Backcountry; 247 SIA; 94 Matrix
Southern Nantahala Wilderness Ext., Cherry Cove	1,156 Backcountry
Southern Nantahala Wilderness Ext., Chunky Gal	2,168 Backcountry; 739 ANST Corridor; 462 SIA; 64 Interface; 2,346 Matrix
Steels Creek	2,180 Interface; 3,661 Matrix
Tellico Bald	1,467 Backcountry; 3,544 ANST Corridor; 238 SIA; 479 EIA; 72 Interface; 6,700 Matrix
Terrapin Mountain	1,797 Backcountry; 1,405 WSR Corridor; 18 SIA; 266 Interface; 1,942 Matrix

Inventory and Evaluation Area Name	Acres in Management Areas
Tusquitee Bald	16,723 Backcountry; 209 Heritage Corridor; 9 SIA; 271 Interface; 11,936 Matrix
Unicoi Mountains/Upper Bald River	259 Backcountry; 49 Heritage Corridor; 6,025 Matrix
Upper Wilson Creek	3,295 Backcountry; 1,630 WSR Corridor; 394 Interface; 1,051 Matrix
Wesser Bald	4,200 Backcountry; 2,107 ANST Corridor; 10 Interface; 317 Matrix
Woods Mountain	11,826 Backcountry; 419 Scenic Byways; 173 Interface; 275 Matrix
Yellow Creek Mountains	1,799 ANST Corridor; 119 Interface; 2,513 Matrix

Wild and Scenic Rivers

The Wild and Scenic Rivers Act (Public Law 90-542: 16 USC 1271-1287, October 2, 1968) and its amendments provide for the protection of selected rivers and their immediate environments. To be eligible for designation, rivers must be free-flowing and possess one or more Outstandingly Remarkable Values (ORVs), such as scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Designation preserves rivers in free-flowing condition, protects water quality, and protects the immediate river environments and ORVs for the benefit and enjoyment of present and future generations. Most rivers are added to the National Wild and Scenic Rivers System (National System) through federal legislation after a study of the river's eligibility and suitability for designation.

North Carolina currently has three designated Wild and Scenic Rivers that are managed by the Forest Service. These include the Chattooga River, Horsepasture River, and Wilson Creek. Horsepasture River and Wilson Creek are located on the Pisgah NF, and the Chattooga River is located on the Nantahala, Sumter, and Chattahoochee NFs. Additionally, the 1987 Nantahala and Pisgah NFs Land and Resource Management Plan and its 1994 amendment identified 11 rivers as eligible for potential addition to the National Wild and Scenic Rivers System. One of those, Wilson Creek, was later designated; therefore, ten eligible or suitable rivers remain from the 1987/1994 analysis. The forest plan was amended in 2004 to provide direction for the management of Wilson Creek and in 2012 to provide updated management direction for the Chattooga Wild and Scenic River. Management of these designated rivers does not change with this decision.

The Forest Service is required to consider and evaluate rivers for potential designation on lands it manages while preparing land management plans under Section 5(d)(1) of the Wild and Scenic Rivers Act.

During the Nantahala and Pisgah NFs Land and Resource Management Plan revision, all currently eligible rivers and all rivers named on a standard U.S. Geological Survey 7.5 minute USGS quadrangle map, more than 1300 in total, were reviewed by district personnel, resource specialists, and interdisciplinary team members for potential eligibility in the National System. A broad and inclusive review of potential ORVs resulted in 53

rivers that were potentially eligible and had a more detailed evaluation of ORVs. (See Appendix F for more detailed information about the evaluation process and the review of the 53 rivers). A river or river segment may have multiple ORVs.

Eligible wild and scenic rivers (or river segments) are assigned one or more preliminary classifications: wild, scenic, or recreational. These preliminary classifications are based on the developmental character of the river on the date of eligibility and dictate the level of interim protection measures to apply. Wild rivers are the most remote and undeveloped, whereas recreational rivers often have many access points and nearby roads, railroads, and bridges and may have undergone some impoundment or diversion in the past. A river's classification is not necessarily related to the value that made it worthy of eligibility. That is, a river with a scenery ORV will not necessarily have a scenic classification.

The proposed plan and DEIS identified nine new eligible rivers plus ten existing eligible rivers, resulting in a total of 19 eligible rivers on the Nantahala and Pisgah NFs. Following the public comment period between draft and final, these rivers were reviewed again to consider any new information based on comments. During this review it was found that Overflow Creek does not possess outstandingly remarkable values within the Forest Service segment which was analyzed, and does not meet eligibility criteria. Therefore, the final plan and FEIS identify a total of 18 eligible river segments on the Nantahala and Pisgah NFs, including 10 existing eligible river segments plus 8 newly eligible river segments.

I have determined that the following eight rivers are free-flowing and have outstandingly remarkable values and are eligible wild and scenic rivers or river segments (see Table 3). For a detailed description of the eligibility wild and scenic rivers study, please see appendix F of the final EIS. A wild and scenic river suitability study has not been conducted on these rivers, so the free-flowing character and identified outstandingly remarkable values will be protected until a suitability study is completed.

The rivers identified as newly eligible are displayed in Table 3.

Table 3: Newly Eligible Wild and Scenic Rivers

River Name	Description	Outstandingly Remarkable Values
Cullasaja River	A total of 7.8 miles of the Cullasaja River on National Forest lands from the Forest Service property line below Lake Sequoyah Dam to the Forest Service property line upstream of Buck Creek confluence were determined to be eligible with the following river classifications: - Recreational for the entire segment. Further study is deferred.	• Scenery • Recreation • Geology • Ecology/Botanical

River Name	Description	Outstandingly Remarkable Values
Fires Creek	A total of 2.8 miles of Fires Creek on National Forest lands from the confluence of Bee Branch to the Forest Service property line downstream of Fires Creek Picnic Area were determined to be eligible with the following river classification: - Recreational for the entire segment. Further study is deferred.	• Fish
Flat Laurel Creek	A total of 1.7 miles of Flat Laurel Creek on National Forest lands were determined to be eligible with the following river classifications: - Scenic (1.4 miles): From the headwaters to the eligible West Fork Pigeon River corridor; - Recreational (0.3 miles): From the corridor of West Fork Pigeon River to the confluence with that river. (West Fork Pigeon River is also classified as Recreational, so this classification is consistent for both rivers in the overlapping corridors). Further study is deferred.	• Ecology/Botanical
Santeetlah Creek	A total of 12.5 miles of Santeetlah Creek on National Forest lands from the headwaters to the confluence with an unnamed tributary upstream of Rattler Ford Campground were determined to be eligible with the following river classification: - Scenic for entire segment. Further study is deferred.	• Fish • Wildlife • Ecology/Botanical • Cultural/Historical
South Toe River	A total of 3.7 miles of the South Toe River on National Forest lands from the confluence of Left Prong South Toe River to the bridge at Black Mountain Campground were determined to be eligible with the following river classification: - Recreational for entire segment. Further study is deferred.	• Recreation
	A total of 3.7 miles of the Thompson River on National Forest lands were determined to be eligible	

River Name	Description	Outstandingly Remarkable Values
Thompson River	with the following classifications: - Scenic (0.4 miles): From the headwaters to the Forest Service property line west of SR1152; - Recreational (1.0 miles): From the Forest Service property line west of NC281 to Forest Service property line east of NC281; - Scenic (2.3 miles): From the Forest Service property line east of NC281 to the Forest Service property line east of Long Spur Ridge. Further study is deferred.	• Scenery • Recreation
West Fork Pigeon River	A total of 7.0 miles of the West Fork Pigeon River on National Forest lands from the confluence of Bubbling Spring Branch to the confluence of Queen Creek were determined to be eligible with the following river classification: - Recreational for the entire segment. Further Study is deferred.	• Scenery • Recreation • Ecology/Botanical
Whitewater River	A total of 3.6 miles of the Whitewater River on National Forest lands from the Forest Service property line upstream of the confluence with Democrat Creek to the South Carolina line were determined to be eligible with the following river classification: -Scenic for the entire segment. Further study is deferred.	• Scenery • Recreation • Geology • Ecology/Botanical

Response to Public Comments

The Nantahala and Pisgah NFs published the notice of availability (NOA) for the DEIS in the Federal Register on February 14, 2020. The 90-day comment period was extended an additional 45 days and closed on June 29, 2020. The Forest Service held one in person public meeting in March of 2020 and four subsequent teleconference question and answer calls were held in May and June 2020. During the 135-day comment period, approximately 9,700 comment letters were received electronically and by postal mail. Several letter writing campaigns resulted in submission of an additional 3,840 letters, many of which were duplicates. Comments were received from Federal and State agencies, local governments, Federally Recognized Tribes, collaborative groups, non-profit organizations,

and interested individuals. Approximately 90 percent of comment letters were form letters or form plus (form letters with additional unique comments). The majority of comments pertained to recommended wilderness, management for wildlife and young forest habitat, and recreational use of the Forests.

All comments were carefully considered in the development of Alternative E and the updated analysis in the final EIS. The response to those comments can be seen in FEIS Appendix A.

Changes from DEIS to FEIS

In response to public comments and feedback received on the draft EIS, Alternative E was developed and analyzed in detail in the final EIS. Alternative E makes iterative adjustments to the proposed plan and Alternatives B, C, and D. Alternative E contains updated plan components (desired conditions, objectives, standards, guidelines), management area maps, and other plan content (management approaches, background information). A summary of changes between Alternative E and the other action alternatives is discussed below and detailed in the project record. Additionally, some comments between draft and final resulted in the addition of EIS alternatives that were considered but not analyzed in detail.

Spatial Changes

In Alternative E, the following spatial adjustments were made:

- Updates to the designated old growth network.
- Adjustments to the forest Special Interest Areas MA.
- A different allocation of areas for recommended wilderness.
- The Heritage Corridor Management Area was updated to reflect more recent information about the Trail of Tears National Historic Trail.
- Updated mapping of Matrix, Ecological Interest Area, Interface, and Backcountry, and Appalachian National Scenic Trail based on changes related to MA allocations described above.
- Assignment of new Forest Service land acquisitions to management areas.
- A minor adjustment to the boundary for the Blue Valley Experimental Forest, increasing the overall acreage from 1,401 acres to 1,424 acres, in coordination with the Regional Forester and Southern Research Station Director.
- Minor corrections to management area lines.

Plan Direction Changes

Below is a summary of plan direction that changed between the proposed plan released with action Alternatives B, C, and D, and the final plan released with Alternative E. These changes were based on public comments and FS input between the draft and final EIS. A detailed spreadsheet of all the plan language changes is available in the project record.

In the proposed plan and DEIS, there were two topics that had differing plan direction between action alternatives B, C and D: management of the old growth network and new trail construction. on. In addition to this overall summary of changes, more information on each of these two topics is included in separate subsections below.

