Upper Greenbrier North
Decision Notice & Finding of No Significant Impact #2

USDA Forest Service, Eastern Region 9
Monongahela National Forest, Greenbrier Ranger District
Pocahontas and Randolph Counties, West Virginia

November 2012

Introduction

I issued a decision for the Upper Greenbrier North (UGN) project on August 15, 2012, selecting Alternative 5 from the UGN corrected EA, but choosing to implement only some of the project activities under that decision. Those activities included road decommissioning, road maintenance for watershed benefits, stream and riparian area restoration, aquatic passage improvements, dispersed recreations site improvements, and prescribed fire. In this second decision for the UGN project, I am choosing to implement activities from the Selected Alternative that will help restore red spruce and spruce-hardwood ecosystems within the project area. These activities have been designed to help expand and connect mature spruce and spruce-hardwood stands over time within a corridor that stretches across the northern part of the project area, from spruce forest on Shaver's Mountain to the west to Spruce Mountain to the east (UGN project file, Terrestrial Ecosystems specialist report).

The Monongahela National Forest is working with the USFS Northern Research Station, the West Virginia Division of Natural Resources, the U.S. Fish and Wildlife Service, The Nature Conservancy, West Virginia University, and others to develop effective spruce-hardwood restoration methods. Our primary objective is to accelerate the presence of red spruce in the overstory where overstory spruce currently does not exist. This objective would be achieved in two ways: 1) in commercial thinning units, thin out hardwood overstory trees around young spruce trees, while retaining other mature hardwoods in the stand to provide valuable habitat and structural/functional features; and 2) in noncommercial spruce release and timber stand improvement units, release young spruce trees by controlling hardwood competition.

This decision will help move existing conditions toward desired conditions for the project area as described in the Monongahela National Forest Land and Resource Management Plan (Forest Plan, 2006, as updated in 2011). The Upper Greenbrier Watershed Assessment for the East and West Forks of the Greenbrier River (MNF 2007) identified findings, made recommendations, and identified actions needed in the watershed.

The following pages describe the location of the UGN project area, my decision, the activities I have selected to implement, the reasons for my decision, how the activities address issues and concerns about this project, how we engaged the public throughout this project, and why I feel this project will not have significant impacts to the environment.

