

To Whom it May Concern,

Please accept these substantive comments regarding scoping of the Lickstone Project, within Haywood County on the Pisgah Ranger District of the National Forests of North Carolina. I have summarized my comments on major topics in this document. I am providing also a copy of the Lickstone Proposed Action Scoping document in Adobe PDF form with my comments on specific aspects of the document. I have done this to facilitate the USFS response to my comments hopefully directly within the document so improve our communication on these topics and to make it easier for other interested individuals to read and understand my comments and the USFS response.

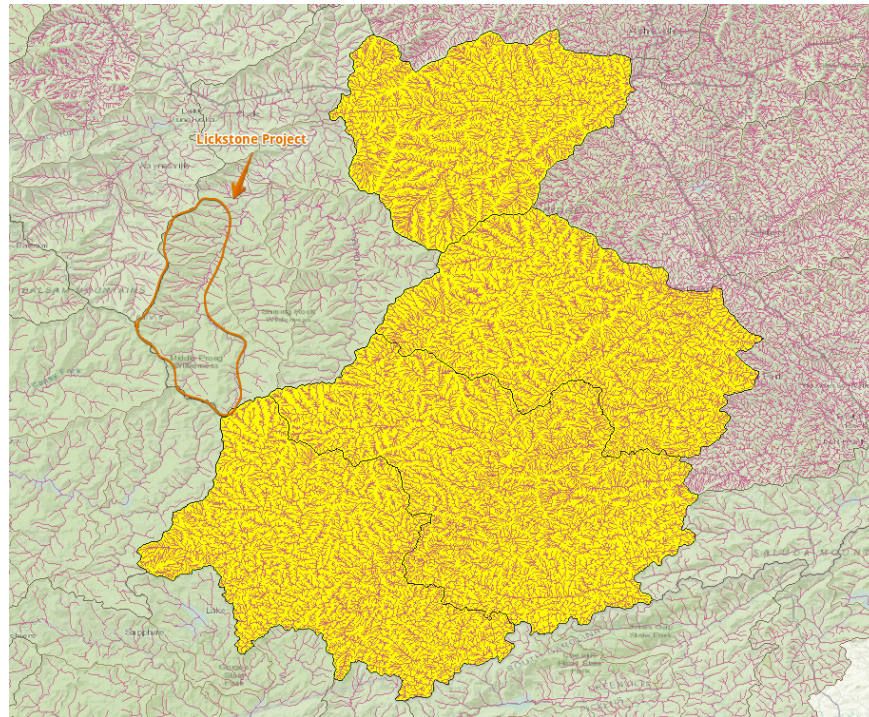
PURPOSE AND REASON FOR ACTION

The scoping begins by describing the goals and objectives and placing the context of the project within the North Slope Geographic Region. The NFPF identified goals for the region which include restoring diverse forest structure and age classes outside of designated wilderness areas. USFS lands in North Slope total 37,913 acres with 26,400 acres being in wilderness and 11,500 acres outside of wilderness. Lickstone project area comprises 9,105 of the acres but only about 7,800 acres are outside the wilderness. Under 'Needs' the scoping discusses Geographic Area Departure Analysis and the need to move structure classes towards the Natural Range of Variation (NRV). Appendix C provides the analysis. It is unclear whether Appendix C is based on an analysis considering the whole North Slope region (37,913 acres) or only Lickstone (7,800). Does the table consider all the 37,913 acres of USFS lands in North Slope and then assess +/- the NRV of Lickstone against all those acres? Considering that none of the wilderness acres can be managed for NRV it makes no sense to use those acres when assessing Lickstone but it isn't clear if this is or is not the case. In either case the NFPF Land Management Plan states (Chapter 2 page 50) "For this forest plan, NRV was used to understand landscape ecological integrity and does not constitute a management target. NRV is to be used at the landscape scale and should not be evaluated at the project scale."

WATER

The Lickstone Project area encompasses over 9,105 acres in the westernmost portion of the Pisgah District and is adjacent to Shining Rock and Middle Prong Wilderness Areas. The project area is bordered on the west by Lickstone Ridge which runs from Richland Balsam north to Beaty Spring Knob and is bordered on the east side by NC215 and the Pigeon River. Within the project area there are headwaters of numerous large watersheds, notably Right Hand Prong, Boomer Inn Branch, Big Creek, McClure Creek, Nick Creek, Sam Branch, and Poplar Branch. The project encompasses the western half of the NHD WBDHU12 Region Lake Logan West Fork Pigeon River and the Northwestern portion of WBDHU12 Region Little East Fork Pigeon River - West Fork Pigeon River. All waters from the project area are within HBDHU10 Region Headwaters Pigeon River. Historically, the Pigeon River has had extreme flood events and in 2022 it narrowly missed the most severe flooding of Fred which centered over the Blue Ridge just east of the West Fork of the Pigeon River and caused significant flooding and loss of life along the East Fork of the Pigeon River.

The most current National Hydrologic Dataset is outdated and significantly underestimates the riparian resources within the project area. This is easily seen by comparing NHD flowline density from surrounding watersheds to the south and east.



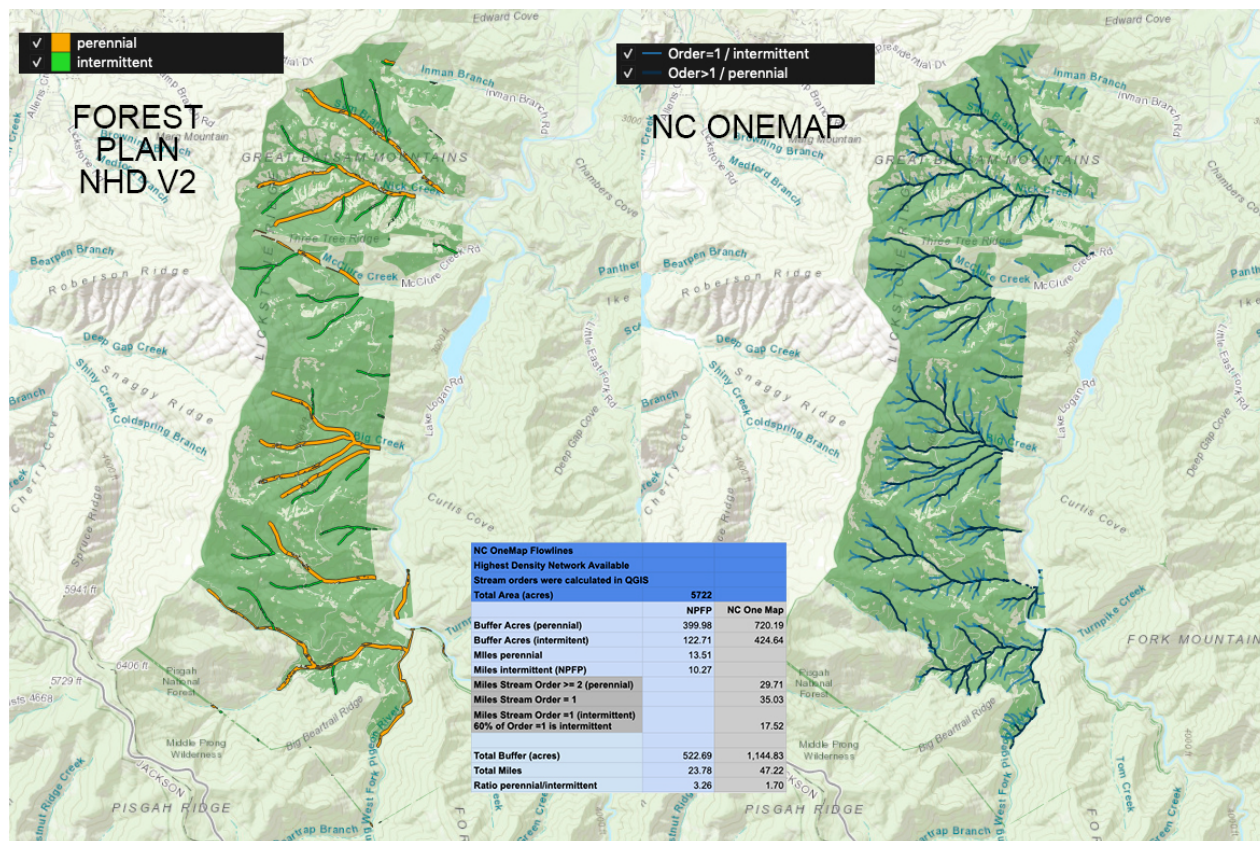
The scoping makes little mention of riparian resources and no details about numbers of stream crossings or other riparian considerations in any road or treatment analysis or description. The Lickstone Proposed Action Map does not provide accurate stream information. Stream crossings not only add to initial costs but also to long term maintenance and stream crossings introduce significant long-term risk to water quality and aquatic organisms and fish habitat. Timber harvesting is headwaters coves can dramatically change the amount of surface water during storms and can cause significant alteration of established stream channels.

The USFS has stated that their hydrology maps are the most accurate available, yet they have never published these maps nor did they use them for maps in this project. The GIS data provided does not include base maps and does not include riparian resources specifically.

The project scoping includes over 6 miles of new system roads but excludes any analysis of impacts on riparian resources. This lack of information makes it impossible to comment on the roads other than to object to all of them without much more detail regarding riparian crossings, long-term maintenance, estimated costs, miles of temporary roads, etc...

In my objection to the NPFP I provided a comparison of current NCOneMap hydrology data with NPFP Hydrology data for the Lickstone Project area.

The USFS data used for the NPFP estimated 23.8 miles of perennial and intermittent streams and 523 acres of riparian buffers. The NCOneMap data shows 30 miles of perennial streams and approximately 17 miles of intermittent streams. The riparian buffer is 1,144 acres. These differences are quite significant and without understanding the maps used for scoping nor having ever seen any more accurate maps from the USFS than what was used in the NPFP there is simply no way to assess whether the scoping has considered the full extent of riparian resources, the risks of damage or degradation, nor the costs associated with road building and timber harvesting.



ROADS

The Nantahala Pisgah Forest Plan (NPFP) Final Environmental Impact Statement (FEIS) provides a summary of estimated road construction for Tier 1 and Tier 2 objectives. For Tier 1 all alternatives were similar, with regard to annual road building.

Pages 3-496-497 FEIS

To accomplish Tier 1 objectives, it is assumed that current trends for transportation system management activities continue, where 6.0 total additional miles of road will likely be needed annually, including 1.2 miles of new road prism construction, 1.9 miles of existing road prism added to the system, and 2.6 miles of temporary road construction that is decommissioned after use.

Tier 2 Objectives are provided in Table 196

Table 196. Estimated Miles of Additional Road Construction Needed to Accomplish Tier 2 Objectives

	Alt B	Alt C	Alt D	Alt E
Additional Total Miles of NFS Roads as New Corridor (annual)	1.1	1.2	1.0	0.8
New System Road on Existing Corridors (annual)	1.7	1.9	1.7	1.3
Additional Miles of Temporary Roads (annual)	2.6	2.9	2.6	2
Total additional miles	5.4	6.0	5.3	4.1

The Lickstone Project scoping provides no detail on whether the projected road building is to satisfy Tier 1 or Tier 2 objectives, but Tier 2 objectives should not be in scope without any Tier 1 objectives

having been reached. The Tier 1 annual road building objective is 6.0 miles. This single project requires the entire annual 'budget' of new roads. Since the scoping makes no estimate of temporary roads it is not possible to assess how much of the annual temporary road 'budget' the Lickstone Project will consume. The Crossover project is also currently in scoping and while there is not a specific mileage provided it does say "*Some reconstruction and maintenance of the existing network of system roads may be necessary and new temporary road segments are proposed to access a number of areas proposed for treatments.*" The Crossover scoping further notes "If rights-of-way are secured, the Forest Service may propose adding some segments of Level 1 road to the permanent transportation system to provide long-term access to this part of the forest. This would require a Transportation Analysis Process (TAP). " So, even before the NPFP is finally approved the USFS is proposing to exceed annual permanent and temporary road mileage in just two projects.