- Climate change: Updated management approaches for adapting to climate change.
- Streamside zones: Increased the distance of the streamside zone around intermittent streams to 50 feet to match the distance in which NC forest practice water quality guidelines apply, and language was added to recognize the role of ephemeral streams.
- Terrestrial Ecosystems:
    - Reorganized plan content with a clearer delineation of subsections for Ecozones, Wildlife Habitat, Designated Old Growth Network, Forest Health and Timber.
    - Objectives for young forest, open forest woodlands, and stand and community improvement were reframed in terms of annual acres rather than decadal.
    - An objective was added for thin and burn activities to improve woodland and open forest conditions.
    - The prescribed fire objective was increased to better reflect current capacity (Tier 1) and to enable greater activity level if additional resources become available (Tier 2).
    - A second tier objective was added for community and stand improvement activities.
    - Reorganized other objectives in the Designated Old Growth Network, Forest Health and Watershed sections.
    - Anticipated techniques and priorities were expanded in management approaches.
- Plant and Animal Diversity:
    - Clarified how the FS will partner with the U.S. Fish and Wildlife Service, North Carolina Wildlife Resources Commission and North Carolina Heritage Program in working to maintain, enhance and restore plant and animal diversity.
    - Clarified how the USFS will coordinate with the NC Natural Heritage Program when designing projects in North Carolina Natural Heritage Areas.
    - Added an objective and standard associated with managing and restoring *Hudsonia montana* and *Liatris helleri* populations.
- Forest Health: The nonnative invasive species treatment objective was increased to better reflect current capacity (Tier 1) and to enable greater activity level if additional resources become available (Tier 2).
- Timber: Clarified restocking levels and size of openings.

- Transportation and Analysis: Clarified how many miles of road and trail miles will be restored to natural contours.
- Recreation Settings: Updated recreation opportunity settings and classes for each management area.
- Dispersed Recreation–see the sustainable trails updates described below:
    - Clarified how relocation of unsustainable system trails will be addressed.
    - Updated guidance on managing climbing routes through unique habitats and cultural resource sites.
- Scenery: Linked scenic character descriptions to the Geographic Area descriptions.
- Tribal Resources:
    - Incorporated the development of traditional ecological knowledge from Federally Recognized Tribes early in project design.
    - Added an objective to work with Federally Recognized Tribes and the Southern Research Station on studies of sustainable plant harvest.
    - Identified additional opportunities to work with Tribes.
- Minerals and Energy:
    - Clarified the relationship between the USFS and the Bureau of Land Management in managing the federal mineral estate.
    - Recognized the role of critical minerals for renewable energy technology.
    - Clarified that an oil and gas availability decision is not being made at this time due to the lack of industry interest and the low potential for oil and gas resources on the Forests.
- Community Involvement, Public Involvement, Conservation Education:
    - Emphasized partnering with others to expand capacity and continued collaboration with communities, Tribes, partners, volunteers, and other governments through the addition of management approaches and geographic area goals.
    - Clarified the intent that these initiatives are culturally inclusive, engaging diverse audiences.
- Separated Ecological Interest Areas and Special Interest Areas into two separate management areas with unique plan direction.
- Updated the names and acres of Special Interest Areas by Geographic Area, informed by additional field visits and coordination with the NCHP, and FS staff between draft and final.

Old Growth Management

The revised plan identifies mature and old growth forests[1] as a desired habitat type needed throughout the landscape (LMP Plan, Table 3). Old growth forests are currently rare in the Southern Appalachians. The 1994 plan, as amended, identifies "the desired future condition for old growth across the forest is to have a network of small, medium and large sized old growth areas, representative of sites, elevation gradients, and landscapes found in the Southern Appalachians and on the Forests, that are well dispersed and interconnected by forested lands." While these patches do not always contain existing old growth, all are designated to allow old growth characteristics to develop over the long term. The designated old growth network is established to ensure old growth conditions develop and persist into the future. It does not account for all the pockets of old forest that may exist on the Nantahala and Pisgah NFs. To address project level challenges around old growth management, proposed alternatives differed in the size and configuration of the Designated Old Growth Network, and each had a different standard about how adjustments would be made to the Designated Old Growth Network during the next 20 years based on project level information.

Comments received on the draft forest plan varied in terms of whether the old growth network should be set at the plan level versus adjusted in project level decisions. Some commenters favored identifying old growth at the plan level to provide certainty about the old growth's defined spatial role. Supporters of setting the network at the plan level stated that identifying the designated network in the plan reduces the analysis during project level planning, improves project efficiencies, and ensures consistency in approach across ranger districts and through changes in leadership. Others favored project level adaptability, stating that old growth is not static on the landscape, it is not well inventoried, and that the best land allocation for the designated OG network may shift over the next 10 to 20 years. Other commenters advocated for a cap-and-trade style designated OG network where the overall size of the network is established (capped) in the plan, but the individual patches are added or dropped (traded) during projects based on field assessment. Conceptually, a cap-and-trade approach would allow for high quality existing old forest or old growth to be added to the network when it is found at the project level, while patches with lower quality old growth potential that are in the network could be removed from the network and allocated to other types of multi-use management. However, commenters and the best available science differ on the initial acreage for that network, and the criteria for adjusting patches. Some individuals advocated for adding to the network based on local site conditions, and others suggested it should be based on the management area assignment. Overall, there are strong disagreements on the size of the network and what and how to adjust the network over time. A cap-and-trade approach is untested, would require additional level of project survey for old growth characteristics, and would likely be regularly challenged.

[1] For the purposes of this document, the term "old growth" references forests with old growth characteristics, which differs from old forest. Old forest has met the minimum age threshold to be considered old seral state, but may or may not have other characteristics of old growth.

After considering public comments and the DEIS findings, Alternative E changed the size and configuration of the designated OG network to strategically enhance the network's resiliency and ecological diversity. Alternative E's more than 54,000 acres of additions to the designated OG network include areas where creation of young forest is unlikely to be prioritized, including designated wilderness, wilderness study areas, recommended wilderness, research natural areas, and the corridors of designated wild and scenic rivers that are classified as wild. Beyond these management areas, additional patches were included in the network with consideration of the full range of biodiversity representation, using ecozone representation, moisture and elevation gradient diversity, as well as spatial distribution and redundancy. 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). The adjusted network size and configuration incorporates landscape planning concepts from scientific literature, academic input, as well as local information provided by commenters and the NC Natural Heritage Program regarding inventoried locations of existing old growth patches. The adjusted Designated Old Growth Network:

- Defines a spatial role for the development of old growth characteristics in the plan;
- Includes all ecozones, moisture conditions, and elevation gradients.
- Includes lands that will be managed passively to allow the forest to age naturally– such as designated and recommended wilderness.
- Emphasizes large old growth patches, thereby increasing the network's overall resiliency and connectivity across the forests.
- Considers information from collaborators and the North Carolina Natural Heritage program about existing old growth.

The resulting network includes 291 separate patches totaling 265,385 acres that represent approximately 25% of the Nantahala and Pisgah NFs. Under this new configuration, Alternative E would provide the largest network of any alternative and would increase the amount of large patches by 25% more than the existing network, increasing overall resiliency and connectivity. Also, in Alternative E, the size and configuration of the network is defined at the plan level, and projects will not be able to add, subtract or adjust the footprint of the designated OG network. Just as in the other alternatives, Alternative E provides direction to enhance old growth characteristics within the designated old growth network, such as managing for forest health treatments.

Setting the network at the plan level addresses the landscape scale appropriate for a forest plan. We recognize that some individuals and groups want to preserve every small patch of old forest and we recognize the inherent value of exceptionally old trees.

Setting the network at the plan level addresses the landscape scale appropriate for a forest plan. We recognize that some individuals and groups want to preserve every small patch of old forest and we recognize the inherent value of exceptionally old trees. This approach provides the local line officer discretion about what to do when additional high-quality old forest is found during this planning cycle. The 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 forestwide Designated OG Network.

Under the existing forest plan (Alternative A) we would likely add between 7,000-10,000 acres to the OG network over the next 20 years. These additions would be primarily small patches, added at the project level, without a landscape scale perspective on the value of the addition to the overall network. Under Alternative E, we add 54,000 acres now, while increasing the overall patch sizes, diversity, connectivity, and resiliency of the overall network at the landscape level. The question of whether this OG 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. In addition, the EIS shows that outside of the designated OG network, hundreds of thousands of acres on the Forests will continue to age and potentially progress to old growth conditions over time. Old growth conditions take decades to develop depending on site conditions and individual ecozones. With establishment of this network and the land management area allocation, we will improve the forest's ability to ensure the landscape develops old growth desired conditions over time.

Sustainable Trails

There were many public comments received on the draft plan regarding sustainable trail management and the conditions for new trail construction proposed in Alternatives B, C, and D. While there was general support for sustainable trail construction, there was concern about requiring an offset of decommissioned miles that would essentially cap the miles of system trails (Alternative C), and about the logistics associated with administering a trail bank of miles (Alternative D). Commenters also voiced concern regarding the requirement for bicyclists and equestrian users to stay on system trails, and how effective the current system trails would be in accommodating increasing use in some locations.

We recognize that the current designated trail network does not meet the need for equestrian and bicycle trails in all geographic areas across the Forests, which is partially why there is an abundance of user-created trails on the Forests.

The final plan provides a framework for collaborative trail planning within geographic areas to develop a sustainable trail network that provides quality recreation opportunities while also addressing and decommissioning user-created trails. Specifically, of the following adjustments were made to plan language in Alternative E:

- Alternative E provides guidance on sustainable trails that limits new construction and adoption of authorized routes to those developed collaboratively, using modern design principles and where one of the following applies:
    - There is a commitment to long-term maintenance by a volunteer or partner agreement, or
    - The route resolves a critical health and safety need, or

    - The route resolves a supply-demand issue identified in geographic area goals, or
    - The route is offset by trail decommissioning or unauthorized route closure.
- A goal was added in four geographic areas (Bald Mountains, Black Mountains, Eastern Escarpment and Highland Domes) to address known supply and demand issues for equestrian and/or bicycle trail opportunities through collaborative trail planning.
- Objective REC-O-07 was modified and separated into two components. Part (a) says collaborative trail planning to address equestrian and/or bicycle trail supply/demand issues in specified geographic areas needs to begin within 5 years. Part (b) says that collaborative trail planning should occur forestwide every 5-7 years, building on the existing Nantahala and Pisgah National Forest Trail Strategy.
- Language was added to standard REC-S-11 that collaborative trail planning to address equestrian and bicycle trail demand will be underway prior to issuing a forest supervisor order allowing equestrian (horse, stock, pack and saddle) and bicycle use only on open or gated system roads, or system trails designated for those uses.
- A management approach recommending strategies that can be used to accomplish objective REC-O-07(b) was also added. This management approach identifies specific issues that could be addressed in the collaborative trail planning process and clarifies that this planning could take multiple forms.

Comprehensively, these adjusted plan components require implementation of contemporary trail design principles, minimal resource impacts or user conflicts, and full consideration of the three aspects of sustainable recreation (ecological, social, and economic).

Unlike other alternatives, Alternative E does not quantitatively restrict the total miles of trails that can be developed, nor does it establish a trail bank, but it will result in a heightened emphasis on ensuring that new trail developments are economically, ecologically, and socially supported for the long term.

Alternatives Considered

In addition to the selected alternative, I considered four other alternatives, which are discussed below. Alternative E was the environmentally preferred alternative. A more detailed comparison of these alternatives can be found in the FEIS, Chapter 2.

Alternatives Analyzed in Detail

Five alternatives are analyzed in detail, including one no action (Alternative A) and four Action Alternatives (B-E):

The **plan direction** for Alternative A is reflected in the current forest plan as amended. The plan direction for Alternatives B, C, and D is reflected in the proposed plan that accompanied the DEIS. Differences between plan direction for Alternatives B, C, and D (for plan components ECO-S-28, REC-S-14, REC-O-07) are explained within the proposed plan itself on the appropriate page for each plan component. The plan direction for Alternative E is the final plan that accompanies this FEIS.