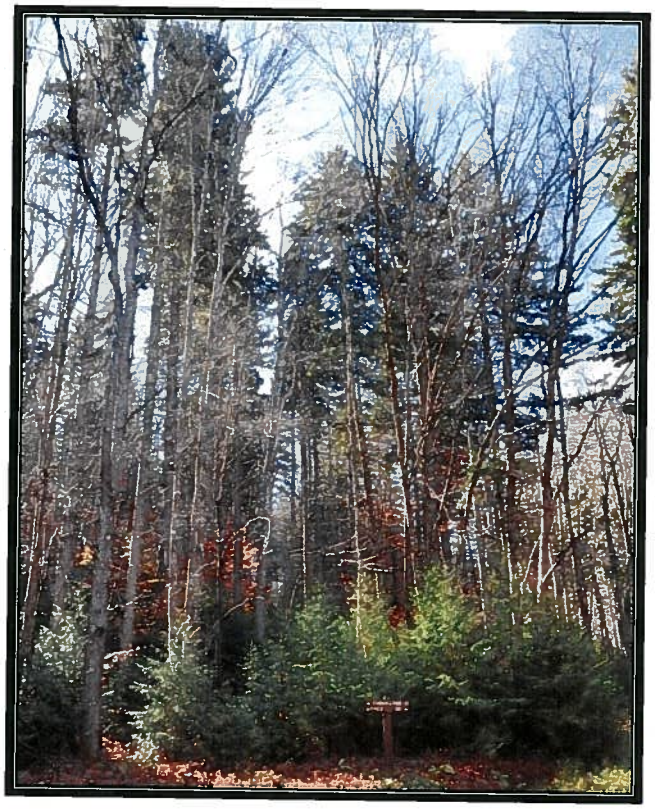


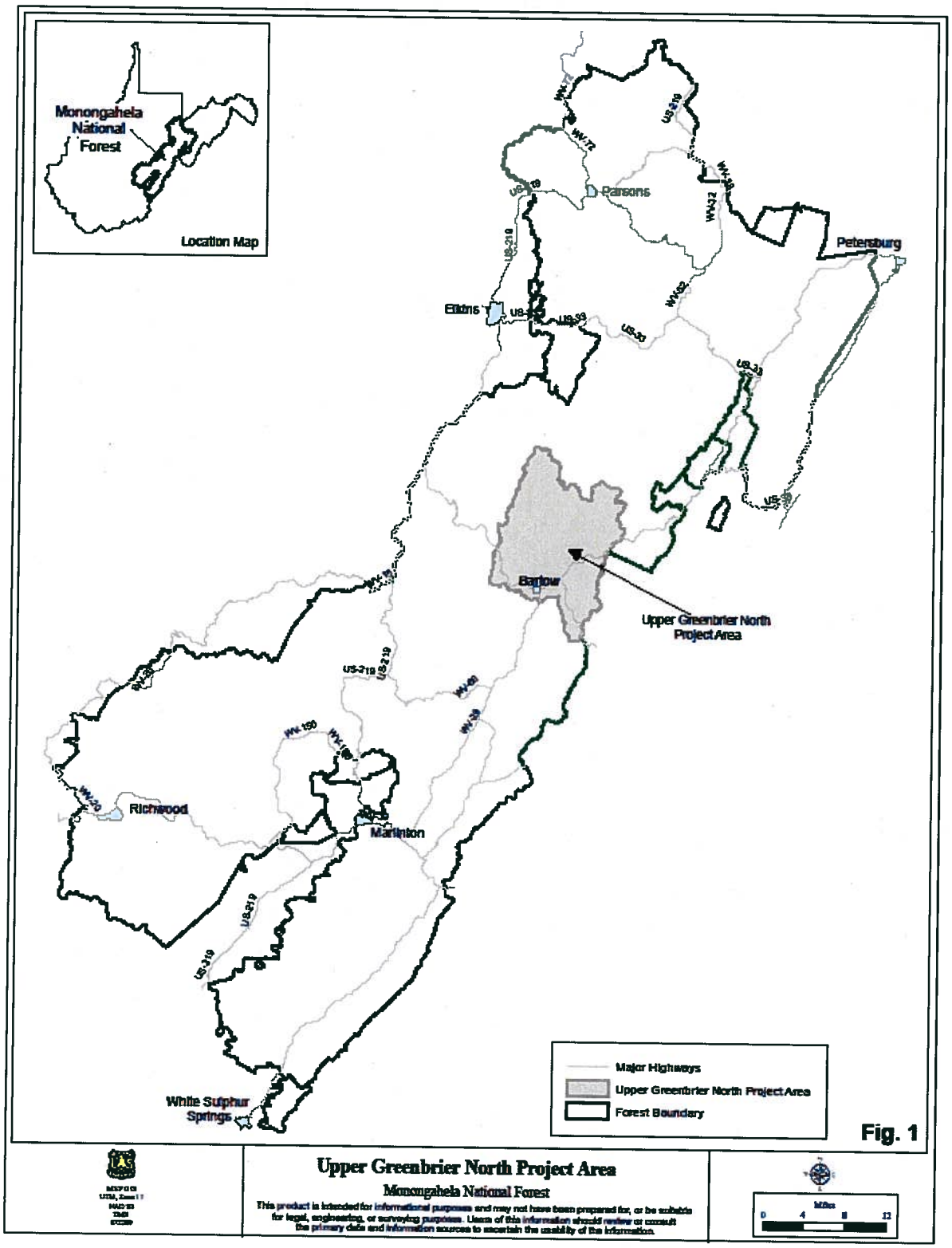
Figure 1 – Desired Condition for Spruce-Hardwood Stands. This stand will not be treated. It is shown here to represent the type of desired multi-aged spruce-hardwood stands that we want to create over time with commercial and noncommercial treatment spruce release units in the UGN project area. Tree thinning activities will release young spruce so that they will stay healthy and grow faster into mature trees that will produce understory trees, as seen in the photo. Hardwood trees will remain on site to provide key habitat components—such as denning sites, shade/cover, and mast—for wildlife, including the federally listed West Virginia northern flying squirrel.