The USFS should provide information about road building with reference to the stated goals and objectives in the 2022 NPFP so that the USFS and the public can assess how well the USFS is adhering to the plan. Road building should explicitly be monitored and reported on in context to stated estimates in the NPFP. When more than one project is in scoping then the USFS should provide a summary for all projects.

In Appendix F the Scoping document provides a table of proposed changes to National Forest System Roads (NFSR). In Appendix D the Scoping document provides a table of proposed actions. Road changes and proposed actions are not two distinct aspects of the plan - they are absolutely inter-related. These two tables should at least be cross-referenced so that a reader can understand how much road building a specific action requires and conversely which action a specific road is required for. Road building should be considered only when there is significantly low risk and then only when there is significantly high benefit. To reiterate my prior comments on riparian resources, there is also no information about water crossings for each road. In many cases there are proposed actions which describe a need for long-term access to a stand or which actions will not yield a commercial harvest in the near-to-mid term. How will the roads required for these actions be maintained in the interim? There is already a huge backlog of deferred maintenance on existing roads and even major roads such as FR1208 (Yellow Gap Road) and FR471 (Cathys Creek Road) cannot be kept up to minimum standards. Road building should only be considered when there is an assurance that long-term maintenance can be accomplished and only when that long-term maintenance requirement does not take away from maintenance and/or reconstruction of current roads that are identified as deficient.

It is simply not reasonable nor responsible for the USFS to consider any road building while they have such a huge deferred maintenance backlog and roads continue to be degraded by what are now normal rain events.

The scoping references the 2003 Pisgah Nantahala Road Analysis Report.

"As a result of the transportation analysis process mandated by Subpart A of the Travel Management Rule, recommendations found in the Pisgah Roads Analysis Project (RAP) Report (December 2003) identify the most ecologically, economically, and socially sustainable transportation system in terms of access for recreation, research, and other land management activities. The Pisgah RAP includes a few recommendations within the Lickstone Project planning area. This project will consider, analyze, and make a decision considering those recommendations, as well as more recent recommendations made by Pisgah National Forest resource specialist analyzed at the project level transportation analysis, some of which may supersede previous recommendations. "

Using a nearly 20 year old analysis to inform current decision making is necessary because the USFS has not performed any new analysis since 2003. The 2022 NPFP only commits to update the plan 'within 3 years', which is wholly insufficient considering the importance of roads and the need for current assessment and analysis to inform project decisions. I have requested the Travel Management Atlas in the past (specifically while researching the NPFP) and been told there is not one available. But

such a document is required to be available to the public per Forest Service Manual 7700 - travel Management 7710.45

7710.45 – Forest Supervisors

Forest Supervisors are responsible for:

1. Developing and maintaining a travel management atlas for their unit and making it available to the public at the Forest Supervisor's Office (36 CFR 212.2(a); FSM 7711.1).

I will continue to object to all new road construction until a current Travel Management Atlas can be provided for review and the USFS has updated its Travel Management Plan.

PROPOSED ACTIONS

Beginning on Page 10 the scoping document provides Descriptions of Proposed Actions.

- Prescribed Burns
- Stand Improvement
 - Stand Release
 - Vine Control
- Midstory Removal
- Thinning
 - Thinning from Below
 - Free Thinning
- Two-Aged Regeneration Harvest
 - Shelterwood with Reserves
 - Overstory Removal
 - Oak Shelterwood
 - Clearcutting with Reserves
- Uneven-aged Harvest
 - Group Selection
 - Group Selection with Thinning
 - Variable Retention of Irregular Shelterwood
- Woodland Management
- Other
- Permanent Wildlife Fields
- Improve Stream Crossings
 - Ford
 - Bottomless Arch
 - Oversized buried bottom pipe

Appendix D lists various two-aged regeneration harvests specifically (i.e. shelterwood with reserves, oak shelterwood) but only lists uneven-aged harvest and not specific variations of that treatment. It also lists Midstory Treatment which is I suppose actually Midstory Removal but this is not clear. The terminology should be made consistent.

The attached pdf document (commented version of the Lickstone Scoping) contains comments specific to various treatments. In particular, regarding uneven-aged harvests, the scoping states "These methods include multiple commercial entries and a more robust road system." Other treatments also mention repeated or subsequent entry needs. The USFS should provide a timeline of

such future treatments, access, and related required maintenance of roads needed to facilitate these treatments. Further, the USFS should maintain a running list of future actions per each project so that the public can assess whether the USFS is able to manage the workload and manage stands for the full life of the scope discussed. The NPPF monitoring should include and report on metrics regarding the completion of planned future actions. It makes no sense for the USFS to propose actions for the purposes of a future benefit if they cannot assure that all actions up to the time of the future benefit can be completed in a timely manner. This is especially true for actions that require road building and then subsequently annual maintenance.

Opposition to Specific Actions and Treatments

Lack of sufficient detail and lack of access for site research limits my ability to comment on every proposed action and I reserve the right to comment at a later date when more details may be provided and I have an opportunity to do site specific research. I do have comments on specific treatments. As I have stated previously I am opposed to all new road building and the project plan should contain more details about temporary roads.

These units are just examples. I have similar comments about many other units.

NEPA Unit 5 - Uneven-aged, Commercial harvest, Mixed Skyline with tractor, Roads FR97G is realign of .65 miles and FR97W is .98 miles of new system road.

Proposed treatment of 98 acres using Group or alternatively Group Selection with Thinning. It is unclear how much improvement will be needed on 97G and 97W is proposed to climb up from FR97 to the ridge line and then follow the ridge up and over a knob through a new proposed wildlife field. The first 1/4 of FR97W side-slopes a steep ridge of oak and hickory. Group treatment requires multiple entries and I question if this stand can ever be viable given how far it is to get there. The wildlife field (NEPA 87) will be located miles behind any vehicle access.

NEPA Unit 8 - Uneven-aged, Commercial harvest, Mixed Skyline with tractor, 97P (portion).

Proposed treatment of 53 acres with Irregular Shelterwood. This unit is the headwaters of a small stream that flows under NC215 into the Pigeon River. Numerous old roads are throughout the stand from prior harvests. GIS comments that the entire unit might be tractor logged using these old roads. It is not clear what condition these roads are in or how much 'temporary road' would be needed. How would these old roads be managed in the future?

NEPA Unit 9 - Uneven-aged, Commercial harvest, Mixed Skyline with tractor, 1.36 miles permanent road as FR97U.

Proposed treatment of 116 acres with Irregular Shelterwood in a high elevation east facing cove. There are at least four significant stream crossings and one area that appears to be a spring/seep just above a tight curve. There are likely numerous small seeps and ephemeral streams in the stand. The cove is the headwaters of an unnamed stream that flows directly into Lake Logan. There is not sufficient detail to understand what exactly is planned, how much timber will be harvested and how much left, when a subsequent entry would be needed and thus how long will that road need maintenance. There is no detail provided on temporary road requirements. The stand has areas with steep slopes up to 40% and removing trees will significantly increase run-off quantity and velocity, potentially creating a landslide risk.

NEPA Unit 10 - Uneven-aged, Commercial harvest, tractor, miles permanent road as FR97T (1.02 miles), FR97F (.82 miles), FR97S (.77 miles) for 2.61 miles total.

Proposed treatment of 292 acres with Irregular Shelterwood in the watershed of Big Creek. Big Creek has numerous tributaries both large and small and this stand spreads across the whole bottom of the drainage. There are at least 22 perennial stream crossings on 2.61 miles of road. The old roads (existing corridor) are in poor shape and show significant degradation since past use. Several of the tributaries flow through narrow chutes and in several cases have already blown out past culverts. The bottom of the unit where all the tributaries join drains in total over 1,100 acres extending to elevations >5,500 ft on Lickstone Ridge. The potential for flooding, slides, and sedimentation cannot be overstated. Unauthorized access from Cold Mountain Gamelands is evident with user created dirt-bike trails and further 'improving' the roads in this area will only add to the unauthorized use. Unless both the USFS and the NCWRC is committed to managing the area and preventing this unauthorized use there is significant potential for damage and illegal activities to occur 'behind the gate'.

I am opposed to adding new roads simply to create wildlife fields. There is simply too much deferred maintenance backlog to add new roads at this time.

NEPA Units 12,14,17,19,22,23,27,29,51 approximately 186 acres of Oak Shelterwood as commercial harvests.

As I mentioned previously the USFS should provide a cross-reference for required roads per each treatment and a summary. With 9 different units it is cumbersome to determine how much new road is needed for these treatments. With only a generic description of the treatment it is difficult to comment on it. How much timber is removed in the first (this) treatment? How much BA is left standing? These are listed as commercial treatments so there must be enough timber harvested to make a sale. The treatment then prescribes a subsequent 10-15 year later commercial treatment. Do these stands already have all roads and access needed for that later harvest or would roads and access need to be maintained in the interim? How much temporary road is needed and what happened to it in the interim?

WILDLIFE FIELDS

The scoping includes 12 wildlife fields and 12 acres.

"Permanent Wildlife Fields: Fields will be created or expanded by removing trees and brush, tilling, and planting native and desired nonnative grasses and forbs. Fields will be maintained by tilling, seeding, mowing, and/or herbicide. Thinning around the edges of the fields may also occur to improve habitat."

The scoping does not accurately describe the current method used by the USFS and the North Carolina Wildlife Resource Commission (NCWRC) to create wildlife fields. It is current practice to clearcut wildlife fields, remove all stumps, and then grade the surface prior to planting in grass/forb. This action is carried out regardless of season and recently at Bald Knob Branch (FR5038) such a field was created during migratory bird nest and brood season. Clearcutting and grading a forested stand during nesting and brooding season certainly kills ground and shrub nesting birds, such as Oven birds, various warblers such as hooded warbler, towhees, catbirds, thrashers, woodcocks, field sparrow, etc... While wildlife fields, when properly created and maintained, do provide important habitat the USFS and NCWRC have a legal obligation to provide environmental impact and in accordance with the Migratory Bird Treaty they cannot knowingly or unknowingly harm migratory birds without considering the impact. Until and unless the USFS and NCWRC agree to provide Environmental Impact assessments for migratory birds and commits to avoiding creating fields during nest and brood seasons then I strongly oppose all new wildlife fields. Here it is important to note that the NCWRC already avoids nest and brood season for maintenance activities, it is surprising that they and the USFS do not already limit clearcutting and grading for creating fields as well.

WILDLIFE HABITAT

On page 8 under bullet 4)-b)

“While not in a Golden Winged Warbler focal area, there are records of Golden Winged Warblers 3 miles away on Rich Mountain. The project area is within the broader Appalachian Mountains Joint Venture Priority Area for Golden Winged Warblers. Improved habitat in the Project Area would be beneficial for this species. “

The USFS uses a single species, Golden-Winged Warbler, to justify proposed timber treatments as habitat improvement for a threatened species. The Lickstone Project is within the Appalachian Mountains Joint Venture Priority Area. The Golden-winged Warbler Working Group (GWWWG) (<http://www.gwwa.org>) publishes a Best Management Practices for Golden-winged Warbler Habitats in the Appalachian Region. The GWWWG recommends habitat efforts should be <5 miles (preferably <1 mile) from known golden-winged warbler populations and <1 mile from other early successional habitat patches. eBird, the most comprehensive and widely used bird database online, shows only 2 sightings at Black Balsam within the last 4 years, the last of a single bird in 2020. Black Balsam is 4.8 miles away and 2 sightings in 4 years does not suggest there is a nearby population. It would be much better for the USFS and the NCWRC to concentrate habitat efforts in areas of northwestern NC, from Max Patch to Sandy Mush where there are populations of golden-winged warblers and work to ‘grow’ the new habitats outward from these known population areas. While I support the goal of improving habitat for Golden-winged warblers I do not support using them to justify any and every treatment or action that creates ESH as being for the benefit of them. Does the USFS have any data or evidence that creation of ESH in the Pisgah district has helped Golden-winged warblers?