Differences in proposed land allocations can be seen by reviewing the accompanying **set of maps**. Forestwide maps that can be used to coarsely compare alternatives are available in Appendix I, although the more detailed set of maps should be reviewed to compare specific locations, as the small maps in this chapter do not capture the full degree of detail.

Together, the changes in plan direction and management area allocation respond to the Need for Change and the significant issues that are described in Chapter 1 of the FEIS.

While all five alternatives provide for a wide range of multiple uses, goods, and services, each addresses the issues in different ways, reflecting the range of opinions expressed in public comments.

- **Alternative A, the No Action**: This alternative is the current forest plan, as amended. The current forest plan would continue to guide management of the Nantahala and Pisgah NFs under this alternative.
- **Alternative B** responds to those who desire more flexibility for managing vegetation patterns, wildlife habitats, recreation, and access. This alternative:
    - Provides the largest land base for creating young forest structure through mechanical treatment in the Matrix management area.
    - Designates the smallest old growth network in the forest plan but allows for the most project level flexibility for making old growth network adjustments during plan implementation.
    - Provides the most flexibility for adding new trails to the trail system.
    - Includes the largest amount of the forest where road access is prioritized, including the most opportunities for opening seasonally closed roads in Interface and Matrix for hunting and other uses, with the most acres available for new road building.
    - Recommends the most acreage for future designation as wilderness by Congress; this is consistent with the theme of retaining flexibility for locating young forest habitat and access, because areas recommended for wilderness are generally not areas that would otherwise be managed for young forest habitat or motorized access.
- **Alternative C** is intended to be responsive to those who desire more certainty defined in the forest plan and less project level flexibility for managing vegetation patterns, wildlife habitats, recreation and access. This alternative:
    - Allocates a greater amount of the Forests to Backcountry and responds to the issue of designating places with rare and unique ecological values into the Ecological Interest Areas management areas. This would provide more limitations on the timber management activities that can occur in these locations.
    - Establishes a larger old growth network than Alternatives A, B, and D and sets the footprint of the network for the life of the forest plan.
    - Responds to the need for more sustainable recreation by being the most restrictive when adding new trails to the system, allowing the least flexibility for adding trails during plan implementation.

- Includes the fewest opportunities for opening seasonally closed roads in Interface and Matrix for hunting and other uses; includes and a greater emphasis on decommissioning unneeded roads in Backcountry, with the fewest acres available for new road building.
- Recommends the fewest acres for wilderness, instead providing the greatest acreage of backcountry that provides a semi-primitive non-motorized recreation experience, some of which may be suitable for future mountain biking opportunities.

Alternative D is an intermediate approach between Alternatives B and C in terms of plan restrictions versus project flexibility in managing for vegetation patterns, wildlife habitat, recreation, and access. This alternative:

- Responds to the issue of designating places with rare and unique ecological values into the Ecological Interest Area MA, it also maintains much of the Forests in the Matrix MA, allowing for flexibility of active management to meet young forest habitat needs and respond to emerging forest health issues.
- Establishes an old growth network that is larger than Alternative B and smaller than Alternative C and E and allows for project level additions where old-growth conditions are under-represented.
- Provides moderate restrictions on new trail building and establishes a new tool, a trail bank, which can be used across the Forests to build sustainable trail miles.
- Provides motorized access opportunities between the amounts in Alternatives B and C for opening seasonally closed roads in Interface and Matrix for hunting and other uses, decommissioning unneeded roads in Backcountry, and the percent of the forest open to new road building.
- This alternative recommends only those areas with the highest quality wilderness characteristics for wilderness designation, more than Alternative C but less than Alternative B.

Alternative E incorporates public comments between the draft and final plan. This alternative:

- Increases emphasis on prescribed fire, using fire and mechanical harvest to restore open forest conditions, and nonnative invasive species treatments in tiered objectives.
- Establishes an old growth network that is larger than any of the other alternatives and sets the footprint of the network for the life of the forest plan.
- Addresses the challenge of trail management by collaborating with partners to focus on supply and demand issues on some geographic areas of the forest and ensuring that new trail miles are socially, ecologically and fiscally sustainable, and in good locations for future soil and water needs.

- Provides motorized access opportunities comparable to Alternative D, focusing on opening seasonally closed roads in Interface and Matrix for hunting and other uses, and decommissioning unneeded roads in Backcountry.
- Recommends more acres and areas for wilderness than Alternatives A and C, but less than B and D, recommending areas with the strongest wilderness characteristics in combination with public comments and management needs for other multiple uses.

Alternative features by comparison

The following tables compare alternatives by summarizing management area allocations and the ability to achieve desired conditions, focusing on selected indicators for the issues used for alternative development.

As stated above, there are instances where total forest acreage numbers of management areas may not be considerably different between alternatives, however the location of where those acres are identified across the landscape may be very different. The detail of how different places are proposed to be managed must be examined at a fine scale to appreciate the effects of those designations. Comparison of aggregate acres of management areas between alternatives at the broad landscape scale does not reveal the meaningful differences between alternatives. Therefore, a simple chart comparing acres should not be relied on for alternative comparison as much as reviewing management area maps.

Table 4. Alternative Features Comparison, Organized by Issue

Plan Decision	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Issue 1: Vegetation Patterns and Wildlife Habitats					
Young forest creation (annual acres)	650 acres	Tier 1: 650-1200 acres Tier 2: 1200 to 3200 acres			
Intermediate thinning treatments (annual acres)	150 acres	Tier 1: 150-400 acres Tier 2: 400- 600 acres			
Thin and burn for open forest woodland (annual acres)	N/A	N/A	N/A/	N/A	Tier 1: 300 to 600 acres Tier 2: 600 to 900 acres
Land operable for timber management, all conditions (estimated acres)	206,000-430,000 acres	240,000-594,000 acres	238,000-488,000 acres	243,000-535,000 acres	233,000-505,000 acres
Land operable for timber management, commercially viable currently (estimated acres)	98,000-216,000 acres	113,000-265,000 acres	111,000-235,000 acres	113,000-260,000 acres	108,000-245,000 acres

Plan Decision	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Plan level designated old growth network (acres)	211,118 acres	202,524 acres	255,968 acres	226,015 acres	265,441 acres
Adjustments to the old growth network expected at the project level	Project level adjustments may be made	Project level adjustments may be made	Network set at plan level; no project level adjustments	Project level adjustments must meet identified conditions	Network set at plan level; no project level adjustments
Prescribed fire (annual acres)	8,500 acres	Tier 1: 6,500 to 10,000 acres Tier 2: 10,000 to 20,000 acres			Tier 1: 10,000 to 20,000 acres Tier 2: 20,000 to 45,000 acres
Ecological Interest Area MA (acres)	N/A	0	79,550 acres	26,000 acres	22,195 acres
Issue 2: Special Area Designations					
Special Interest Areas	50,519 acres	102,650 acres			118,810 acres
Wilderness - Designated	6 areas; 66,400 acres				
Wilderness Study Areas	5 areas; 26,816 acres				
Recommended Wilderness	3 areas (3 WSAs); 15,226 acres	23 areas (5 WSAs); 126,333 acres	2 areas (2 WSAs); 11,193 acres	16 areas (4 WSAs); 74,173 acres	14 areas (4 WSAs); 49,098 acres
Wild and Scenic Rivers - Designated	3 rivers				
Wild and Scenic Rivers - Eligible	10 rivers	19 rivers			18 rivers
Appalachian National Scenic Trail corridor[2]	16,100 acres	45,290 acres	51,660 acres	49,900 acres	48,152 acres
Heritage Corridors	NA	8,370 acres	8,760 acres	8,530 acres	6,512[3] acres

[2] The Appalachian Trail National Scenic Trail corridor will be managed comparably under all alternatives. 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 the action alternatives has been updated to incorporate the potential foreground acreage that is reviewed at the project level. Corridor acreage differs among action alternatives because of variations in recommended wilderness.

[3] Between the release of the proposed plan and final plan, the location of the Trail of Tears National Historic Trail was updated based on new information, resulting in an adjustment to this management area location. More information is available in the Tribal Resources section of Chapter 3.

Plan Decision	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Scenic Corridors	NA	23,310 acres	20,940 acres	23,770 acres	21,851 acres
Issue 3: Access					
Percent of the forest in management areas where road access is prioritized	51%	60%	48%	59%	58%
Percent of the forest in management areas where road building is not allowed	11%	23%	14%	19%	17%
Issue 4: Recreation					
Approach to adding trail miles to the system	N/A	Least restrictive	Most restrictive	Moderately restrictive, with a trail bank	Moderately restrictive without a trail bank
Acres managed for semi-primitive non-motorized recreation	146,150 acres	177,150 acres	312,840 acres	205,960 acres	207,833 acres
Acres managed for primitive recreation	65,104 acres	194,090 acres	96,290 acres	145,271 acres	121,367 acres
Recreation focused management area	N/A	67,150 acres	55,200 acres	66,980 acres	65,890 acres
Issue 5: Economic Contributions of the Forests					
Jobs Generated[4]	3,280	Tier 1: 3,421 Tier 2: 3,809	Tier 1: 3,417 Tier 2: 3,821	Tier 1: 3,420 Tier 2: 3,804	Tier 1: 3,425 Tier 2: 3,808
Labor Income	$109,110,000	Tier 1: $116,702,000 Tier 2: $134,394,000	Tier 1: $116,484,000 Tier 2: $134,923,000	Tier 1: $116,653,000 Tier 2: $134,207,000	Tier 1: $116,862,000 Tier 2: $134,141,000
Projected Wood Sale Quantity (PWSQ)	3.8 MMCF	Tier 1: 6.1 MMCF Tier 2: 13.5 MMCF	Tier 1: 6.2 MMCF Tier 2: 13.6 MMCF	Tier 1: 6.1 MMCF Tier 2: 13.6 MMCF	Tier 1: 5.0 MMCF Tier 2: 11.1 MMCF
Projected Timber Sale Quantity (PTSQ)	2.1 MMCF	Tier 1: 4.5 MMCF Tier 2: 11.8 MMCF	Tier 1: 4.5 MMCF Tier 2: 11.9 MMCF	Tier 1: 4.5 MMCF Tier 2: 11.7 MMCF	Tier 1: 3.3 MMCF Tier 2: 9.4 MMCF

[4] The estimated differences in job and labor income between alternatives are not meaningful given fluctuations in local and global market conditions and actual resource use. The meaningful difference is shown between Tier 1 and Tier 2 activity levels, not between alternatives themselves.

Plan Decision	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E
Acres Suited for Timber Production	361,176	405,657	321,670	409,337	459,175

Comparison of how alternatives move toward long-term desired conditions

Below is a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects can be distinguished quantitatively or qualitatively among alternatives.