MAPS and GIS

I was provided GIS data by the USFS. The GIS data has additional information that would be beneficial to a reader of the scoping document. The GIS data also has some different terminology than used in the scoping which makes it challenging to understand without clarification from USFS. I was able to get clarification and appreciate that, but it make reading the document and providing meaningful comments more difficult and time consuming. I hope that the USFS will improve the document and GIS data to make them a complete and complementary reference set. I strongly recommend that the USFS integrate GIS data into the published project archives and not provide them only on request. Many people do not know they can be requested.

PROJECT RESEARCH

The Lickstone Project area is in an extremely remote area and access is challenging at all times but especially outside the few months that FR97 is open. I encourage the USFS to provide more opportunities and time for public comment on this project due to the challenges of site research. I also encourage the USFS to improve their published materials by adding photographs and more detailed maps. Site research is also a challenge because the open season for FR97 is during hunting season. The USFS should consider opening FR97 for some period of time outside of hunting season to enable the public to research the area without risk of conflict with hunters. I have been into the area many times during hunting season and never had any conflict but if more people access the area to learn about the project then the chance of conflict increases.

CONCLUSION

It is unfortunate that the first project under the new forest plan requires so much road building and will occur in such a remote location with the highest quality watersheds in the forest. That seems counter

to everything the USFS has communicated throughout the planning process. Under the guise of restoration and regeneration this project is a lot of commercial harvesting and preparation for even more harvesting in the future. Places like Lickstone are rare in the 1,000,000 acres of forest lands. Rare in the sense they are extremely remote. Rare in the sense that they are the headwaters of one of the major rivers in our region. Rare in the sense that they are pristine habitat for many plants and animals.

I look forward to working with the USFS to revise and improve this project.

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Lickstone Project

Lickstone Project Vicinity Map

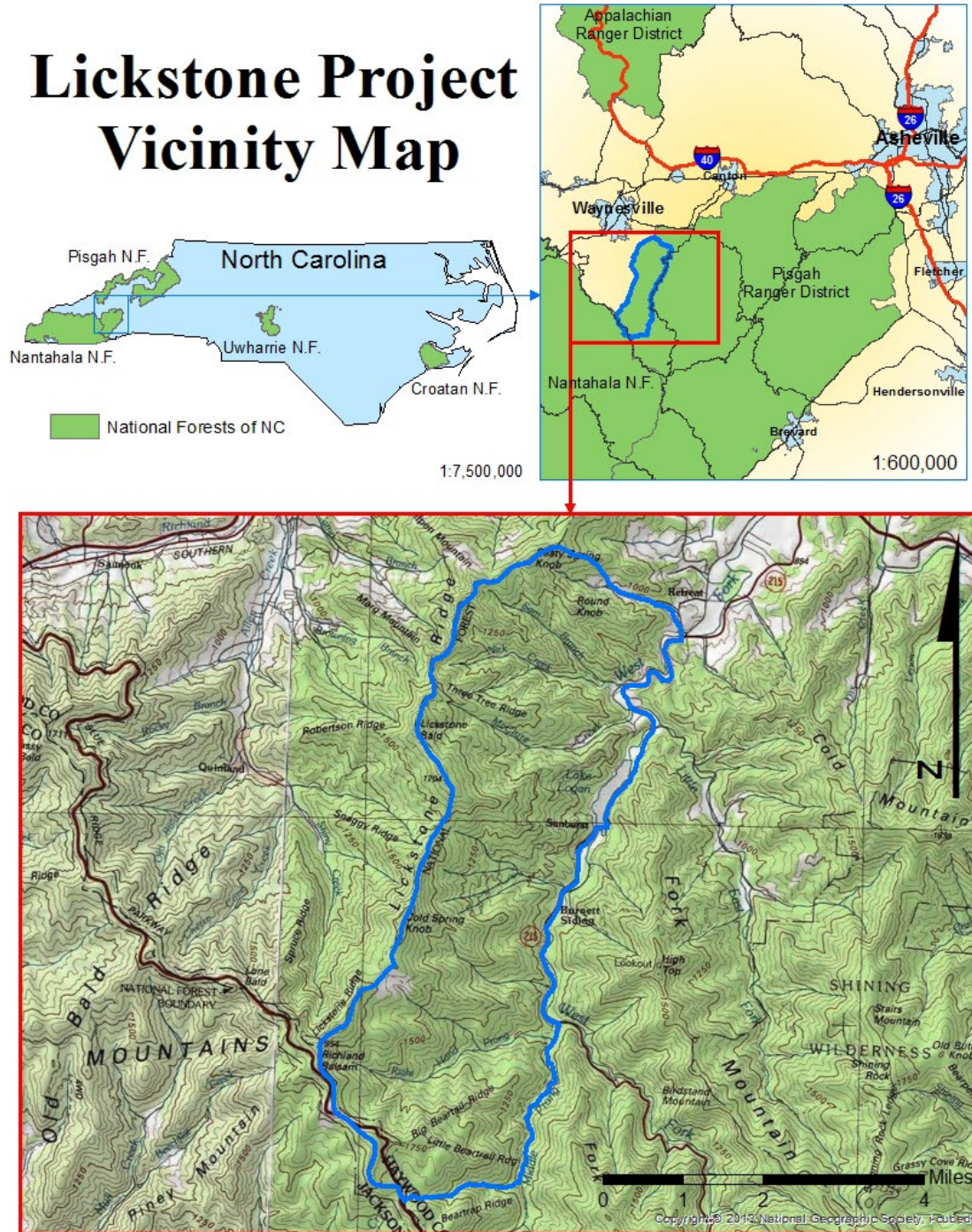


Figure 1. Lickstone Vicinity Map

Table Contents

Lickstone Project	1
Introduction	3
Background	3
Collaboration.....	3
Revision of the Nantahala and Pisgah Land and Resource Management Plan	3
Purpose and Need for Action.....	5
Purpose	5
Needs	7
Proposed Actions	10
Descriptions of proposed actions	10
Transportation Management.....	16
Appendix A – Revised Forest Plan Draft Decision MA Map	17
Appendix B – Revised Plan Components Applicable to the Lickstone Project	18
Appendix C – North Slope Geographic Area Ecological Departure Analysis.....	22
Appendix D – Lickstone Proposed Actions.....	23
Appendix E – Lickstone Proposed Actions Maps	29
Appendix F – Lickstone Proposed Changes to the National Forest System Roads (NFSR)	31

Introduction

The Lickstone Project Area (Project Area) is in Haywood County on the Pisgah Ranger District. The Project Area is approximately 25 miles southwest of Canton, NC, near Lake Logan. The Project Area is adjacent to the Waynesville watershed and Shining Rock Wilderness (Figure 1). The Project Area contains approximately 9,105 acres of National Forest System lands.

Background

Collaboration

The intent of this project was to work toward a collaborative approach to project level planning. Interested parties were engaged to form a project collaborative group starting at the early stages of planning. Several individuals, groups, and agencies that represent a wide array of interests worked together with the Forest Service to identify needs and develop a proposed action.

The first collaborative engagement meeting was held at Lake Logan on February 10, 2020. During this meeting the Forest Service presented the current conditions of the area including forestry, wildlife habitat, recreation, and heritage. The meeting was designed to allow all attendees the opportunity to add to the existing knowledge and allow discussion groups to work together to identify potential needs and opportunities in the area.

Several field trips were in the plans to work collaboratively in the field to assess these needs and start identifying actions. However, these plans were soon derailed by the Covid Pandemic. Eventually, the project team began to develop potential proposed actions. Additionally, a map of potential proposed actions was received from the Nantahala and Pisgah Partnership.

Once a draft of proposed actions was created, it was shared with the project collaborative group. The second collaborative engagement meeting was held virtually on September 22, 2021 to provide opportunity for review and feedback on the draft purpose and need and potential proposed actions. A few issues and conflicts were identified during this meeting.

To follow up on these issues and conflicts, a field trip meeting was held on December 9, 2021 to discuss these issues in person and visit some of the sites in question. Most of the issues and conflicts were resolved during this meeting through further discussions or augmentations to the potential proposed actions and a final Proposed Action was compiled to be scoped for further public comment.

Revision of the Nantahala and Pisgah Land and Resource Management Plan

The Lickstone Project is being developed as the revised Forest Plan for the Nantahala and Pisgah National Forests (Revised Forest Plan) is being finalized. A Draft Record of Decision was released for an objection period on January 21, 2022. The intent of the Lickstone Project is to implement the direction of the Revised Forest Plan and a Lickstone Project Decision is expected to be made after the Revised Forest Plan Decision is finalized. Therefore, this project is currently being framed in the context of Alternative E, identified as the selected alternative in the Draft Revised Forest Plan Decision. As the Lickstone Project continues, the purpose and need and proposed actions may be modified to ensure consistency with the final Revised Forest Plan decision. This project has also been developed to be

consistent with the current Nantahala and Pisgah Land and Resource Management plan standards and goals.

Because the Lickstone Project is being developed to implement the Revised Forest Plan, some of the language and concepts discussed further in this document may be new for some readers. A few definitions might help in understanding some of the concepts in the purpose and need.

What are Ecological Zones? Ecological zones (ecozones) are units of land grouped together based on factors that control vegetation distribution such as landform, geology, elevation, temperature, moisture, fertility, and solar radiation. Grouping units of lands together in this way identifies what the Potential Natural Vegetation (PNV) types and range of structure would be within these areas given historically natural disturbance patterns. For example, the ecozones within the Lickstone Project are Spruce-fir, Northern Hardwoods, High Elevation Red Oak, Acidic Cove, Rich Cove, Mesic Oak, Dry-Mesic Oak, Dry Oak, and Pine-Oak Heath. Identification of ecozones does not reflect the current species composition or structure class. Rather, it helps in understanding what plant communities, forest types, ranges of structure classes, and wildlife habitats should be in these areas when functioning correctly. The ecozone model is often fairly accurate and is a great tool for larger scale planning. However, field verification is necessary when developing site-specific actions.

What is Natural Range of Variation? Natural Range of Variation (NRV) is a range of age and structure classes modeled for each ecozone based on relevant natural disturbances and their frequency. The age and structure classes are labeled as: Young, Mid-Closed Canopy, Mid-Open Canopy, Late-Closed Canopy, Late-Open Canopy, Old Growth-Closed Canopy, and Old Growth-Open Canopy. For example, these are two of the NRV structure classes for the Spruce-Fir ecozone: 1) In the Spruce Fir ecozone, a young forest is 0-35 years age and should occupy 14-17% of the ecozone; 2) In the Spruce Fir ecozone, the Old Growth-Closed Canopy structure class is 120+ years age with >60% canopy cover and should occupy 36-45% of the ecozone. The NRV modeling was used to determine desired conditions for forests within each ecozone. Individual projects will not achieve NRV but will use these desired conditions as a guide for restoration goals.

What is a departure analysis? A departure analysis is simply comparing the current conditions of forest age and structure to the desired range of age and structure in the Natural Range of Variation model. The departure analysis was completed at the scale of the Geographic Areas defined in the Revised Forest Plan. The Nantahala and Pisgah National Forests were subdivided into 12 Geographic Areas (GA) based on landscape character and public use. The GA departure analysis was used to identify priorities and goals for restoration within each GA. The Lickstone project area is within the North Slope GA.

For more details, please refer to the Revised Forest Plan Draft Decision at:

<https://www.fs.usda.gov/detail/nfsnc/home/?cid=fseprd972970> . The Revised Plan contains key characteristics of Ecozones, a table displaying the NRV for each Ecozone, and Geographic area descriptions and goals.

Purpose and Need for Action

Purpose

The **purpose** of this project is to implement goals and objectives of the Revised Nantahala and Pisgah Land Management Plan (Revised Forest Plan). The focus of this project is ecosystem restoration, forest management, and terrestrial and aquatic habitat improvement.

The Lickstone project area is located within the North Slope Geographic Area. North Slope is dominated by the Middle Prong and Shining Rock Wilderness Areas, leaving the Lickstone Project Area as one of the only places for active forest management with the Geographic Area. The Goals of this Geographic Area identify management priorities and highlight key opportunities and values that provide direction for the broader purpose of this project. The Goals identified in the North Slope Geographic Area that this project is working towards are:

- NS-GLS-1** Restore diverse forest structure and age classes in areas outside of designated wilderness areas to improve forest resilience and to ensure connectivity of a range of suitable wildlife habitat over the long term across the geographic area.
- NS-GLS-2** Restore and maintain select high elevation openings to increase needed wildlife habitat for Appalachian cottontail, elk, and ruffed grouse.
- NS-GLS-3** Emphasize restoration of spruce-fir and northern hardwood forests for the Carolina northern flying squirrel and rock gnome lichen; and maintain health and resiliency of these critical forest types in the face of climate change.
- NS-GLS-5** Improving game and non-game wildlife habitat in the Lickstone Ridge area for hunting and wildlife viewing.
- NS-GLS-6** Maintain or expand the range of native brook trout in the headwaters of the Pigeon River through population augmentation, reintroduction, or reconnecting fragmented populations through improved aquatic organism passage at road and trail stream crossings.
- NS-GLS-7** Restore and/or maintain healthy populations of hellbenders in East Fork and West Fork Pigeon River.

Management Areas

Within the Lickstone Project Area, there are several different Management Areas (MA) identified in Alternative E of the Draft Decision of the Revised Forest Plan. The purpose of this project is largely dependent on the desired conditions within the Mas, which also helps to prioritize where the needs are met and to what intensity. The Management Areas are as follows (See Appendix A – Revised Forest Plan Draft Decision MA Map):

Interface (125 acres) - This management area contains the most concentrated recreation use on the forest, including developed and dispersed recreation locations, as well as National Recreation Trails and some heavily used roads that bring visitors to these locations. Interface provides both corridors and distinct locations where the public either travels through or specifically recreates. As such, this management area becomes the interface by which most forest visitors begin their interaction with the National Forest.

Management activities, such as invasive species management, mechanical timber harvest, and prescribed fire, are conducted in Interface to support healthy ecosystems and wildlife habitats. Visitors will see the results of forest management practices, including temporary or permanent road access points; vegetation treatments, including various harvest practices; forest stand improvement treatments; pest control; or the results of prescribed fires. The design of these management activities considers high concentration of forest users and accounts for heavier public use. Forest Plan Desired conditions that pertain to the focus of this project are **INT-DC-12, INT-DC-13, INT-DC-14, INT-DC-15, and INT-DC-16**. For a list and descriptions of all referenced Revised Plan Components, See Appendix B – Revised Plan Components Applicable to the Lickstone Project.

Matrix (6,237 acres) - Matrix is the largest management area in the Forests and functions as large patch landscape providing connections between Interface, Backcountry, and other special designations. The Matrix provides open, edge, and interior wildlife habitat with a diversity of sizes and shapes, as well as providing multiple uses sustained by lower levels of motorized and non-motorized access, in comparison to Interface.

Matrix is comprised of diverse vegetation, ranging from young forest to old growth and includes stream and river corridors, unique habitats, and common communities. Within Matrix, active restoration activities augment natural disturbance to provide greater resiliency, by enhancing composition, structure, function or connectivity. Since this management area emphasizes active management to achieve desired conditions for healthy ecosystems and wildlife populations, visitors can expect to see ongoing, recent or past management, including mechanical timber harvest, and prescribed fire, and how these activities contribute to forest resiliency. Forest Plan desired conditions that pertain to the focus of this project are **MAT-DC-01, MAT-DC-02, MAT-DC-03, MAT-DC-04, and MAT-DC-05**.

Backcountry (1,415 acres) - The Backcountry management area contains large blocks of remote and unroaded forest primarily shaped by natural processes, except where active management is utilized to restore ecosystem composition, structure, function, and to provide resiliency against insects and disease. Forest Plan desired conditions that pertain to the focus of this project are **BAC-DC-01, BAC-DC-02, BAC-DC-03, BAC-DC-04, BAC-DC-05, BAC-DC-06, AND BAC-DC-09**. The Backcountry MA within the Project Area is also an **Inventoried Roadless Area**. Refer to the "Roadless Rule" for Roadless area characteristics.

Special Interest Area (1,514 acres overlaying Designated Wilderness and Backcountry) – Special Interest Areas are the most exceptional ecological communities that serve as core areas for conservation of the most significant and rare elements of biological diversity on the Forests. They represent communities of plants and animals that occupy a small portion of the landscape but

contribute significantly to biological diversity. Forest Plan desired conditions that pertain to the focus of this project are **SIA-DC-01, and SIA-DC-02**.

Congressionally Designated Wilderness (1,318 acres) - Wilderness is managed to perpetuate or enhance the natural, untrammelled, and undeveloped character of the area while providing opportunities for primitive and unconfined recreation and/or solitude and preserving other features of value such as scenery, geology, or cultural/historic sites. The desired condition that pertains to the focus of this project is **CDW-DC-02**.

Needs

In conjunction with the purpose of this project, the following **needs** have been identified through Geographic Area departure analysis, Project Area landscape analysis, field review, and collaborative input from multiple individuals and groups.

- 1) Based on the Geographic Area Departure analysis, there is a need to move structure class towards the Natural Range of Variation. Generally speaking, the forests in North Slope are departed from the Natural Range of Variation, with a lack of young forest, open conditions, and old growth (130+ to 140+ years old, depending on the ecozones); and an abundance of mid and late seral closed conditions. 97% of the project area is between 70 and 130 years old and stand level canopy cover is >70% for the entire project area. See Appendix C – North Slope Geographic Area Ecological Departure Analysis.

- a. There is a need to create early forest conditions in all ecological zones represented in the Lickstone Project Area. Based on the North Slope GA departure analysis, all ecological zones are deficient in young forest. Creating early forest meets needs for that structure class as well as begins to increase age diversity over time as the early forest will eventually age into the middle age class.

Actions to meet this need are most appropriate in Matrix and Interface MAs (**MAT-DC-02, MAT-DC-03, INT-DC-14**). There is also potential to meet this need while adhering to the desired conditions in Backcountry MAs, but to a lesser degree (**BC-DC-02**).

- b. There is a need to create open forest conditions across most ecological zones and age classes. Open forest conditions are most likely to be created in the mid and late age classes.

Actions to meet this need are most appropriate in Matrix and Interface (**INT-DC-14, MAT-DC-01**). There is also potential to meet this need while adhering to the desired conditions in Backcountry MAs, but to a lesser degree (**BC-DC-02**).

- c. There is a need to manage the landscape towards having more Old Growth. Based on the North Slope GA Departure Analysis, most ecological zones are currently deficient in old growth.

This need for the development of old growth conditions is largely met within Congressionally Designated Wilderness (**CDW-DC-02**) and the Designated Old Growth Network as these areas are being managed to move towards old growth conditions. Additionally, old growth conditions can exist outside of the Designated Old Growth Network and may contribute to meeting the need for old growth habitat within the Project Area (**INT-DC-14, MAT-DC-01**). Some old stands in the Project Area will specifically have no proposed actions and will continue to develop old growth characteristics.

The needs for ecological restoration are consistent with Revised Forest Plan desired conditions: **ECO-DC-01, ECO-DC-02, ECO-DC-03, ECO-DC-06, ECO-DC-07, ECO-DC-08, ECO-DC-09, and ECO-DC-10.**

- 2) There is a need to restore species distribution that is appropriate for the Ecological Zone. Due to past management or lack of natural disturbance patterns, there are stands that contain off site tree species or lack the diversity of species expected.

Priorities for restoring species distribution are:

- a. Oak recruitment is a priority need. The Lickstone Project Area has approximately 3,400 acres in oak ecozones. Much of the mature oak in the overstory is declining as forests are continuing to age. There is an abundance of oak seedlings but there is a need to create the right light environment that allows oak seedlings to be competitive and become part of the canopy.
- b. There are a few areas where white pine stands, or components of stands, exist in hardwood ecological zones. There is a need to convert these areas to a mix of desired species for the ecological zone.
- c. Two areas have a component of Norway Spruce, which are not native to North Carolina.

Actions to meet this need are most appropriate in Matrix and Interface MAs (**INT-DC-12, MAT-DC-01**). There also may be limited opportunities to meet this need while adhering to the desired conditions in Backcountry MA (**BAC-DC-02**).

This need is consistent with Revised Forest Plan desired condition: **ECO-DC-10.**

- 3) There is a need to create permanent wildlife openings (fields) and expand existing openings.

Actions to meet this need are only appropriate in Interface and Matrix MAs (**INT-DC-14, INT-DC-15, MAT-DC-04, MAT-DC-05**).

This need is consistent with Revised Forest Plan desired condition: **WLF-DC-02**

- 4) There is a need to manage and improve terrestrial wildlife habitat to maximize wildlife diversity and sustain game species. Within the Lickstone Project Area, several priority species have been identified for habitat improvement:

- a) The Lickstone Project Area North of the Roadless Area is identified as a wildlife habitat active management area (WHAMA) as a priority for early-seral habitat and focal areas for deer and grouse.
- b) While not in a Golden Winged Warbler focal area, there are records of Golden Winged Warblers 3 miles away on Rich Mountain. The project area is within the broader Appalachian Mountains Joint Venture Priority Area for Golden Winged Warblers. Improved habitat in the Project Area would be beneficial for this species.
- c) The Lickstone Project Area is not identified as an elk focal area. However, telemetry data shows elk using this area and the adjacent Waynesville Watershed area. Improved habitat in the Project Area would be beneficial to the expanding elk herds.
- d) The Sherwood Bear Sanctuary is in the Lickstone Project Area. Improved habitat in the Project Area would be beneficial for this species.
- e) Carolina Northern Flying Squirrel habitat is in the spruce-fir and northern hardwood forests that occur at the higher elevations of the Project Area. Improving this habitat would benefit the federally listed species.

- f) There are known occurrence(s) of Cerulean Warblers within the project area. Improving habitat would be beneficial to this species.

Most of these habitats are developed through restoration of ecozone composition and structure classes mentioned in previous needs. Actions to meet this need are most appropriate in Matrix and Interface MAs (**MAT-DC-04, INT-DC-14**). There is also limited potential to meet this need while adhering to the desired conditions in Backcountry MAs (**BAC-DC-02**).

This need is consistent with Revised Forest Plan Desired conditions: **WLF-DC-01, WLF-DC-03, WLF-DC-04, and WLF-DC-05**.

- 5) There is a need to improve stream connectivity where fragmented by barriers such as culverts and fords.

Actions to meet this need would only be in Matrix and Interface MAs.

This need is consistent with Revised Forest Plan desired conditions: **AQS-DC-01 and AQS-DC-02**.

- 6) There is a need to improve young stands that have an overabundance of vines, high stocking levels, and undesired species composition.

Actions to meet this need are appropriate in Matrix and Interface. To a lesser degree, these treatments may also be appropriate in Ecological Interests Areas.

This need is consistent with Revised Forest Plan desired condition: **TIM-DC-01, SZ-DC-01**.

- 7) There is a need to improve the growth, vigor, and health of overstocked stands as well as improve species and structural diversity.

Actions to meet this need are appropriate in Matrix and Interface. To a lesser degree, these treatments may also be appropriate to meet the desired conditions in Ecological Interests Areas.

This need is consistent with Revised Forest Plan desired condition: **TIM-DC-01**.

In addition to meeting the previously stated purposes and needs, a project level transportation analysis displays the need to make changes to the system of National Forest Roads to be consistent with access needs for the proposed actions, current needs, and resource protection.

- 8) There is a need to increase sunlight to the road surface for faster drying. On closed roads maintained as linear wildlife openings, there is also the need for more sunlight for growing grass/forbs and helps to create a brushy interface.
- 9) There is a need to decommission system roads that are no longer needed for current or future forest management and protection of resources.
- 10) There is a need to add system roads for current and future forest management access.