Table 5. Summary of the Ability of Each Alternative to Achieve Management Needs and Key Desired Condition Concepts as Analyzed and Disclosed in Chapter 3

Key

++ = very effective at achieving desired conditions

+ = effective at achieving desired conditions

o = neutral contribution toward achieving desired conditions

- = ineffective at achieving desired conditions

- - = very ineffective at achieving desired conditions

Long Term Desired Condition	Ability to Move Toward Desired Conditions				
	Alternative A*	Alternative B*	Alternative C*	Alternative D*	Alternative E*
Plan theme: Sustaining Healthy Ecosystems					
Increasing pace and scale of ecological restoration	o	+	+	+	+
Increasing open forest habitat in short supply	o	+	+	+	++
Increasing young forest habitats in short supply	-	++	++	++	++
Increasing old growth habitat in short supply	++	++	++	++	++
Provide a representative network of designated old growth	+	-	++	+	++

Long Term Desired Condition	Ability to Move Toward Desired Conditions				
	Alternative A*	**Alternative B***	**Alternative C***	**Alternative D***	**Alternative E***
Protecting and restoring unique habitats	+	++	++	++	++
Providing for the persistence of rare species including Species of Conservation Concern	++	++	++	++	++
Improving fire regimes for ecosystem health	-	+	+	++	++
Reducing risk to communities from wildfire	+	+	+	++	++
Addressing emerging forest health threats	-	+	+	+	+
Plan theme: Providing Clean and Abundant Water					
Maintaining healthy watersheds – priority watersheds	+	++	++	++	++
Improving aquatic organism passage	+	+	+	+	+
Reducing unneeded and unauthorized roads	O	+	++	+	+
Theme: Connecting people to the land					
Recognizing places and uses that are important to visitors	O	++	++	++	++
Recognizing cultural and Tribal values of the Forest	O	++	++	++	++
Improving seasonal access to closed roads	O	++	+	+	+

Long Term Desired Condition	Ability to Move Toward Desired Conditions				
	Alternative A*	Alternative B*	Alternative C*	Alternative D*	Alternative E*
Providing opportunities for solitude and unconfined recreation	o	++	o	+	+
Improving recreation sustainability	-	o	+	++	++
Contributing to local economies	+	++	++	++	++
Providing timber forest products	+	++	++	++	++
Theme: Partnering with Others					
Leveraging resources to achieve shared goals	o	++	++	++	++
Incorporating public involvement in project design	+	++	++	++	++
Recognizing opportunities to work across the Forest boundary	o	++	++	++	++

**In this table, Alternative A is analyzed as currently implemented. Alternatives B-E are analyzed as planned.*

Alternatives Considered but Eliminated from Detailed Study

NEPA requires Federal agencies to evaluate reasonable alternatives to the proposed action and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the proposed action provided suggestions for alternative methods of meeting the purpose and need, a number of which were considered. Some of these alternatives were eliminated from detailed study because they either did not meet the purpose and need and address one or more significant issues, were outside the scope of the forest plan, were financially or technologically infeasible, would result in unreasonable environmental harm, or were duplicative of the alternatives considered in detail. The rationale for eliminating potential alternatives from detailed consideration is summarized below.

- **An alternative that allows for only passive management of the Forests in which natural processes dominate without human intervention**. This custodial alternative was not considered in detail because it does not meet the purpose and need of the revised plan and does not meet law, regulation, or policy requirements to provide for multiple uses (National Forest Management Act of 1976 and the Multiple-Use Sustained Yield Act of 1960). 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. This alternative would not have met the requirements of the 2012 Planning Rule, which calls for providing for ecological integrity and contributing to social and economic sustainability. Developing this alternative in detail would not have led to a viable alternative that could be selected for implementation because it does address the issues, nor does it meet the purpose and need of the revised plan.

- **An alternative that maximizes carbon uptake in response to climate change.** Suggested aspects of this alternative from public comments included emphasizing carbon storage, reducing harvest and thinning levels, lengthening harvest rotation, protecting old growth, and protecting characteristics of roadless areas. The responsible official determined that many aspects of this alternative had already been considered in the detailed analysis represented in alternatives B, C, D, and E. 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. A Desired Condition calls for sustaining ecosystem services under changing and uncertain conditions, including the regulating services of carbon sequestration and climate regulation. To focus exclusively on maximizing carbon and the other strategies named above 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. Furthermore, this alternative does not meet law, regulation, or policy requirements to provide for multiple uses, as required per the National Forest Management Act of 1976 and the Multiple-Use Sustained Yield Act of 1960. Additionally, another alternative was considered, but not analyzed in detail, that focused only on passive management (see above).
- **An alternative in which all active management is in a defined Ecological Restoration MA.** This alternative was proposed as a way to "meet ecological restoration needs while creating a broad geographic distribution of habitat diversity while minimizing the focus on forest age class distribution" (Nantahala Pisgah Forest Partnership 2017). However, our Assessment for the forest plan demonstrates that forest structure is severely departed. Managing for healthy forests and habitats while minimizing consideration of forest structure at the landscape level would not enable progress toward the full range of terrestrial ecosystem desired conditions for ecozone structure, function, composition and processes, and the Forest Service would not be able to manage for the diversity of age class habitats that many forest species depend on. Therefore, this alternative would not meet the purpose and need of the plan. Further, this approach would also forgo the secondary

and tertiary benefits of generating forest products and contributing to local economies, which is a forest plan desired condition.

This alternative is also fiscally infeasible. Without the tool of structural restoration, there would be reduced ability to package successful timber sales. Thus, there would not be enough financial resources to fund this work at such a large scale, nor would there be market demand to support creating these conditions. Sufficient timber harvest receipts are needed to support targeting compositional restoration.

Alternatives C, D, and E consider the intent of this alternative by allocating a portion of the Forests to Ecological Interest Area MA (EIAs). In these alternatives, 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.

- **An alternative that includes the recommendation of National Recreation Areas on the Grandfather and Pisgah Ranger Districts.** While interest from many organizations toward a National Recreation Area Proposal was strongest in late 2015, several signatory organizations have since redacted their support for this proposal, and the signatory organizations did not advocate for this proposal during public involvement on alternative formation.

  The Forest Service recognizes the unique recreation values on the Nantahala and Pisgah NFs and used other plan components to reflect these values within the draft plan. All action alternatives were modified to include the use of geographic area descriptions and goals to reflect the heavy recreation value of these areas. In the alternatives these areas have differing management area composition including differing amounts of Interface, which is recognized for its heavy recreation value; Backcountry, which is recognized for semi-primitive non-motorized settings and opportunities; and recommended Wilderness, which provides opportunities for solitude or unconfined recreation in a primitive setting. The variation in the management area allocation in the range of alternatives adequately reflects the underlying interests within the National Recreation Area proposal.

- **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. 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 recommended 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.

- **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.

- **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 with 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.

- The Nantahala-Pisgah Forest Partnership **provided a detailed and comprehensive alternative** with specific plan components and management area allocations across the Forests. This alternative included all "priority conservation areas" (NC Mountain Treasures, NC Natural Heritage Areas and old growth) in management areas not suitable for timber production. The Partnership alternative also provided more specificity about where and why active management should be prioritized, clearer sideboards on timber harvest and roadbuilding, an emphasis on utilizing partner investments for sustainable recreation, streamlining special use permits for outfitters and guides, and recommending adaptive management approaches.

  This comprehensive alternative was presented as having full support of the Partnership *only if all recommendations were taken together*. The entire Partnership alternative was not analyzed in detail because some elements of this alternative are outside the scope of the plan revision, such as revising the boating prohibitions on the Chattooga River (discussed in alternative above). Other elements of the Partnership alternative such as 'triggers' and tiered recommendations for wilderness were not analyzed because they are inconsistent with how the Forest

manages multiple resources (see below for further explanation of management triggers).

The EIS alternatives adequately present a range of options for MA allocation in places where there were diverse opinions regarding management. The issues, core components, and management area recommendations in the Partnership alternative were carefully considered and many recommendations are addressed in plan components of alternatives analyzed in detail, therefore, a specific alternative reflecting this comprehensive proposal was not developed in detail.

- Comments asked for **multiple alternatives to include adaptive management triggers.** Specifically, triggers were requested for management allocations, such as recommending more wilderness areas only after restoration projects have been accomplished on the ground. This was considered but found to be an implementation decision rather than a management area allocation decision, as any area recommended for wilderness in the plan would have to be managed to retain its wilderness characteristics from the time the forest plan is signed and could not adopt a status of Recommended Wilderness without a plan amendment. However, this idea could be implemented under any alternative through a forest plan amendment, such that public support for advancing wilderness recommendations could take place at such time that other aspects of plan implementation have been achieved. As a result, there was not a need to build an alternative to address this consideration.

  Similarly, comments asked for adaptive management triggers to be included for objectives, such that Tier 2 objectives are not initiated until all objectives are accomplished at Tier 1 levels. Each Tier 2 objective has resource effects analyzed in this EIS, and language was added to the plan to clarify that activity levels for an objective can move from Tier 1 to Tier 2 for that activity when additional resources and capacity are available. For example, Tier 2 levels of nonnative species management can be accomplished independent of whether the Tier 1 work on aquatic organism passage or cultural heritage surveys is complete. However, if a Tier 2 objective for one resource is not desired to begin until a Tier 1 objective for another resource is accomplished, then under any alternative, management could choose not to undertake that Tier 2 objective. There is not a need to build a new alternative to address this concern. Adaptive management triggers can also be identified in the monitoring guide, developed after the forest plan.

Environmentally Preferable Alternative

The Council on Environmental Quality has defined the “environmentally preferable” alternative as: “...the alternative that will promote the national environmental policy as expressed in NEPA’s section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.”

Based on the laws and regulations guiding management of NFS lands, I find that Alternative E is the environmentally preferable alternative. The suite of plan direction changes described above in the section titled “Changes between draft and final” provide

Alternative E with stronger plan direction for managing in the face of climate change; managing around streamside zones; restoring open forest woodlands, fire dependent ecosystems, wildlife habitat, and unique habitats; and providing better protection for natural and cultural resources from the impacts of heavy recreation, compared to other alternatives. Additionally, Alternative E increases the size of acres and number of areas in the Special Interest Area Management Area, and increases the size of the Designated Old Growth Network compared to other alternatives. Alternative E also updates The Heritage Corridor Management Area to reflect more recent information about the Trail of Tears National Historic Trail. When compared to the other alternatives, Alternative E best contributes to ecological, social, and economic sustainability.

Best Available Scientific Information

The 2012 Planning Rule (§219.6(a)(3) and 219.14(a)(4)) requires the responsible official to document how the best available scientific information (BASI) was used to inform the assessment, the plan decision, and the monitoring program. 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.

In the context of BASI, "available" means that the information is currently available in a form useful for the planning process without further data collection, modification, or validation. Analysis or interpretation of the BASI may be needed to place it in the appropriate context for planning.

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.

As the basis for terrestrial ecosystem plan content, the Nantahala and Pisgah NFs were mapped into ecological zones, or ecozones, that support specific plant communities. Eleven ecozones on the Nantahala and Pisgah were modeled based on potential natural vegetation type and mapped based on data collected from more than 5,800 plots across the Southern Blue Ridge using factors that control vegetation distribution, such as landform, geology, elevation, temperature, moisture, fertility, and solar radiation. Map units were defined by Nature Serve Ecological Systems, a nationally consistent set of mid-scale ecological units

(LANDFIRE 2009). The information provides characteristics of the composition, structure and the ecological processes needed to sustain the ecosystems. This information guided the determination of key characteristics of each ecosystem.

An assessment of the natural range of variation (NRV) was conducted to gain and understanding of past ecological processes and the resulting biological diversity under those conditions. NRV describes the variation in physical and biological conditions exhibited by ecosystems as a consequence of climatic fluctuations and disturbance regimes. Expert opinion was used to develop the assessment. Best practices for model development using State and Transition modeling software was used with the assistance of staff from LANDFIRE.