These needs are consistent with Revised Forest Plan Desired condition: **TA-DC-01**

- 11) There is a need to extend the seasonal closure of NFSR 97 to the beginning of the road where a new gate was installed. This also creates the need for additional parking in that area for accessing hiking trails during the seasonal closure.

Proposed Actions

The following table (Table 1) is a summary of the proposed actions developed to meet the purpose(s) and need(s) identified in the Lickstone Project. Appendix D – Lickstone Proposed Actions is a full list of individual proposed actions, details, and the relation to the Purpose and Need. Maps of the proposed actions can be found in Appendix E – Lickstone Proposed Actions Maps.

Treatment	Number of Units	Total Size
Clearcutting with Reserves	1	34 acres
Commercial Thinning	3	30 acres
Uneven-aged Harvest	7	667 acres
Midstory Treatment	10	164 acres
Oak Shelterwood	9	186 acres
Other Treatments	7	256
Prescribed Fire	10	1553
Shelterwood with Reserves	9	174 acres
Stand Improvement	18	390 acres
Stream Crossing Improvement	5	n/a
Wildlife Field	12	12 acres
Woodland	3	66 acres

Table 1. Summary of proposed actions.

Descriptions of Proposed Actions

Prescribed Burn: To deliberately burn wildland fuels in either their natural or their modified state and under specified environmental conditions, which allows the fire to be confined to a predetermined area and produces the fireline intensity and rate of spread required to attain planned resource management objectives (Helms, 1998). The objectives of these proposed burns are to promote fire adapted plant species and communities and to move the landscape towards the Natural Range of Variation (NRV) by creating and maintaining open forest (woodland) conditions within appropriate ecological zones.

To meet these objectives, prescribed burning is proposed on 3-5 year rotations over the next 15-20 years at which time the effectiveness would need to be re-assessed. The prescribed burning would be conducted under specific prescriptions that would strive to produce a range of fire intensities within the burn to produce a mosaic effect that mimics natural burn patterns with higher intensity at the ridge tops and lower intensities as approaching drainages and coves. Stands planned to be planted in this proposed action, young stands, and northern hardwoods stands will be protected from the prescribed burn by ensuring a prescription that would result in low intensity burn that would result in minimal effects from fire or would otherwise be excluded from burning.

The proposed prescribed burns will require approximately 1.9 miles of control line construction. All other lines are existing roads, old road templates, or streams.

Stand Improvement: Intermediate treatments made to improve the composition, structure, condition, health, and growth of young stands (Helms, 1998). Units 79 and 102, and a portion of Unit 70 are within

the Inventoried Roadless Area and were harvested prior to the establishment of the IRA; treatments within these units will focus on improving roadless characteristics and promoting and/or maintaining species composition appropriate for the ecological zone. Stand improvement may include one or more of the following:

Stand Release: A non-commercial treatment designed to free young trees from undesirable, usually overtopping, competing vegetation (Helms, 1998). Treatment is done by cutting and felling or girdling with herbicide (hack-n-squirt method). Species appropriate for the ecological zones within stands will benefit from this treatment.

Vine Control: Use of hand tools and herbicide to remove vines in younger stands that have an overabundance of vines that threatens to impede the development of the forest. Pockets of native vines may be left to contribute to wildlife habitat.

Midstory Removal: A non-commercial treatment in a mature stand designed to prepare the site for germinants and/or free advance regeneration from undesirable, overtopping, competing vegetation. This treatment will reduce the midstory component for the purpose of increasing the amount of sunlight reaching the forest floor, which will aid in development of natural advance oak regeneration. The treatment is done by cutting and felling or girdling with herbicide (streamline or hack-n-squirt method). Midstory removal is similar to the *Oak Shelterwood* (described below) but is not followed by a commercial entry; natural disturbances will shape the future stand.

Thinning: Thinning is a treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality (Helms, 1998). Types of thinning may include:

Thinning from below: The removal of trees from the lower crown classes to favor those in the upper crown classes (Helms, 1998).

Free thinning: The removal of trees to control stand spacing and favor desired trees, using a combination of thinning criteria without regard to crown position (Helms, 1998).

Two-Aged Regeneration Harvest: Regeneration harvesting is the removal of trees intended to assist regeneration already present or to make regeneration possible. Two aged methods regenerate and maintain stands with two age classes – *note* the resulting stand may be two-aged or tend towards an uneven-aged condition as a consequence of both an extended period of regeneration establishment and the retention of reserve trees that may represent one or more age classes (Helms, 1998). The two aged methods that will be used:

Shelterwood with reserves: A variation of the shelterwood method in which some or all the shelter trees (reserve trees) are retained to attain goals other than regeneration (Helms, 1998). The number of reserve trees retained is sufficient to create a two-aged, two-storied stand until mid-rotation or longer. Goals of the reserve trees are to meet visual quality, wildlife, and high quality sawtimber objectives (Forest Plan Appendix E). Reserve trees are to be selected based on 1) species characteristic of the ecological zones within stands, 2) vigor: trees capable of living 40+ years in the co-dominant or dominant crown classes, and 3) the capability of meeting wildlife objectives such as producing hard/soft mast and providing den habitats. Individual

reserve trees may be scattered or grouped depending on the target species for regeneration and the availability and distribution of suitable reserve trees.

Post-harvest site preparation will occur within 1-2 years following timber harvesting and will be conducted with hand tools and herbicide to temporarily reduce competing woody vegetation, thus, allowing regenerating trees to establish. Inadequate or undesirable stocking of seedlings may require planting. An herbicide release treatment will occur 1-5 years after regeneration harvest to release species desirable for the ecological zones within the stand. An additional release may occur if needed to meet desired conditions. Sprout clumps growing from the stumps of the cut trees from the previous treatment or germinants of undesirable species will be treated. This will reduce competition for desirable tree seedlings providing them freedom to grow until crown closure (~ 10 years).

Lastly, approximately 10-15 years post-harvest (stand closure stage), non-commercial stand improvement treatments will be performed to free the crowns of desirable species for the ecological zones within stands. This will include cleaning and vine control treatments.

Overstory Removal: This is a follow up treatment for stands previously regenerated with the shelterwood with reserves method. In these stands, reserve trees were left in high number to meet visual quality objectives. Now that a new stand has successfully regenerated underneath, the removal of some reserve trees is necessary to release the young stand below. Not all reserve trees will be removed; some will be left to maintain the two-aged, two-storied stand structure based on the selection criteria listed above.

 **oak Shelterwood:** This is a combination of treatments. The first entry is a commercial or non-commercial intermediate treatment to reduce the midstory component (i.e., midstory removal or pre-harvest oak shelterwood) for the purpose of increasing the amount of sunlight reaching the forest floor which will aid in development of natural advance oak regeneration. Approximately 5 to 10 years following the intermediate treatment (after adequate advance oak regeneration is established), the stand would be commercially harvested using the *Shelterwood with Reserves* method described above. The first entry may be repeated until adequate competitive advance oak regeneration establishes.

Clearcutting with Reserves: A variation of the clearcutting method in which some or all the reserve trees are retained to attain goals other than regeneration. Clearcutting fully exposes the microclimate for the development of a new age class. Regeneration will be both natural and planted. (Helms, 1998). This treatment is only prescribed in white pine plantations as a method of converting the forest type to one appropriate for the ecological zone. There will be only one unit with this two-aged prescription (Veg 103).

Uneven-aged Harvest: Regenerate and maintain a multi-aged structure by removing some trees in all size classes either singly, in small groups, or in strips (Helms, 1998). These methods include multiple commercial entries and a more robust road system. The uneven-aged methods that will be determined during implementation may include:

Group Selection: A method of regenerating stands in which trees are cut and new age classes are established in small groups (Helms, 1998). The group opening size is determined by the

average height of the co-dominate trees in the stand with openings being approximately 2 times the average height of the trees within the stand. The minimum group opening is 0.2 acres in size to ensure lateral crown closure of overstory trees does not take place. Group openings are to be located based on areas consisting of mature trees, damaged trees, and/or the availability of desirable advance regeneration. Group openings in subsequent cutting cycles may be located next to previous openings to take advantage of the development of desirable advance regeneration growing in the periphery of previous group openings. This regeneration method will produce a stand with a higher degree of structural and age diversity than two-aged systems (i.e., *Shelterwood with Reserves*).

Post-harvest site preparation within group openings and/or throughout the stand will occur within 1-2 years following timber harvesting and will be conducted with hand tools and herbicide to temporarily reduce competing woody vegetation, thus, allowing regenerating trees to establish. Inadequate or undesirable stocking of seedlings may require planting. An herbicide release treatment will occur 1-3 years after regeneration harvest to release species desirable for the ecological zones within the stand. Sprout clumps growing from the stumps of the trees cut during the previous treatment or germinants of undesirable species will be treated. This will reduce competition for desirable tree seedlings providing them freedom to grow until crown closure (~ 10 years).

Lastly, approximately 10-15 years post-harvest, non-commercial stand improvement treatments will be performed to free the crowns of desirable species for the ecological zones within group openings (including those established in past entries). This will include cleaning and vine control treatments.

Group Selection with Thinning: In conjunction with the group selection harvest described above, free thinning and a non-commercial midstory treatment (i.e., midstory removal or pre-harvest oak shelterwood) will be performed between the group openings. The purpose is to open the overstory and increase spacing between stems to allow more light to reach the forest floor for the development of advance regeneration. Trees targeted for removal will be undesirable species not appropriate for the ecological zones within the stand, suppressed or intermediate trees of low vigor, other strong competitors (including, but not limited to, exotic invasive species), and trees that are not expected to survive the 20 years between entry cycles to capture sprouting potential, namely red oak species and ash. Leave tree selection will follow the guidelines listed in the *Shelterwood with Reserves* method described above.

Variable Retention or Irregular Shelterwood: A harvesting method that combines group selection, thinning, single tree selection, high retention shelterwood, and/or reserve clumps through a system of multiple cuttings with a long or indefinite regeneration period. Irregular and variable stands are unbalanced and do not contain the even distribution of age-classes common to the group selection system; commercial entries would be clustered in a ~20- to 50-year period, as opposed to being spread out over the life of the stand. This method may be used to take advantage of pockets of existing advance regeneration, promote future advance regeneration, and/or create an irregular diversity of forest structure. Subsequent entries may occur throughout the stand (i.e., shelterwood establishment cut or thinning) or be located next to previous openings (i.e., expanding gap) to take advantage of the development of desirable

advance regeneration growing in the periphery of previous group openings or underneath thinned areas. The result of this harvest would be an uneven-aged stand with some unharvested clumps, some areas with small openings, and some areas of unevenly dispersed reserve trees. These methods will produce a stand with a higher degree of structural and age diversity than two-aged regeneration harvests. Post-harvest treatments would be like those described in the *Group Selection* description above.

Woodland Management: A woodland is a plant community which, in contrast to a typical forest, the trees are often small, characteristically short-boled relative to their crown depth, and forming only an open canopy with the intervening area being occupied by lower vegetation, often grass (Helms, 1998). The intent of woodland management in this project is to increase the amount of open-forest conditions which are shown to be in deficit in the departure analysis. The goal is to reduce these stands to 40%-60% canopy cover by commercial or non-commercial thinning treatments. Stands selected for woodland management are often of low site index. Trees selected for retention will be appropriate for the ecological zone such as shortleaf pine in the Pine-Oak Heath ecological zone or longer-lived white oak in the Dry Oak ecological zone. Woodlands will need frequent management to maintain open-forest, woodland character. The preferred maintenance method is prescribed burning. Prescribed burn units are proposed to overlap woodland management where feasible. Where prescribed burning is not feasible, woodlands may be maintained by mastication, mowing, hand work (chainsaw), and/or herbicide. Woodlands may need fire- and disturbance-free periods to allow regeneration and recruitment to occur.