Estimates of the departure from desired conditions were used to develop objectives for ecological restoration in the revised plan. The information from the LANDFIRE biophysical setting models provided the most reliable and relevant information to base the departure analysis. Based on this information, monitoring questions and indicators were developed to track the conditions of key characteristics of the ecosystems.

An analysis of 2017 LiDAR was conducted in support this study of disturbances for the Final EIS. Other remote sensing tools, such as Sentinel2 and Landsat 8 were used to examine the landscape for disturbance patterns. Combing the results from these tools helped to design a monitoring program to track natural disturbances in the future**.**

Vegetation modeling in the Environmental Impact Statement was completed using Spectrum, a linear programming model that has been the Forest Service standard for land management planning. It is used to estimate outcomes of applying passive or active management practices to forested stands and modeling changed conditions under multiple scenarios. In this analysis, Spectrum modelling software was used to construct a model of the forest lands, the potential management actions applied to them and the resultant activities, outputs and conditions that result from the management and natural processes.

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 plan.

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).

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.

BASI used to prepare plan and EIS content related to soil and water resources includes Best Management Practice (BMP) and monitoring results evaluating nearly 2,000 individual, field based BMPs on the National Forests in North Carolina, the North Carolina Forest Practice Guidelines Related to Water Quality and guidelines developed by the N.C. Division of Water Quality and the North Carolina Geological Survey. Studies from Blue Valley and Coweeta Experimental Forests, field based Burned Area Emergency Response assessments, and other local peer reviewed assessments were used to analyze effects to soil

and water quality by activities proposed in the plan. The Watershed Condition Framework (WCF) classified watershed condition and developed a means to help prioritize watersheds for restoration and watershed improvements.

To complete the fire prioritization analysis, the forest considered ecosystems that are fire adapted and have a need for recurrent fire, as well as community protection needs where the risks of wildfire could impact local communications. The forest used vegetation analysis using Simon's (2011) potential natural vegetation models to determine the amount and locations of national forest that is fire-adapted. One SouthWRAP product is the Wildland Urban Interface Risk Index which estimates risks of wildfire across any given landscape. A process to categorize these higher risk lands on the NP using both sets of data is described in Appendix B.

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.

The Carbon section of the Environmental Impact Statement uses data from Forest Carbon Assessment for the Nantahala and Pisgah NFs (Dugan and McKinley 2018). The carbon assessment draws largely from two recent U.S. Forest Service reports: the Baseline Report (USDA Forest Service 2015) and the Disturbance Report (USDA Forest Service, in review). Together they provide the best available quantitative assessment of forest carbon stocks, harvested wood products stocks, and the factors that influence carbon dynamics on the N-PNF. The primary sources to evaluate potential future conditions and the impacts of climate change on forest carbon dynamics were the Resource Planning Act (RPA) assessment (USDA Forest Service 2016) and a regional vulnerability assessment (McNulty et al. 2015). These reports incorporate advances in data and analytical methods and collectively represent the best and most relevant scientific information available for the Nantahala and Pisgah NFs. These resources were explicitly selected for their consistent reliance on Forest Inventory and Analysis (FIA) data, which contains statistically valid sampling of ground-truthed monitoring data. They also use validated (peer-reviewed) modeling tools that integrate current remotely sensed and high-resolution products (e.g., Healey et al. 2018) with FIA data (Dugan et al. 2017; Dugan and McKinley 2018).

Desired conditions and objectives for recreational settings, recreation opportunities, and sustainable recreation were informed by using characteristics in the Forest Service ROS Users Guide (USDA Forest Service 1986), as well as sustainable recreation principles. Information from national visitor use monitoring and national strategies such as "A Framework for Sustainable Recreation" were used to develop forest plan direction. The desired Recreation Opportunity Settings for each management area was calculated through the use of GIS analysis. The foundation of this work started with the Nantahala and Pisgah National Forests ROS Inventory, which was completed in 2014 and followed the National

ROS Inventory Mapping Protocol. The total annual recreation visits was obtained from the National Visitor Use Monitoring Program (NVUM), a Forest Service standard dataset that provides estimates of national forest visitation, sampling visitors at four site types, including wilderness sites. A new round of NVUM estimates were completed between DEIS and FEIS. These updated recreation visitation estimates were used for the analysis in the FEIS.

Desired conditions and objectives for scenic character were informed by "Landscape Aesthetics, a Handbook for Scenery Management" (USDA Forest Service 1995).
Economic impact analysis estimates the role of NFS resources, uses, and management activities on employment and income in the communities that surround the Nantahala and Pisgah NFs.

Economic contribution to the 18-county analysis area was estimated with input-output analysis using the IMPLAN (IMpact analysis for PLANing) modeling system (MIG 2016). The modeling system allows the user to build regional economic models of one or more counties for a particular year and estimates the economic consequences of activities, projects, and policies on a region. IMPLAN uses Forest Service data on expenditures and resource uses to estimate the economic consequences of Forest Service management. Quantitative inputs (e.g., animal unit months, recreation visits, and Forest Service and Department of Interior payments to counties) were obtained from Forest Service program areas for this analysis. The model for this analysis used the 2016 IMPLAN data, which is the latest available dataset.

Additional BASI is cited throughout the planning documents along with lists of references found at the end of each volume and the origin of data analyzed in the assessment. References included in the assessment, final Plan, and final EIS reflect the most relevant documents, given the scope and scale of the assessment, and determined to be BASI. EIS Appendix B, Analysis Methods; EIS Appendix C, the Ecological Sustainability Evaluation, and EIS Appendix D, Vegetation Modeling Methods each contain a more detailed explanation of the sources and methods used in resource analysis and why this information is considered the most accurate, reliable and relevant for the Nantahala and Pisgah.

Based on my review of the final environmental impact statement, the information presented above, and the planning record, I find that the most accurate and reliable scientific information available that is relevant to the issues considered in this land management plan has been used to inform the planning process and has been applied to the issue considered in the revision, as required by 36 CFR 219.3.

Natural Range of Variation

The Planning Rule lays out key principles that plan revisions should consider when planning to sustain resilient conditions. The Planning Rule directives explain that "understanding the natural range of variation is fundamental in strategic thinking and planning, even if restoration to historical conditions is not the management goal or possible on parts of the plan area. Understanding the natural range of variation of an ecosystem provides an understanding of how ecosystems are dynamic and change over time. The natural range of variation is useful for understanding each specific ecosystem, for

understanding its existing ecological conditions, and for understanding its likely future character, based on projections of climate regimes. The natural range of variation is a guide to understanding how to restore a resilient ecosystem with structural and functional properties that will enable it to persist into the future" (FSH 1909.12 §23.11a).

To guide the development of plan direction for the Nantahala and Pisgah National Forests plan revision, the Forests developed a NRV model of forest ecosystems to provide a scientific reference of functional and sustainable ecosystems. In a multiple step process further described in the project record, the Forests identified ecozones, age classes for each ecozone, and the range of expected acres by ecozone by age and structure. There have been 3 approximations of the mapping of ecozones (Simon, 2011).

Using NRV as a base, the forest developed plan components that require the restoration of ecological types. This provides guidance for what the forest composition will be in the future, a significant step along the journey to ecological integrity.

Another contribution of the analysis of NRV to the planning process was greater understanding of the dynamics of ecological systems relative to each other. The structure and function of the ecological types identified in the NRV analysis are largely regulated along energy, moisture, nutrient, and disturbance gradients. NRV helps to inform the differences of the ecological types among the gradients. For example, the types and relative amounts of disturbances are much different on xeric sites than on mesic sites. In regard to the amounts of the seral states for each ecological type in NRV, there has been 1 approximation using the knowledge and tools of today. Subsequent approximations are needed to support future planning processes.

While the 2012 Planning Rule directives require consideration of the NRV in the development of plan components, the directives are also clear that NRV may not always equate to desired conditions, such as: in situations where ecological conditions have changed; when the system is no longer capable of sustaining key ecosystem characteristics identified as common in the past; when the system is no longer capable of sustaining key ecosystem characteristics relative to NRV based upon likely future environments; or when conditions common in the past are directly opposed to integrated desired conditions (desired conditions that represent a balance of social, economic, cultural, and ecological needs). In these situations, it may not be appropriate, practical, or possible to contribute to the restoration of NRV conditions.

The use of NRV as a reference condition carries the uncertainty associated with trying to find historical time periods that remain analogous to present and future conditions in the context of global change. Although NRV assessments can help explain the processes that contributed to current spatial and temporal patterns of ecosystems, there are limitation in their application. Data availability for reconstructing a disturbance history for some areas may make completing a HRV assessment more difficult, such as in the Eastern United States, where land-use history is a much more important concept to consider than it is in many areas of the West. (PFEIS, pp 88-89).

The land use in western NC has changed from pre-European settlement. The presettlement forest landscape was largely forests whose dominant trees often survived to reach ages of 300-500 years. Mortality of canopy trees occurred at a low rate. Large stand-replacing

natural disturbances were always infrequent relative to tree lifespans, with return intervals in the 100s of years. Thus, the return intervals are longer than the current forests have existed (White, 2011).

Another challenge with estimating and applying NRV is that disturbance rate and severity are contingent on current structure and composition and ultimately on successional history. The result of broad scale human disturbance 70-100 years ago is a homogenous forest of the present with high densities and uniform canopy of trees. (White, 2011).

The 1000-year timeframe used in the NRV model for the Nantahala and Pisgah National Forests provides insights for how ecosystems and species evolved over time. During that timeframe, human impacts on the environment were less evident than today. As such, natural disturbances would have been more widespread, especially for wildfire. For example, the estimated number of fire-adapted ecosystems in western NC is about 2,490,000 acres. It would take hundreds of thousands of acres per year of fire to shape the extent of those systems. Fire compartments would have been much larger during the NRV timeframe. By comparison, in 2019 the amount of prescribed fire in western NC was estimated at 1,400 acres.

Overall, in Western North Carolina, ecosystem characteristics dominant in historic times are different today (such as the loss of American chestnut, decline of Fraser fir and eastern hemlock from insect pests, change in fire regimes, hydrology etc.), therefore it is appropriate to consider other approaches beyond NRV, and this was done in the planning process.

The planning directives state that if past conditions relative to the natural range of variation are not appropriate, practical, possible, or desirable, that "The Interdisciplinary Team should design plan components based on a general scientific and ecological understanding of the conditions that would sustain key ecosystem characteristics and sustain at-risk species using factors such as: representativeness, redundancy, habitat associations of particular species, disturbance dynamics, or observed conditions in reference areas" (FSH 1909.23.11a)

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 forestwide geographic distribution when establishing a designated old growth network that would provide for the development of old growth characteristics over time.

The Terrestrial Ecosystems section of the plan notes that both models of Potential Natural Vegetation and the Natural Range of Variation do not address all restoration needs, for example, loss of hemlock or chestnut. NRV is only a guide, and for some resources, serves as the best proxy for resiliency. It explains that while key characteristics from the Natural Range of Variation generally apply to each ecozone, in some situations when restoration of the terrestrial ecosystems interacts with goals and objectives of other resources or needs to address changes required for ecosystem adaptability, it may be appropriate to locally deviate from the NRV. Site specific projects will be designed to restore the landscape

structure and pattern of ecozones by contributing toward desired conditions at the forestwide scale. Social and economic conditions will be considered during project design while providing for ecological resilience at local and landscape scales. It can be appropriate to be outside the range of key characteristics at the local scale in order to achieve social, economic, cultural, or ecological desired conditions at the landscape scale.