Other: These treatments do not fall under a single category and will be described by their Unit ID. These treatments are non-commercial and may include planting, thinning, release, creation and maintenance of wildlife openings, and non-native invasive species work. The methods that will be used are described below:

Veg 31: This area has a substantial disturbance history. Non-native invasive plants (including Norway spruce) will be addressed with hand tools and herbicide (hack 'n' squirt, foliar, cut stump, or streamline methods). Eastern and Carolina hemlocks may be planted to provide habitat for a predatory insect insectary to help combat Hemlock Woolly Adelgid infestations in and outside the project area. Mechanical and chemical release treatments of the planted trees may also occur.

Veg 32: Pockets of eastern hemlock mortality along Right Hand Prong have initiated hardwood regeneration but have also facilitated the expansion of rhododendron. To enhance riparian habitat, openings will be created by cutting rhododendron and treating stumps with herbicide. The brush will be bucked and piled less than 4 feet in height. Species appropriate for the ecological zone and red spruce will be planted in existing and created openings. Mechanical and chemical release treatments of the natural and planted trees may occur as needed.

Veg 33: Pockets of eastern hemlock mortality along Queen Creek have initiated hardwood regeneration. Red spruce is already naturally occurring at low elevations in this drainage. To enhance riparian habitat, red spruce, and species appropriate for the ecological zone will be

planted in openings where desirable hardwoods do not occur. Mechanical and chemical release treatments of the natural and planted trees may occur as needed.

Veg 35: Red spruce currently exists in the understory and midstory and as a minor component of the overstory. Red spruce will be released (mechanical and chemical) from undesirable, overtopping, competing vegetation and allowed to recruit into the overstory. In areas with limited advance regeneration, red spruce and Fraser fir will be planted, followed by the mechanical and chemical release.

Veg 81, Veg 107, and Veg 108: This treatment will be a combination of wildlife openings, planting, release, midstory removal and non-commercial thinning. Wildlife openings (Veg 107 and Veg 108) will be created, reclaimed, enhanced, and/or maintained by removing trees and brush, tilling, herbicide, and planting and/or seeding native grasses and forbs. Wildlife openings will not be created in or expanded to spruce-fir ecozones with advance spruce and/or fir regeneration. Mature yellow birch preferred by Carolina Northern Flying Squirrel will also be maintained where present. Areas adjacent to the openings may be thinned to provide brushy edge habitat. Pockets of red spruce and oaks will be released (mechanical or chemical) from undesirable, overtopping, competing vegetation or thinned depending on the specific needs of the trees. Tree species appropriate for the ecological zone may also be planted. A portion of this unit is in the Inventoried Roadless Area. Treatments in the IRA are consistent with enhancing the Roadless Area characteristics because they focus on restoring spruce-fir forest and creating and maintaining wildlife habitat for species of conservation concern including the Carolina Northern Flying Squirrel, black-capped chickadee, and Appalachian cottontail.

Permanent Wildlife Fields: Fields will be created or expanded by removing trees and brush, tilling, and planting native and desired nonnative grasses and forbs. Fields will be maintained by tilling, seeding, mowing, and/or herbicide. Thinning around the edges of the fields may also occur to improve habitat.

Improve stream crossings: Replace current culverts that are inadequate, failing, and obstructing aquatic organism passage with the following:

Ford: Open, natural bottom structure that will allow passage of aquatic organisms and allow free flow of streams at all flow levels.

Bottomless arch: Closed, bottomless arched culvert that uses a natural bottom surface and prevents a drop from developing on the downstream end of the culvert and allows for passage of aquatic organisms.

Oversized buried bottom pipe: Closed culvert pipe with the bottom buried in native materials to create a more natural bottom surface and prevent a drop from developing on the downstream end of the culvert, which allows for passage of aquatic organisms.

Transportation Management

A safe and efficient transportation system is critical in meeting the diverse needs of the public and managers of the Pisgah National Forest. As a result of the transportation analysis process mandated by Subpart A of the Travel Management Rule, recommendations found in the Pisgah Roads Analysis Project (RAP) Report (December 2003) identify the most ecologically, economically, and socially sustainable transportation system in terms of access for recreation, research, and other land management activities. The Pisgah RAP includes a few recommendations within the Lickstone Project planning area. This project will consider, analyze, and make a decision considering those recommendations, as well as more recent recommendations made by Pisgah National Forest resource specialist analyzed at the project level transportation analysis, some of which may supersede previous recommendations.

Management of the transportation system within the Project Area is needed to facilitate access to stands and areas proposed for vegetation and wildlife management over the life of the project and into the future. Road construction on existing non-system corridors (existing road prisms) and adding to the NFRS is proposed with a total mileage of 6.27 miles. There is currently no need for constructing new road templates.

Additionally, a total of 6.82 miles of roads are proposed to be removed from the NFRS with 2.9 of those miles being converted from system road to system trails.

19.8 miles of road have been identified as being incorrectly mapped. These are labeled as “realign” and the GIS layer will be updated to reflect the actual location of roads more accurately by using high quality lidar imaging and ground truthing.

27.4 miles of roads are proposed to be daylighted to increase the amount of sunlight reaching the road surface which reduces maintenance needs and increases grass/forbs on closed roads managed as linear wildlife openings.

The seasonal closure of NFSR 97 is being proposed to be extended to the beginning of the road where a gate was installed for emergency closures during Covid restrictions. To facilitate parking during the seasonal closure, an additional parking area would be created between NFSR 97 and Sunburst Campground.

Temporary Roads and Landings: Temporary roads and landings are generally proposed where single entry access is needed as part of a timber sale for access to harvest units from the Forest Service Road System. Final temporary road and landing locations, along with stabilization measures, are determined by a Forest Service Timber Sale Administrator, with agreement by the purchaser. Most proposed commercial treatment units are accessed by current or proposed system roads and needed temporary roads and landing would be within the proposed unit boundary. There is one instance where a temporary road will be needed for approximately 0.2 mile. Landings are generally 0.25 acre in size. Temporary roads and landings will be closed and obliterated after use and planted with native seed mix beneficial to wildlife. Landings adjacent to Open or Closed/M2 transportation system roads may be maintained as semi-permanent openings including tilling, seeding, planting, mowing, and herbicide.

See Appendix F – Lickstone Proposed Changes to the National Forest System Roads (NFSR) for a detailed table of proposed road changes.

Appendix A – Revised Forest Plan Draft Decision MA Map

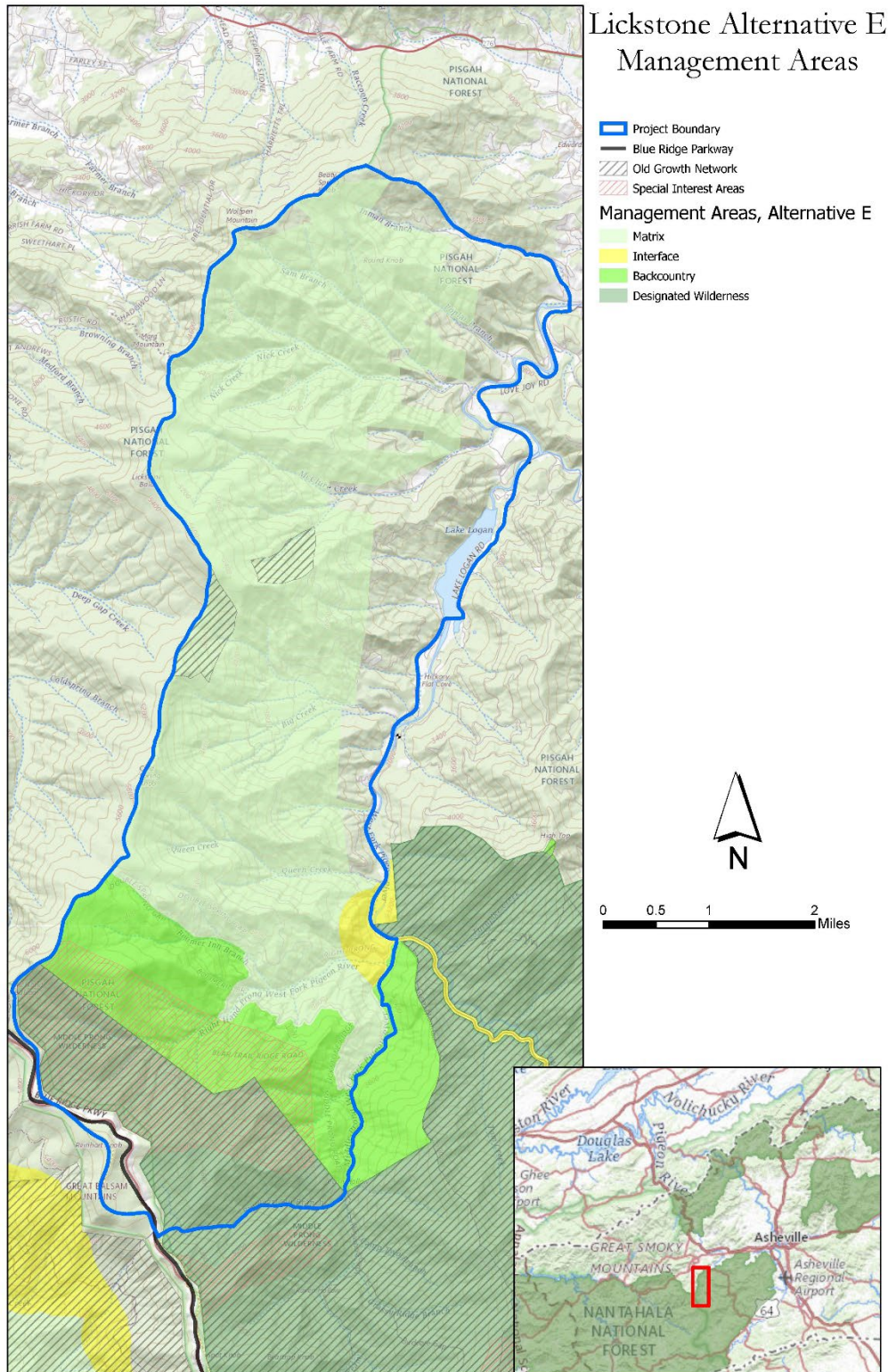


Figure 2. Revised Plan Draft Decision (Alt. E) Management Area Map for the Lickstone Project Area.

Appendix B – Revised Plan Components Applicable to the Lickstone Project

Revised Plan Components Applicable to the Lickstone Project	
INT-DC-12	As a result of the potential interaction between visitor use and forest management in the Interface, vegetation treatments, though primarily designed for restoration, emphasize recreation, aesthetic, and scenic values in project development.
INT-DC-13	Given the heavy concentrated use in this area, interpretation of vegetation management activities is emphasized here with an education focus on sustainable forestry principles, forest health, wildlife habitat, and long term expected outcomes from activities.
INT-DC-14	All wildlife habitat types discussed in the forestwide desired conditions are found in Interface, however open habitats such as grassy or shrubby openings and woodlands may be more frequent in this management area to enhance wildlife viewing opportunities and aesthetic experience.
INT-DC-15	Existing permanent wildlife openings are sustained or enhanced, and new ones are created where needed to support healthy wildlife populations.
INT-DC-16	Wildlife features, including wildlife habitat and species diversity, such as permanent grass forb openings and permanent and temporary openings in the canopy, are most heavily interpreted in this management area.
MAT-DC-01	The Matrix includes diverse vegetation conditions ranging from young forest to old growth forest, including both dense and open park-like conditions. Development of the variety of habitats and successional states are the result of management to meet objectives of restoration, wildlife habitat, and sustainable flow of wood products.
MAT-DC-02	Young forests, across all ecozones, occur at a higher frequency in Matrix compared to other management areas. Locally, young forest patch size will frequently exceed average natural disturbance gap size to provide for habitat diversity and benefit wildlife, and to facilitate restoration operations and financial considerations, but will not contribute to exceeding the Natural Range of Variation at the landscape scale
MAT-DC-03	Young forest habitat occurs in greater proportions in Matrix than other management areas, providing proportionally more edge habitats that provide early seral conditions, and supporting species (such as bats, pollinators, ruffed grouse, and golden-winged warblers) that depend on grass and shrub habitat and soft mast.
MAT-DC-04	Existing wildlife fields, linear wildlife habitats, old fields, balds, and other permanently open wildlife habitats are sustained. Some of these permanent openings may provide more shrub/sapling habitat as a result of longer maintenance cycles.
MAT-DC-05	New and expanded wildlife fields, linear wildlife openings, and some closed roads are daylighted, seeded, and maintained as linear wildlife openings for purposes of enhancing brushy interface and young forest conditions.
BAC-DC-01	Large blocks of remote and unroaded forest appear to be primarily shaped by natural processes, where old growth characteristics develop and dominate large parts of these areas over time.

Revised Plan Components Applicable to the Lickstone Project	
BAC-DC-02	Mid- to late-successional communities and old growth forests predominate, providing a contiguous forest canopy (that changes in density or openness based on ecozone desired conditions) across most of the management area. Patches of young forest and canopy gaps, generally smaller in size when compared to Interface and Matrix, trend towards an amount and distribution described in the ecozone desired conditions.
BAC-DC-03	Wildlife habitat conditions in Backcountry reflect larger contiguous blocks, core and interior forest conditions and proportionally more old growth forest conditions than Interface and Matrix.
BAC-DC-04	Wildlife habitat conditions support rare species and game species (such as veery, hermit thrush, Swainson's thrush, wood thrush, cerulean warbler, Kentucky warblers, salamanders, and black bear) that respond to larger blocks of older forest.
BAC-DC-05	Existing wildlife fields and linear wildlife habitats are sustained. Some of these permanent openings may provide more shrub/sapling habitat as a result of longer maintenance cycles.
BAC-DC-06	Fire in these large forested landscapes plays an important role to maintain or restore fire-associated forested communities, to improve forest structure, and to reduce fuel buildups.
BAC-DC-09	Prescribed fire and natural ignitions are managed to reduce high fuel loadings; improve, maintain, and create wildlife habitat; or benefit fire-dependent ecosystems and associated species (such as Table Mountain pine and oak forests).
ECO-DC-01	Across the forest, patches and connectors of National Forest System land sustain a diversity of ecosystems and habitat types, providing ecological integrity and enhancing conditions for native species.
ECO-DC-02	Some landscape patches develop mostly through natural succession and natural disturbance regimes. These patches are less frequently managed than other patches because of their location or because their desired management is relatively light. Due to the number and size of these patches, the areas are large enough for natural systems to evolve. High quality old growth characteristics develop over time and dominate these patches. A relatively small amount of management would continue in these lands, such as where the forest has uncharacteristic conditions that need to be restored.
ECO-DC-03	Other landscape patches evolve through a combination of natural succession with both natural and human-caused disturbances. These patches contain the most actively managed landscapes where management contributes to the landscape's overall natural range of variation. These patches provide a mix of habitat types for a wide variety of species that depend on young forests as well as old. Young forests are provided in a patch size and arrangement to provide high quality habitat for species dependent on these forest conditions. Locally, young forest patch size will frequently exceed average natural disturbance gap size to provide for habitat diversity and benefit wildlife, and to facilitate restoration operations and financial considerations, but will not contribute to exceeding the Natural Range of Variation at the landscape scale.

Revised Plan Components Applicable to the Lickstone Project	
ECO-DC-06	Ecological restoration is focused on restoring the key characteristics of ecozone composition and structure, function and processes needed to maintain those key characteristics over time.
ECO-DC-07	Across the landscape, ecozone composition improves over time through both active and passive restoration, leading to an increase in forest functions, resiliency and adaptiveness.
ECO-DC-08	Across the landscape, ecozone structure improves over time, increasing multi-scale community complexity, stability, and connectedness through a combination of natural disturbances and silvicultural practices, including fire.
ECO-DC-09	Restoring ecozone composition and structure has multiple outcomes: enhanced forest health and resiliency; restored fire-adapted ecozones that have been degraded due to fire suppression; contributions to the local economy by providing forest products in a cost efficient manner, ranging from high quality logs for veneer and dimensional lumber to small diameter logs for pulp, firewood, or emerging products; and research plots support by maintaining plots as well as future research needs.
ECO-DC-10	Ecological restoration emphasizes both restoring species composition when it is departed from desired conditions and restoring structural classes.
WLF-DC-02	Permanent grass, forb, and shrub openings are positioned within forested habitats to ensure nesting and foraging areas are within proximity of each other for many animals. These openings are located to minimize conflict with recreationists and to ensure streams and native plant communities near these openings are not affected (i.e., stream temperature and channel integrity are not negatively affected). These areas are important to the life histories of many wildlife species but especially to bobwhite quail, wild turkey, white-tailed deer, elk, black bear, golden-winged warblers, and many other birds, bats, and pollinators.
WLF-DC-01	Young forests with seedlings and saplings are distributed across all ecozones and elevations but especially in higher elevation montane oak ecosystems for species such as ruffed grouse, golden-winged warbler, white-tailed deer, and elk.
WLF-DC-03	Unfragmented interior forest conditions continue to occur across the landscape. The distribution may change as the forest ages or management actions occur.
WLF-DC-04	Mature forests, including late seral stages and old growth conditions, provides habitat and forage for species such as black bear, wild turkey, white-tailed deer, cerulean warbler, wood thrush, other species of migratory and resident birds, terrestrial salamanders, bats, and reptiles.
WLF-DC-05	Woodlands and other open forest types provide open understory conditions across all elevations that enhance nesting and foraging opportunities for many bird and bat species, suitable areas for butterflies, bees, and other pollinators, as well as optimal foraging for browsers such as white-tailed deer and elk. Larger native trees with exfoliating bark provide roosting habitat for bats.
AQS-DC-01	Aquatic ecosystems are diverse with properly functioning streams providing high quality habitat for all native and desired non-native (e.g., brown and rainbow trout) aquatic species, resulting in populations that are robust and resilient. Native brook trout are emphasized when possible.

Revised Plan Components Applicable to the Lickstone Project	
AQS-DC-02	Habitat in streams, rivers, and lakes provides opportunities for fish and other aquatic organisms (e.g., crayfish, mussels, insects, turtles, and salamanders) to hide, spawn, and forage.
TIM-DC-01	Stand conditions, such as composition, structure and health will improve using a variety of methods, such as stand improvements, slashing and felling, timber harvest, burning, etc.
TA-DC-01	A sustainable, well-maintained transportation system provides safe and efficient public access and connectivity among communities and the Forests. The transportation system reflects the
CDW-DC-02	The landscape character of these areas is natural evolving and shaped primarily by natural processes, resulting in large patches of late successional and old growth
SIA-DC-01	The Forests' high-quality communities and rare species are supported and enhanced, contributing to biological diversity and ecological integrity.
SIA-DC-02	The natural role of fire is sustained or restored in appropriate ecozones, and prescribed fire plays an important role in the maintenance of many of the forested communities.

Table 2. Revised Plan Components Applicable to the Lickstone Project.

Appendix C – North Slope Geographic Area Ecological Departure Analysis

Ecozone	S-Class (acres*)						
	Young	Mid		Late		Old Growth	
		open	closed	open	closed	open	closed
<i>Rich Cove</i>	-275	-89	1992	0	1351	4	-3025
<i>Mesic Oak</i>	-227	-666	-446	-43	4490	-1417	-1452
<i>Northern Hardwoods</i>	-358	-122	-630	-48	5246	-785	-2702
<i>Acidic Cove</i>	-246	-162	2870	-21	813	2	-2680
<i>High-Elevation Red Oak</i>	-864	-651	-552	-535	4562	-1115	-241
<i>Spruce-Fir</i>	-442	-55	0	-118	2221	-376	-936
<i>Pine-Oak/Heath</i>	-82	-239	70	-142	562	-82	0
<i>Dry Oak</i>	-111	-147	-4	-66	694	-480	261
<i>Dry-Mesic Oak</i>	-2	-5	-3	-1	34	-11	-9

Table 3. North Slope Geographic Area Ecological Departure Analysis. Acres in the table represent the number of acres outside of the NRV. Negative numbers indicate there is a deficit when compared to the lower end of the NRV, positive numbers indicate an excess when compared to the upper end of NRV, and Zero indicates within the range of NRV. Green=Current condition within NRV range; Yellow=Current condition is more than NRV, Blue=Current condition less than NRV.

Appendix D – Lickstone Proposed Actions

NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
1	Commercial Thinning	Yes	9	Tractor -- winching required	Matrix	7
2	Commercial Thinning	Yes	6	Mixed -- skyline and tractor with winching	Matrix	7
5	Uneven-aged	Yes	98	Mixed -- skyline and tractor with winching	Matrix	2a, 4a, 4c, 4d
6	Uneven-aged	Yes	26	Tractor -- winching required	Matrix	2a, 4a, 4c, 4d, 4f
7	Uneven-aged	Yes	57	Tractor -- winching required	Matrix	2a, 4a, 4c, 4d
8	Uneven-aged	Yes	53	Mixed -- skyline and tractor with winching	Matrix	2a, 4a, 4c, 4d
9	Uneven-aged	Yes	116	Mixed -- skyline and tractor with winching	Matrix	2a, 4a, 4c, 4d, 4f
10	Uneven-aged	Yes	292	Tractor -- winching required	Matrix	2a, 4a, 4c, 4d, 4f
11	Uneven-aged	Yes	25	Tractor -- winching required	Matrix	2a, 4a, 4c, 4d, 4f
12	Oak Shelterwood	Yes	33	Mixed -- skyline and tractor	Matrix	1a, 2a, 4a, 4b, 4c, 4d
13	Midstory Treatment	No	14		Matrix	2a, 6
14	Oak Shelterwood	Yes	18	Skyline	Matrix	1a, 2a, 4a, 4b, 4c, 4d
15	Midstory Treatment	No	13		Matrix	2a, 6
17	Oak Shelterwood	No	34	Mixed -- skyline and tractor with winching	Matrix	1a, 2a, 4a, 4b, 4c, 4d
18	Midstory Treatment	No	10		Matrix	2a, 6
19	Oak Shelterwood	Unk	4	Skyline	Matrix	1a, 2a, 4a,

NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
						4b,4c, 4d
20	Midstory Treatment	No	50		Matrix	2a, 6
22	Oak Shelterwood	Unk	21	Mixed -- skyline and tractor with winching	Matrix	1a, 2a, 4a, 4b,4c, 4d
23	Oak Shelterwood	Unk	25	Tractor -- winching required	Matrix	1a, 2a, 4a, 4b,4c, 4d
24	Midstory Treatment	No	13		Matrix	2a, 6
25	Midstory Treatment	No	2		Matrix	2a, 6
26	Midstory Treatment	No	17		Matrix	2a, 6
27	Oak Shelterwood	Unk	15	Tractor -- winching required	Matrix	1a, 2a, 4a, 4b,4c, 4d
28	Midstory Treatment	No	16		Matrix	2a, 6
29	Oak Shelterwood	Unk	4	Tractor -- winching required	Matrix	1a, 2a, 4a, 4b,4c, 4d
30	Stand Improvement	No	10		Matrix	6
31	Other	No	8		Interface, Matrix	2c
32	Other	No	6		Matrix	6
33	Other	No	5		Matrix	6
35	Other	No	173		Matrix	4e, 6
36	Commercial Thinning	Yes	15	Tractor -- winching required	Interface	7
38	Prescribed Fire	No	107		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
39	Prescribed Fire	No	36		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
40	Prescribed Fire	No	186		Matrix	1b, 2, 4a, 4b, 4c, 4d

NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
41	Prescribed Fire	No	2		Matrix	1b, 2, 4a, 4b, 4c, 4d
42	Prescribed Fire	No	267		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
43	Prescribed Fire	No	257		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
44	Prescribed Fire	No	41		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
45	Prescribed Fire	No	5		Matrix	1b, 2, 4a, 4b, 4c, 4d
46	Prescribed Fire	No	477		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
47	Shelterwood With Reserves	Yes	21	Mixed -- skyline and tractor with winching	Matrix	1, 2a, 2c, 4d
48	Shelterwood With Reserves	Yes	14	Skyline	Matrix	1, 2a, 2c, 4d
49	Shelterwood With Reserves	Yes	20	Mixed -- skyline and tractor with winching	Matrix	1, 2a, 2c, 4d
50	Shelterwood With Reserves	Yes	28	Mixed -- skyline and tractor with winching	Matrix	1, 2a, 2c, 4d
51	Oak Shelterwood	Yes	32	Mixed -- skyline and tractor with winching	Matrix	1a, 2a, 4a, 4b, 4c, 4d
52	Shelterwood With Reserves	Yes	11	Skyline	Matrix	1, 2a, 2c, 4d
53	Shelterwood With Reserves	Yes	28	Skyline	Matrix	1, 2a, 2c, 4d

NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
54	Shelterwood With Reserves	Yes	14	Mixed -- skyline and tractor with winching	Matrix	1, 2a, 2c, 4d
56	Shelterwood With Reserves	Yes	27	Mixed -- skyline and tractor with winching	Matrix	1, 2a, 2c, 4d
57	Shelterwood With Reserves	Unk	11	Skyline	Matrix	1, 2a, 2c, 4d
65	Stand Improvement	No	23		Matrix	6
66	Stand Improvement	No	15		Matrix	6
67	Stand Improvement	No	13		Matrix	6
68	Stand Improvement	No	37		Matrix	6
69	Stand Improvement	No	23		Matrix	6
70	Stand Improvement	No	28		Matrix	6
71	Stand Improvement	No	24		Matrix	6
72	Stand Improvement	No	15		Matrix	6
73	Stand Improvement	No	4		Matrix	6
74	Stand Improvement	No	24		Matrix	6
75	Stand Improvement	No	13	Tractor -- winching required	Interface, Matrix	6
76	Stand Improvement	No	35		Matrix	6
77	Stand Improvement	No	37		Matrix	6
79	Stand Improvement	No	32		Backcountry, Matrix	6
80	Stand Improvement	No	20		Matrix	6
81	Other	Unk	59		Backcountry, Matrix	3, 4a, 4b, 4c, 4d, 4e, 4f
83	Wildlife Field	No	1		Matrix	3, 4a, 4b, 4c, 4d, 4f
85	Wildlife Field	No	0		Matrix	3, 4a, 4b, 4c, 4d
87	Wildlife Field	Yes	4	Tractor	Matrix	3, 4a, 4b, 4c, 4d, 4f
89	Wildlife Field	No	1		Matrix	3, 4a, 4b, 4c, 4d

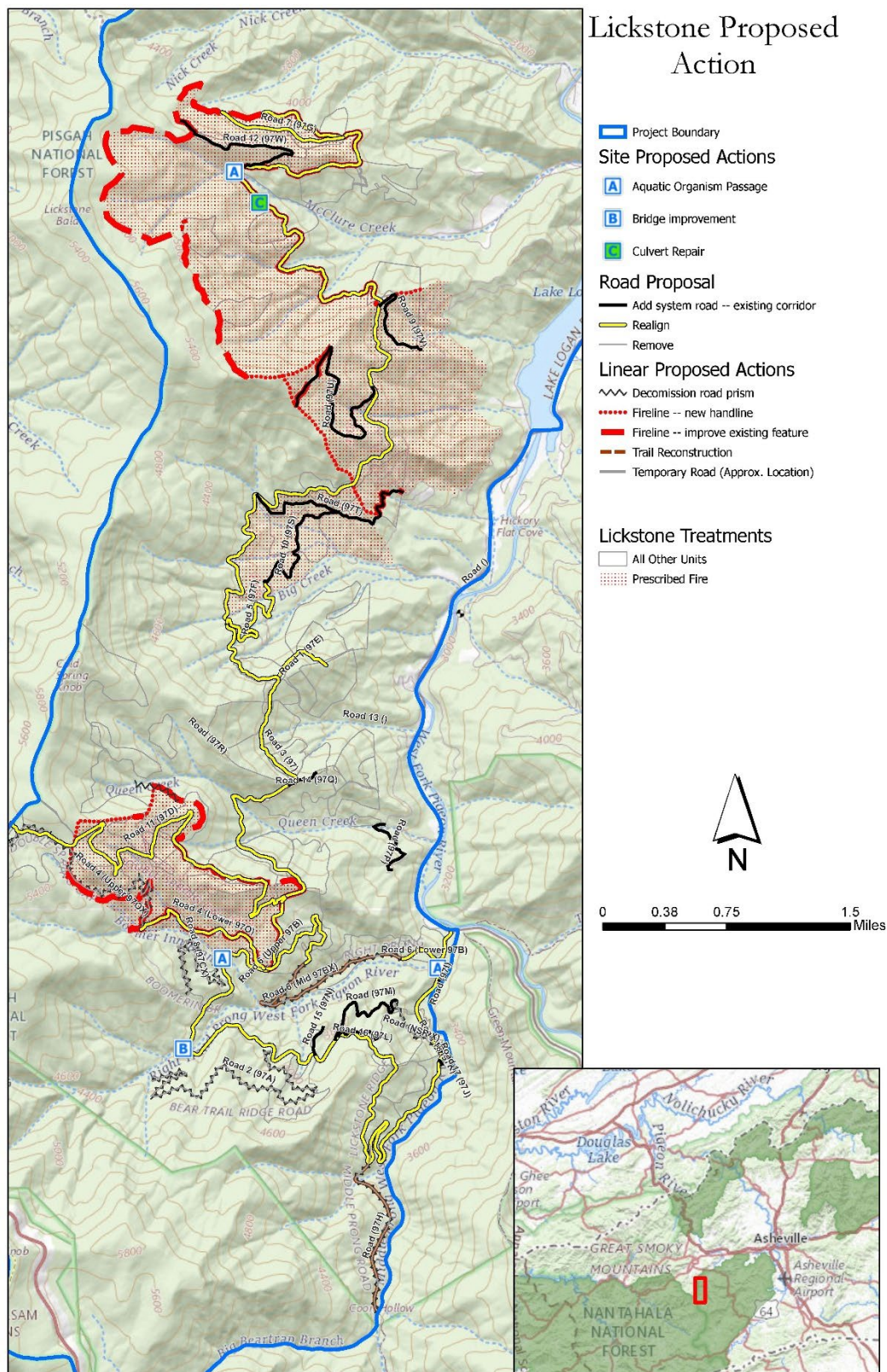
NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
90	Wildlife Field	No	0		Matrix	3, 4a, 4b, 4c, 4d
92	Wildlife Field	Unk	2	Tractor -- winching required	Matrix	3, 4a, 4b, 4c, 4d, 4f
93	Wildlife Field	Yes	0	Tractor	Matrix	3, 4a, 4b, 4c, 4d, 4f
94	Wildlife Field	Yes	1	Tractor	Matrix	3, 4a, 4b, 4c, 4d
95	Wildlife Field	Yes	0	Tractor	Matrix	3, 4a, 4b, 4c, 4d
96	Midstory Treatment	No	19		Matrix	2a, 6
97	Midstory Treatment	No	10		Matrix	2a, 6
98	Woodland	No	16		Matrix	1b, 4a, 4c, 4d
99	Woodland	No	26		Matrix	1b, 4a, 4c, 4d
100	Stand Improvement	No	5		Matrix	6
101	Woodland	No	24	Tractor -- winching required	Matrix	1b, 4a, 4c, 4d
102	Stand Improvement		32		Backcountry	6
103	Clearcutting with reserves	Yes	34	Tractor -- winching required	Matrix	1a, 2b, 4a, 4c,
104	Prescribed Fire	No	175		Matrix	1b, 2, 4a, 4b, 4c, 4d, 4f
105	Wildlife Field	Yes	2	Tractor -- winching required	Interface	3, 4a, 4b, 4c, 4d
107	Other	No	2		Matrix	3, 4a, 4b, 4c, 4d
108	Other	No	3		Backcountry	3, 4a, 4b, 4c, 4d,

NEPA Unit Number	Treatment	Commercial Harvest	Acres	Logging System	MA	Needs*
109	Wildlife Field	No	0		Matrix	3, 4a, 4b, 4c, 4d, 4f
110	Wildlife Field	No	1		Matrix	3, 4a, 4b, 4c, 4d, 4f

*Table 4. Lickstone proposed actions; Stream crossings are not listed in this table, see Lickstone Proposed Action Map for locations; Transportation proposals listed in a separate appendix. *Numbers in the Needs column reference the needs identified in the purpose and need section of this document.*

Figure 3. Lickstone Proposed Actions Map A featuring forest and habitat management polygons and road proposals.





Appendix F – Lickstone Proposed Changes to the National Forest System Roads (NFSR)

Proposed Name	Proposed Road No.	Existing Name	Existing Road No.	Proposed Action	Daylight	Linear Wildlife Opening	LENGTH
Dam Field	97V			Add system road -- existing corridor	Yes	Yes	0.52
Big Creek Extension	97S			Add system road -- existing corridor	Yes	Yes	0.77
Upper Three Tree Ridge	97W			Add system road -- existing corridor	Yes	Yes	0.89
Queens Crown	97Q			Add system road -- existing corridor	Yes	Yes	0.15
Wildlife Access 97N	97N			Add system road -- existing corridor	Yes	Yes	0.15
Wildlife Access 97L	97L			Add system road -- existing corridor	Yes	Yes	0.26
Wildlife Access 97J	97J			Add system road -- existing corridor	No	Yes	0.05
Wildlife Access 97K	97K			Add system road -- existing corridor	No	Yes	0.02
Upper Champion	97U			Add system road -- existing corridor	Yes	Yes	1.35
Woods Road	97M			Add system road -- existing corridor	Yes	Yes	0.62
Old Logging Tractor	97T			Add system road -- existing corridor	Yes	Yes	1.02
Wildlife Access 97I	97I			Add system road -- existing corridor	No	Yes	0.05
Queen Creek	97P			Add system road -- existing corridor	Yes	Yes	0.42

Proposed Name	Proposed Road No.	Existing Name	Existing Road No.	Proposed Action	Daylight	Linear Wildlife Opening	LENGTH
Reedy Prong	97R			Add system road -- existing corridor	Yes	Yes	1.46
Lickstone Spur	97E	Lickstone Spur	97E	Realign	Yes	Yes	0.33
Lickstone Ridge	97	Lickstone Ridge	97	Realign. Extend seasonal closure from old gate to newly installed gate at the beginning of the road and add a parking area between NFSR 97 and Sunburst Campground	Yes	Yes	13.28
Big Creek	97F	Big Creek	97F	Realign	Yes	Yes	0.82
Three Tree Road	97G	Three Tree Road	97G	Realign	Yes	Yes	0.65
Double Spring Gap	97D			Realign	Yes	Yes	2.83
Upper Right Hand Prong	Upper 97B	Right Prong	97B	Realign	Yes	Yes	0.79
Lower Right Hand Prong	Lower 97B	Right Prong	97B	Realign	Yes	Yes	0.21
Boomer Inn Branch	Lower 97O	Double Spring Gap	97D	Realign	Yes	Yes	0.85
NA	97AX	Bear Trail Ridge Road	97A	Decommission	No	No?	1.85
Haywood Gap Trail	97HX	Middle Prong Road	97H	Decommission and make into trail	No	No?	0.97
NA	Upper 97OX	Double Spring Gap	97D	Decommission	No	No	1.67
Right Hand Prong Trail	Mid 97BX	Right Prong	97B	Decommission and make into trail	No	No	1.12
NA	97CX	Boomer Inn Branch	97C	Decommission	No	No	0.87

Proposed Name	Proposed Road No.	Existing Name	Existing Road No.	Proposed Action	Daylight	Linear Wildlife Opening	LENGTH
NA	NSRX			Decommission and obliterate	No	No	0.33

Bibliography

Helms, J. A. (1998). *The Dictionary of Forestry*. Bethesda, MD: The Society of American Foresters.