Table 3 of the Plan, titled Terrestrial Wildlife Habitat Conditions Across Ecozones, estimates the approximate number of acres in different forest structure conditions needed over many planning cycles. This table of acres was informed by the NRV modeling of separate ecozones but are not a forestwide target, or objective in and of themselves. Further, the Plan EIS demonstrates that some of these acreages may not be attainable in modern times because landscape conditions have changed from NRV.

The EIS also explains that restoring and maintaining Table 3's NRV estimated number of open forest woodlands is challenging and more difficult to reach than any other forest state. One possible reason is that the conditions have changed so much due to human influence. Before European settlement, forest lands were more contiguous, and therefore, fire management compartments were much larger than today. Wildfires were more widespread. Today, land development, fire suppression, smoke management and other laws, regulations, and policies have restricted the widespread use of fire. Therefore, meeting a sustained level of open canopy conditions that meets desired conditions is not attainable over the planning horizon given the assumed levels of prescribed fires and wildfires.

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.

Research Station Director Concurrence

The Nantahala and Pisgah National Forests include three experimental forests–Bent Creek, Coweeta Hydrologic Laboratory, and Blue Valley. Research operations are administered by the Southern Research Station of the U.S. Forest Service.

Table 6. Experimental Forests

Experimental Forest	Year Established	Acres
Bent Creek	1925	5,242
Coweeta Hydrologic Laboratory	1934	5,482
Blue Valley	1964	1,424

Established in 1925 to research rehabilitating forests damaged by overharvesting and promote sustainable forestry, the Bent Creek Experimental Forest in the Pisgah National Forest is the oldest Federal experimental forest east of the Mississippi. Bent Creek has a

research emphasis of upland hardwood ecology and silviculture and is also unique for its immediate proximity to the population center of Asheville. This has become a popular recreational destination, although the Congressional intent of the area is focused on forestry research. A portion of the Bent Creek Experimental Forest has been developed as a regional center for study of trees and other woody plants in cooperation with the Western North Carolina Arboretum.

The Nantahala National Forest contains the other two experimental forests. The Coweeta Hydrological Laboratory, established in 1934, has conducted the longest continuous forested landscape research in North America and contains one of the oldest gauged watersheds in the world. Coweeta is also part of the UNESCO Man and the Biosphere program contributing long-term ecological research. The Blue Valley Experimental Forest, the lesser known of the three experimental forests, provides researchers with data on eastern white pine and associated hardwoods. A portion of the Blue Valley Experimental Forest overlaps with the Overflow Wilderness Study Area.

National spatial datasets were used to identify Experimental Forest area boundaries on maps in Alternatives B, C, and D. In Alternative E, about 23 acres of land are added to the Blue Valley Experimental Forest to eliminate a sliver between the Experimental Forest and the Congressionally Designated Wilderness Study Area. This change was done in coordination with the Southern Research Station Director.

Additionally, the Forests contain two Research Natural Areas which are jointly administered with the Southern Research Station. Research Natural Areas (RNAs) represent current natural conditions, and designation of these areas allows natural physical and biological processes to prevail without human intervention. They will be managed for scientific research. They are managed in an undisturbed state as a baseline for comparison with other forest environments; however, under unusual circumstances, management may be used to maintain the unique features for which the RNAs were established. The two existing Research Natural Areas are Black Mountain and Walker Cove. Both are located on the Appalachian Ranger District of the Pisgah National Forest.

Table 7. Research Natural Areas

Name Year. Established	Description	Geologic and Botanical Features
Black Mountain 1933	1405 acres in the Black Mountain range (which contains the highest peaks east of the Mississippi River). Visible from highways of Western North Carolina. Lies in watershed of South Toe River, elev 3000–6600 ft.	Representative of the virgin growth of red spruce, balsam fir, and northern hardwoods, including yellow birch, buckey, beech, maple, and oak.
Walker Cove 1965	55 acres along the NE slope of Walker Ridge, elev 3800–4500 ft. Old growth stand of Southern Appalachian hardwoods–sugar maple and associated species. Sapstreak disease	Sugar maple–beech–yellow birch and associates. Carolina gneisses, metamorphic rock of unknown origin.

	(*Endoconidisphora virescens*) was first reported here.	

Nantahala and Pisgah NFs' staff worked closely with the Southern Research Station staff in the development of plan direction for these areas to reflect desired conditions and management needs.

Findings Required by Other Laws

The Forest Service manages the Nantahala and Pisgah National Forests in conformance with many laws and regulations. I have considered the statutes specific to individual resources as described in the final EIS, and I find that this decision meets our obligations to the current statutory duties of the Forest Service. Following are summaries of how the revised land management plan addresses the relevant laws and regulations.

In addition to the laws summarized below, the plan is responsive to the Executive Order on Tackling the Climate Crisis at Home and Abroad, also known as 30 X 30. That order recognizes the opportunities that America's lands and waters offer and directs the administration to develop and pursue strategies that conserve and restore the health, productivity, and connectedness of the lands and waters upon which every community depends. The 2012 Planning Rule directs the land use planning process for national forests and grasslands. It incorporates the concepts of adaptive management, best available scientific information, collaboration, working with partners, tribal engagement, and public participation into forest planning. Additionally, the planning rule directs specific area-based processes for identifying and recommending Wilderness, eligible Wild and Scenic River segments, that conserve areas, contribute to biodiversity, promote habitat connectivity, and protect and enhance unique and important values. These process and principles align well with the intent and eight key principles outlined by 30 x 30.

American Indian Religious Freedom Act

Federal agencies must make a good faith effort to understand how Indian religious practices may come into conflict with other Forest uses and consider any adverse impacts on these practices in their decision making.

No effects on American Indian social, economic, or subsistence rights are anticipated as a result of the land management plan revision. Regardless of which alternative is chosen, the Forest Service is required to consult with tribes when management activities may impact treaty rights and/or cultural sites and cultural use. The revised land management plan includes language was developed in consultation with federally recognized tribes and includes desired conditions for areas of tribal importance and has a management area for Heritage Corridors including the National Historic Trail of Tears. Therefore, I find the land management plan is compliant with this act.

Archaeological Resources Protection Act

This act provides protection to archaeological resources found on public lands and Indian lands of the United States. The legislation provides civil and criminal penalties for those

who remove or damage archaeological resources in violation of the prohibitions contained in the act. The act prohibits the removal of archaeological resources on public lands or Indian lands without first obtaining a permit from the affected Federal Land Manager or Tribe and requires Federal agencies to develop plans to survey lands under their management to determine the nature and extent of archaeological and cultural resources.

The land management plan is strategic and programmatic in nature, providing guidance and direction to future site-specific projects and activities, including the cultural resources section in Chapter 2. Compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800 regulations requires assessments to document the presence of historic properties within the area of potential effect for any site-specific activities and also to meet the intent of this act. Additionally, the Forests will follow the National Forests in North Carolina section 106 Programmatic Agreement Strategy for Unanticipated Discoveries and respective regulations to ensure inadvertent discoveries and emergency discoveries are reported and mitigation is developed through consultation with the State Historic Preservation Office, tribes and Tribal Historic Preservation Offices, and the Advisory Council on Historic Preservation. The Forest will also continue to consult with tribes during site-specific management activities that may impact cultural sites and cultural use. The plan components in the land management plan include provisions that take into consideration American Indian rights and interests and cultural resources. Therefore, I find the land management plan is compliant with this Act.

Clean Air Act

According to the Clean Air Act of 1990 and the Organic Administration Act of 1897, the Forest Service has the responsibility to protect the air, land, and water resources from the impacts of air pollutants produced within the national forest boundaries and to work with states to protect those same resources from degradation associated with the impacts of air pollution emitted outside of the national forest. As discussed in the FEIS, Chapter 3, Air Resources section, all lands managed by the Pisgah and Nantahala NFs are currently in attainment with National Ambient Air Quality Standards.

The forest plan includes plan direction for maintaining air quality (Chapter 2, Air) and monitoring questions for evaluating conditions and trends (Chapter 5) for . The FEIS Chapter 3, Air Resources section, addresses and discloses potential impacts from program activities that are approved by the forest plan, including the use of prescribed fire. Although this decision increases the acres where prescribed fire can be used, current air quality standards will be met because prescribed fires will be implemented in compliance with the Forest Service Southern Region's Smoke Management Guidelines and smoke dispersion modeling will be completed before implementation. Applying these guidelines at the site-specific project level will mitigate the potential for nuisance smoke, impacts to downwind sensitive areas and public safety hazards. In addition, prescribed burning activities will be coordinated with the North Carolina Forest Service to ensure that impacts from prescribed burning do not exceed air quality standards. Conformity determinations and more detailed air quality impact analyses will be made at subsequent levels of planning and analysis where emissions can be more accurately quantified, reasonably forecasted, and local impacts can be assessed. Therefore, I find the land management plan to be in compliance with the Clean Air Act.

Clean Water Act

The Clean Water Act (33 U. S. C. § 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. In North Carolina the designated agency for enforcement of the Clean Water Act is the North Carolina Department of Environmental Quality. The FEIS addresses potential impacts to water resources in the Chapter 3 Water section.

Implementing this land management plan is expected to maintain and improve water quality and satisfy all State water quality requirements. This finding is based on direction contained in the land management plan, application of "best management practices" specifically designed to protect water quality, and the discussions of water quality and beneficial uses addressed in Chapter 3 of the final EIS.

The revised land management plan provides plan components for protecting water resources and aquatic habitats. The management direction protecting water quality can be found in many locations throughout the land management plan, including the Watershed, Soil, Water, Aquatic Habitats, Streamside Zones, Timber Management Practices, and Transportation and Access sections of Chapter 2. Water resources and habitats will be protected by implementing the forest plan's direction, by following the Forest Service's National Best Management Practices for Water Quality Management on National Forest System Lands, and by following North Carolina's Best Management Practices for Forestry. Project-level analysis required for land management plan implementation will be required to demonstrate compliance with the Clean Water Act. I find that the land management plan is compliant with this act.

Endangered Species Act

The purpose of the Endangered Species Act is to provide for the conservation of endangered species by conserving ecosystems on which these species rely. Section 7(a)(1) of the Act requires Federal agencies to carry out programs for the conservation of listed species. In addition, the Endangered Species Act requires Federal agencies to ensure that any agency action does not jeopardize the continued existence of the species (Endangered Species Act, section 7(a)(2)). The Act also requires the U.S. Fish and Wildlife Service and the Forest Service to base their biological opinion and subsequent agency action, respectively, on the use of the best scientific and commercially available information (916 U.S.C. 1536(a)(2)).

In March 2013 the Forest Service notified the U.S. Fish and Wildlife Service (USFWS) of the land management plan revision process and initiated informal consultation on federally listed threatened and endangered species, species proposed for Federal listing, and candidate species to be considered for further evaluation throughout the land management plan revision process. In June 2021, the Forest Service reinitiated informal consultation with USFWS and received the finalized list of proposed, threatened, endangered, and candidate species that would be addressed in the biological assessment (BA) for the final EIS.

In accordance with Section 7(c) of the Act, the BA was prepared to assess the effects of implementing the Nantahala and Pisgah Revised Land Management Plan on 22 federally-listed threatened, endangered species and designated critical habitat currently present, historically known, or likely to occur on the Forests in Avery, Buncombe, Burke, Caldwell, Cherokee, Clay, Graham, Haywood, Henderson, Jackson, Macon, Madison, McDowell, Mitchell, Swain, Transylvania, Watauga, and Yancey counties in North Carolina. An additional four species were considered in the BA that are proposed for listing (one species) or considered for listing during the life of the plan (three species).

The proposed framework for the Nantahala and Pisgah Revised Forest Plan (Alternative E), may affect, but is not likely to adversely affect spruce-fir moss spider (*Microhexura montivaga)* or Carolina northern flying squirrel (*Glaucomys sabrinus coloratus).* Implementation of Alternative E, at the programmatic level, may affect, but is not likely to adversely affect designated critical habitat for spruce-fir moss spider or Carolina northern flying squirrel. Specifically, implementation of Alternative E will not adversely modify designated critical habitat for these species or jeopardize their continued existence. Analysis shows that habitat conditions for these species on the Forests may improve over time.

The BA found that the proposed framework for the Nantahala and Pisgah Revised Forest Plan (Alternative E), may affect, and is likely to adversely affect, Virginia big-eared bat (*Corynorhinus townsendii virginianus*), gray bat (*Myotis grisescens*), northern long-eared bat (*Myotis septentrionalis*), Indiana bat (*Myotis sodalist)*, little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*). Despite documented potential short-term effects, this analysis shows that habitat conditions for forest-dwelling bats on the Forests may improve over the long term. This determination of effect at the landscape scale does not remove the requirement for site-specific analysis, and project-specific consultation.

The proposed framework for the Nantahala and Pisgah Revised Forest Plan (Alternative E), may affect, but is not likely to adversely affect noonday globe (*Patera clarki clarki*) or rusty-patched bumblebee (*Bombus affinis*). In fact, analysis shows that habitat conditions for these species on the Forests may improve over time.

The proposed framework for the Nantahala and Pisgah Revised Forest Plan (Alternative E), may affect, but is not likely to adversely affect spotfin chub (*Erimonax monachus)*, Appalachian elktoe (*Alasmidonta raveneliana*), longsolid (*Fusconaia subrotunda*), and little-wing pearlymussel (*Pegius fabula*). Implementation of Alternative E, at the programmatic level, may affect, but is not likely to adversely affect designated critical habitat for spotfin chub (*Erimonax monachus*) or Appalachian elktoe (*Alasmidonta raveneliana*). Specifically, implementation of Alternative E will not adversely modify designated critical habitat for spotfin chub or Appalachian elktoe or jeopardize their continued existence. Analysis shows that habitat conditions for aquatic species on the Forests may improve over time. This determination of effect at the landscape scale does not remove the requirement for site-specific analysis, and consultation.

The proposed framework for the Nantahala and Pisgah Revised Forest Plan (Alternative E), may affect, but is not likely to adversely affect spreading avens (*Geum radiatum*), Blue Ridge goldenrod (*Solidago spithamaea*), mountain bluet (*Hedyotis purpurea var. montana*), mountain golden heather (*Hudsonia montana*), Heller's blazing star (*Liatris helleri*), swamp pink (*Helonias bullata*), Virginia spiraea (*Spiraea virginiana*), rock gnome lichen (*Gymnoderma lineare*), small whorled pogonia (*Isotria medeoloides)*, or mountain purple pitcher plant (*Sarracenia purpurea var. montana)*. Implementation of the proposed plan may affect but is not likely to adversely affect designated critical habitat for mountain golden heather (*Hudsonia montana)*. Implementation of Alternative E will not adversely modify designated critical habitat for mountain golden heather or jeopardize its continued existence. The proposed framework will have no effect on mountain sweet pitcher plant (*Sagittaria fasciculata)* or bunched arrowhead (*Sarracenia rubra ssp. jonesii*).

The revised Land Management Plan includes desired conditions, standards and guidelines, objectives and provides broad management direction that meets our responsibilities under the ESA Section 7(a)(1). These plan components comply with the requirements of the ESA and the associated recovery plan for each federally listed species. For these reasons, I find this land management plan to be in compliance with the requirements of the Endangered Species Act of 1973.

The USFWS will issue a biological opinion regarding effects of implementing the plan on federally listed species and species proposed for listing. As of release of this draft record of decision, we are expecting a final biological opinion that will determine adopting the revised plan would not jeopardize the continued existence of federally listed species and would not adversely modify designated critical habitat on the Forests.

Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Executive Order 12898 states that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

As described in the FEIS, within the 18-county planning area, Graham, Jackson, Swain and Watauga meet the criteria for environmental justice populations. Based on 2015 data Graham, Jackson, Swain, and Watauga counties have poverty rates (21.9, 22, 24.5, and 31.4 percent, respectively) that are about five percentage points or greater than that of North Carolina (17.4 percent) (U.S. Department of Commerce 2016b). Therefore, these counties meet the criteria for environmental justice populations.

In 2015 Graham, Jackson, and Swain counties were estimated to have about 7.6, 8.4, and 26.1 percent of the population of American Indian descent, which is meaningfully greater than the state average of 1.1 percent (U.S. Department of Commerce 2016b). Using this criterion, Graham, Jackson, and Swain counties meet the criteria for environmental justice populations.

While federally recognized tribes fall into a minority category as defined by environmental justice, and many times they may also be considered low-income, consideration of tribes within the requirements of Executive Order 12898 does not replace the agency's responsibility to conduct government-to-government consultation affecting federally recognized, state-recognized, and non-recognized tribes; individual tribal members, including those living off-reservation and Alaska Natives; and Native Hawaiians. The Federal Government has a trust responsibility to federally recognized tribes; the Forest Service, like other Federal agencies, must act consistently with the Federal trust responsibility when taking actions that affect tribes. Part of this responsibility includes consulting formally with tribes and considering their interests when taking actions that may affect them or their resources. See the Tribal Resources section for more information.

In addition, while not classified as environmental justice populations, the EIS has recognized a population increase in three stakeholder groups in several counties including Asians (Burke), Blacks (Buncombe, Burke, and Caldwell), and Hispanic/Latinos (Buncombe, Burke, Caldwell, Henderson, Macon, and McDowell).

All alternatives considered in the final EIS would contribute to social and economic sustainability by providing benefits to environmental justice communities, improving the quality of life, and providing opportunities for income and jobs. The Forest would continue to provide for traditional, cultural, and spiritual values that are of particular interest to Native American tribes. No populations in the plan area would experience significant adverse human health impacts or environmental effects due to management actions proposed under any of the alternatives considered. Therefore, I find that the land management plan is in compliance with this executive order.

Federal Land Policy and Management Act

The Federal Land Policy and Management Act allows for the granting of easements across National Forest System lands. The land management plan is strategic and programmatic in nature. It provides guidance and direction to future site-specific projects and activities. The land management plan does not create, authorize, or execute any site-specific activity, although it does provide for the consideration of granting easements and rights-of-way. Therefore, I find that the land management plan is consistent with this Act.

Invasive Species

Executive Order 13751, which amends Executive Order 13112, directs Federal agencies to prevent the introduction of invasive species; to detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner, to monitor invasive species populations accurately and reliably; to provide for restoration of native species and habitat conditions in ecosystems that have been invaded; to conduct research on invasive species and develop technologies to prevent introduction; to provide for environmentally sound control of invasive species; and to promote public education on invasive species and the means to address them. All of these actions are subject to the availability of appropriations to support this work. Forest Service Manual 2900, Invasive Species Management, sets forth Forest Service policy, responsibilities, and direction for the prevention, detection, control, and restoration of effects from aquatic and terrestrial invasive species (including vertebrates, invertebrates, plants, and pathogens).

The land management plan is strategic and programmatic in nature, providing program-level guidance and direction for future site-specific projects and activities. The land management plan does not create, authorize, or execute any ground-disturbing activity, although it does provide for the consideration of certain types of activities that may have the potential to affect the dispersal of invasive species. The land management plan includes Forestwide desired conditions, objectives, and management approaches that stress the use of best management practices to limit the introduction of new species and limit the spread of existing populations due to management activities. The Forest Health section (Chapter 2) includes an objective for annual treating, controlling and eradicating nonnative invasive plant species. Additionally, other direction provides protection of watershed, soil, riparian, and aquatic conditions in ways that will reduce management-related disturbances that might introduce new populations or increase existing ones. Land management plan monitoring also includes indicators associated with invasive species, and the effectiveness of treatments. Therefore, I find that the land management plan is compliant with this Executive Order.

Migratory Bird Treaty Act

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, was issued in furtherance of the purposes of the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Acts, the Fish and Wildlife Coordination Act, the Endangered Species Act, and the NEPA. This order requires including the effects of Federal actions on migratory birds as a part of the environmental analysis process. On December 8, 2008, the Forest Service signed a memorandum of understanding with the U.S. Fish and Wildlife Service to complement the Executive order (USDI-USFWS, 2008), and the Forest Service agreed to incorporate migratory bird habitat and population objectives and recommendations into the agency planning process, in cooperation with other governments, State and Federal agencies, and non-Federal partners, and strive to protect, restore, enhance, and manage the habitat of migratory birds, and prevent the further loss or degradation of remaining habitats on National Forest System lands. The Council for the Conservation of Migratory Birds was established in 2009 by the Secretary of the Interior to oversee Executive Order 13186. More than 20 Federal agencies, including the Forest Service, currently participate in and have representation on the Council for the Conservation of Migratory Birds.

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.

Multiple-Use Sustained Yield Act

The Forest Service manages National Forest System lands 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. As demonstrated in the final EIS and as required by the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528-531), the land

management plan guides sustainable and integrated management of Forest resources in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas. Therefore, I find that the land management plan is compliant with the Multiple-Use Sustained-Yield Act.

National Environmental Policy Act

The NEPA requires that Federal agencies consider and disclose the effects of proposed actions that significantly affect the quality of the human environment. The Act's requirement is designed to serve two major functions:

- to provide decision makers with a detailed accounting of the likely environmental effects of proposed actions prior to adoption, and
- to inform the public of, and allow comment on, such efforts.

The ID Team considered public and other agency input throughout the planning process (FEIS, Chapter 1, "Public Involvement"), developed and analyzed a reasonable range of alternatives (FEIS, Chapter 2, "Alternatives") and considered and displayed the environmental consequences in the EIS (Chapter 3, "Affected Environment and Environmental Consequences") in conformance with the National Environmental Policy Act of 1969 (NEPA), CEQ's NEPA regulations (40 CFR 1500 to 1508) and the Agency's NEPA procedures (36 CFR 220). 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.

The Forest Service has developed, gathered, and reviewed an extensive amount of information regarding the potential effects of each of the alternatives considered in the final EIS. This information expands and refines the data, analyses, and public input described in the NEPA documents associated with the draft plan and draft EIS. My decision also considers the large amount of public input, including public meetings, and comments received during the 135-day comment period for the draft EIS. All substantive comments, written and oral, made in regard to the draft EIS have been summarized and responded to in Appendix A of the final EIS. As described elsewhere in this decision, public involvement has led to changes in the analyses and the alternatives.

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.

Based on the above, the Plan is fully compliant with the National Environmental Policy Act and Council on Environmental Quality implementing regulations.

National Forest Management Act

The National Forest Management Act 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.

The National Forest Management Act requires the Secretary of Agriculture to promulgate regulations for developing and maintaining land management plans. On April 9, 2012, the Department of Agriculture issued a Final Planning Rule for National Forest System land management planning (36 CFR Part 219; refer to the Federal Register at 77 FR 68, pp. 21162-21276).

As discussed in detail in the requirements of the planning rule section of this document, my review of the planning process, the final EIS, and the information provided in the record of decision indicate the final plan and its preparation meet requirements for revising plans under the provisions of the 2012 Planning Rule and is compliant with the National Forest Management Act.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires each Federal agency to take into account the effects of its actions on historic properties, prior to approving expenditure of Federal funds on an undertaking or prior to issuing any license; while Section 110 of the Act outlines the Federal agency responsibility to establish and maintain a preservation program for the identification, evaluation, and nomination to the National Register of Historic Places, and protection of historic properties.

The Land Management Plan is a programmatic level planning effort that will not directly authorize any ground disturbing activities or projects. The land management plan includes desired conditions, goals, objectives, standards, guidelines, management strategies, and monitoring requirements for managing and protecting cultural resources listed or eligible for the National Register of Historic Places.

Site-specific projects that are undertaken as a result of the direction in the land management plan will comply with laws and regulations that ensure protection of heritage resources. Significant cultural resources will be identified, protected, and monitored in compliance with the Act. Any consultation that will occur for proposed activities will be coordinated with the North Carolina State Historic Preservation Office (SHPO). Additionally, the Forests will follow the National Forests in North Carolina section 106 Programmatic Agreement Strategy for Unanticipated Discoveries and respective regulations to ensure inadvertent discoveries and emergency discoveries are reported and mitigation is developed through consultation with the State Historic Preservation Office, tribes and Tribal Historic Preservation Offices, and the Advisory Council on Historic Preservation. Therefore, I find that the land management plan is in compliance with this act.

Roadless Area Conservation Rule

Management direction for inventoried roadless areas is compliant with the 2001 Roadless Area Conservation Rule (36 CFR 294 Subpart B, published at 66 FR 3244-3273). The 2001 Roadless Conservation Rule includes a prohibition on road construction and road reconstruction in inventoried roadless areas and prohibitions on timber cutting, sale, or removal except in certain circumstances. The land management plan is a programmatic-level planning effort and does not directly authorize any road construction, reconstruction, or timber removal. Therefore, I find that the land management plan is compliant with the Roadless Area Conservation Rule.

Travel Management Rule

The final rule for Travel Management, Designated Routes and Areas for Motor Vehicle Use (commonly referred to as the 2005 Travel Management Rule), implements provisions of Executive Orders 11644 and 11989, to address the use of off-road motor vehicles on Federal lands. Regulations implementing this rule are found at 36 CFR Part 212.

Under the Travel Management Rule, Subpart A, each unit of the National Forest System is required to identify the Minimum Road System (MRS) needed for safe and efficient travel and for administration, utilization and protection of NFS lands. In determining the MRS, each unit must incorporate a science-based roads analysis to identify NFS roads that are no longer needed to meet forest resource management objectives. This collaborative travel planning must emphasize public involvement and coordination with State, local, and tribal governments.

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.

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)*

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.

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.

Subpart C of the Travel Management Rule involves designation for over-snow vehicle use. There is no over designated over-snow vehicle use on the Nantahala and Pisgah NFs.

Given the above, I find that this land management plan is compliant with the Travel Management Rule.

Wetlands and Floodplains

Executive Orders 11990 and 11988 require Federal agencies to avoid, to the extent possible, short- and long-term effects resulting from the modification or destruction of wetlands and the occupancy and modification of floodplains. Forestwide standards and guidelines are provided for soil, water, wetlands, and streamside zones to minimize effects to wetlands and floodplains. They incorporate the best management practices of the Forest Service Soil and Water Conservation Handbook. This decision protects wetlands values and function through the implementation of the riparian management zones and by following the Forest Service's "National Best Management Practices for Water Quality Management on National Forest System Lands" (USDA Forest Service 2012) and by following North Carolina Forest Practice Guidelines Related to Water Quality Regulations (see FEIS, Chapter 3, "Water Resources"). Therefore, I find that the land management plan is compliant with these executive orders.

Wild and Scenic Rivers Act

This Act establishes a National Wild and Scenic Rivers System with three classifications of rivers: wild, scenic, and recreational. The purpose of the Act is to protect the designated rivers "for the benefit and enjoyment of present and future generations" and to preserve the rivers' free-flowing condition, water quality, and outstandingly remarkable values.

Analysis of the designated wild and scenic rivers was included in the final EIS. Management area direction in the land management plan provides protection for the water quality, free-flowing conditions, and outstandingly remarkable values identified for those rivers.

In addition, the Wild and Scenic Rivers Act requires an evaluation of eligible wild, scenic, or recreational rivers in land management planning. This was completed, and the eight newly identified through the eligible wild and scenic river study process were analyzed in the final EIS. Management direction in the land management plan provides protection of free-flowing conditions and the outstandingly remarkable values identified for all eligible segments of rivers on the Forest, including previously existing and newly eligible segments. Therefore, I find that the land management plan is compliant with the Wild and Scenic Rivers Act.

Wilderness Act

The Wilderness Act of 1964 established a National Wilderness Preservation System to be administered in such a manner as to leave these areas unimpaired for future use and enjoyment as wilderness. It provides the statutory definition of wilderness, how areas are assessed for addition to the wilderness preservation system, and management requirements for congressionally designated areas.

Evaluation of existing wilderness and areas recommended for inclusion in the National Wilderness Preservation System was included in the environmental analysis for the land management plan. The land management plan provides direction for designated wilderness through goals, desired conditions, standards, guidelines, and suitability that preserves the wilderness character of designated wilderness. Therefore, I find that this land management plan is compliant with this Act.

Implementation Date

This revised forest plan becomes effective 30 calendar days after publication of the notice of its approval in the Federal Register (36 CFR 219.17(a), 2012 Planning Rule). This approval will not occur until the pre-decisional review process is complete and a final record of decision is issued.

The revised Plan provides a framework and text to guide resource management options. It is a strategic, programmatic document and does not make project-level decisions or irreversible or irretrievable commitments of resources. Those kinds of commitments would be made after more detailed, site-specific proposals are initiated and further public comment opportunities occur as part of the site-specific environmental analysis process.

Administrative Review

This decision is subject to the pre-decisional administrative review process required by Federal regulations (36 CFR part 219, subpart B). An objection must be filed in writing to the Objection Reviewing Officer. Objections filed by mail should be addressed to: National Forests in North Carolina, ATTN: Objection Coordinator, 160 Zillicoa Street, Suite A, Asheville, NC 28804. Electronically filed objections may be submitted by email in word

(.doc or .docx), rich text format (.rtf), text (.txt), portable document format (.pdf), and/or hypertext markup language (.html) to https://cara.ecosystem-management.org/Public/CommentInput?Project=43545 with subject: Nantahala and Pisgah NFs Plan Revision Objection. Objections may also be submitted by fax to 828-257-4863. Faxes must be addressed to "Objection Coordinator." The fax coversheet should include a subject line with "Nantahala and Pisgah NFs Plan Revision Objection" or "Nantahala and Pisgah NFs Species of Conservation Concern" and specify the number of pages being submitted.

All objections are open to public inspection during the objection process and must contain the information as required at 36 CFR 219.54.

Objections, including attachments, must be filed within 60 days from the publication date of the legal notice in the *Asheville Citizen Times*, the newspaper of record. Objections or attachments received outside the 60-day objection period must be set aside from review. The publication date in the newspaper of record is the exclusive means for calculating the time to file an objection. Those wishing to object to this project should not rely upon dates or timeframe information provided by any other source.

Individuals and entities who have submitted substantive formal comments related to plan revision during the opportunities for public comment (as provided in subpart A of 36 CFR Part 219) during the planning process for this decision may file an objection. 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.

Additionally, we request that objection issues related to species of conservation concern be identified in the cover letter or introduction of the objection, along with page numbers where the species of conservation concern-related objections can be found. The decision to approve the species of conservation concern list will be subject to a separate objection process. The Chief of the Forest Service is the reviewing officer for species of conservation concern identification since the Regional Forester is the deciding official. Objections related to species of conservation concern will be forwarded to the Chief's office.

Plan Implementation

Existing Authorizations

Resource plans (such as travel management plans) developed by the Forest that apply to the resources or land areas within the planning area must be consistent with the plan components. Resource plans developed prior to this Plan decision will be evaluated for consistency with the Plan and updated if necessary.

Authorizations for occupancy and use made before this plan approval may proceed unchanged until time of reauthorization. At time of reauthorization, all permits, contracts, and other authorizing instruments must be made consistent with the land management plan, subject to existing valid rights, as provided at §219.15(d).

I have not identified the need to modify any pre-existing actions involving permits, contracts, or other instruments for the use and occupancy of National Forest System lands due to inconsistencies with the revised plan. These actions will be implemented according

to the terms of the applicable instrument. However, should the need arise, I have the discretion to modify these permits, contracts or other instruments for the use and occupancy of National Forest System lands.

Project Consistency

As required by the National Forest Management Act and the planning rule, subject to valid existing rights, all projects and activities authorized by the Forest Service after approval of this plan must be consistent with the applicable plan components (16 U.S.C. 1604(i)) as described at 36 CFR 219.15. Previously approved and ongoing projects and activities are not required to meet the direction of the Plan and will remain consistent with the direction in the 1994 Forest Plan, as amended. These pre-existing actions were considered part of the baseline in developing the revised plan and its effects.

All project or activity approval documents, made after the effective date of the Plan, will describe how the project or activity is consistent with the applicable components as described in the Consistency of Projects with the Plan section of the final Plan (Preface). When a proposed project or activity would not be consistent with the applicable Plan components, the responsible official shall take one of the following steps, subject to valid existing rights:

1. Modify the proposed project or activity to make it consistent with the applicable plan components;

2. Reject the proposal or terminate the project or activity;

3. Amend the Plan so that the project or activity will be consistent with the Plan, as amended;

4. Amend the Plan contemporaneously with the approval of the project or activity so that the project or activity will be consistent with the Plan, as amended. This amendment may be limited to apply only to the project or activity.

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 that 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)).

Contact Person

For additional information concerning this draft decision or the objection process, please contact Michelle Aldridge, Planning Staff Officer, at 828.707.8391, or michelle.aldridge@usda.gov.

Signature and Date

The Nantahala and Pisgah National Forests are special places that I am honored to steward alongside our amazing employees, partners, and volunteers for future generations. Through this planning process, one thing is clear—there is an inspiring amount of passion these forests. I am grateful to the thousands of members of the public who shared their input in the development of this plan. I'm especially proud of those of you who worked in a collaborative setting to share your values with others and work together toward solutions that advance shared interests. As a result of diverse public input, this plan provides a strong foundation for addressing the challenges ahead of us, while moving all our interests forward.

I approve the selection of Alternative E for the Revised Land Management Plan for the Pisgah and Nantahala National Forests. The revised plan has been built on a strong foundation of science, along with collaboration and engagement with members of the public, other Federal, State, and local agencies, and Federally Recognized Tribes. Alternative E positions the Forest to sustain healthy ecosystems, connect people to the land, and provide clean and abundant water, all through the work we'll do partnering with others.

I hope you all will continue to stay engaged as we implement and monitor the new plan — this is where our work together really begins.

This is a Draft Record of Decision. A Final ROD will be signed following the objection process.

_____ _____

James E. Melonas DATE

Forest Supervisor
National Forests in North Carolina