Location

The Upper Greenbrier North (UGN) project area is located in the upper part of the Greenbrier River watershed, in Pocahontas and Randolph Counties, West Virginia (see Figure 1). The project area is on the Greenbrier Ranger District and includes four subwatersheds: Little River; Headwaters East Fork Greenbrier River; West Fork Greenbrier River; and Outlet East Fork Greenbrier River. Approximately 200 adjacent acres to the north, in the Upper Laurel Fork drainage, are also included in the project area. Although the UGN project area is very large at 85,000 acres (Figure 2), it is important to remember that all proposed activities would take place on less than a tenth of that area (see project area and activity maps in the appendices to the EA). A large project area was chosen to better consider and analyze cumulative impacts and landscape ecology factors such as spruce-hardwood ecosystem connectivity, age class distribution at a watershed scale, and watershed improvement needs and opportunities.

For treatment areas within the project area, please see the map in Appendix A to this decision.

Figure 2. Upper Greenbrier North Vicinity Map



Purpose and Need

The "Need" for taking action with this project can be thought of as undesired conditions identified in the project area. The "Purpose" can be thought of as how we want to restore or enhance these conditions. Generally speaking, the overall composition, structure, and function of many spruce-hardwood stands are not what we want them to be within the project area. We want to restore stand conditions to be more like they were 150 years ago, which will in turn provide beneficial wildlife habitat and ecosystem conditions within those stands and contribute to biological diversity at various scales, from the project area to the Central Appalachians. As a by-product of the activities we propose, we can also produce useful timber products and contribute to jobs and income opportunities within local communities. Relevant project-specific conditions and restoration activities to enhance those conditions are described below.

Need #1 - Dense stands of mixed hardwoods are inhibiting the establishment, growth, and survival of red spruce in areas that formerly supported red spruce and mixed red spruce-hardwood forests.

We propose to increase the establishment, growth, and resiliency of red spruce in areas that formerly supported red spruce, but are now dominated by hardwoods. We can do this through both commercial and non-commercial spruce release treatments.

Need #2 - Stands that were previously harvested with a regeneration prescription have regenerated to overly dense stands, which has resulted in competition that inhibits the growth and survival of desirable species.

We propose to reduce the density of stands that were previously regenerated through selective thinning. The thinning would not only favor desirable leave trees like red spruce and mast-producing northern hardwoods, but it would also increase the growth, vigor, and resiliency of those leave trees, thereby increasing the chances of them becoming healthy mature trees 50 or more years from now.

Need #3 – In some areas snag densities are lower than desired for wildlife.

We propose to increase snag densities in these areas through girdling or herbicide treatments. This activity would provide foraging habitat for insect eaters, roosting habitat for raptors and bats, and potential denning habitat for squirrels and other cavity nesters.

Need #4 - Current access to proposed vegetation management units is often over roads that are not in good enough condition to safely handle the increased traffic that would result. In some cases, there is no road access to proposed harvest units.

We can improve road conditions through maintenance or reconstruction where needed to safely handle increased traffic that would result from vegetation management. We can also provide road access where needed through construction. Our objective is to keep road construction to the minimum needed for long-term management and access.

Need #5 - Road work and vegetation management activities may introduce or spread nonnative invasive plant species (NNIS).

We recognize that ground-disturbing activities, combined with vehicle and foot traffic, can introduce or spread infestations of nonnative invasive species. These species have all sorts of impacts on native species and ecosystems. Therefore, we will require features and measures to monitor, prevent, and treat NNIS before, during, and after project ground-disturbing activities.

Need #6 - Opportunities to commercially harvest timber from National Forest System (NFS) lands have decreased in recent years. Timber-related job opportunities and revenue to local communities have decreased in recent years as a result.

This project offers the opportunity to harvest commercial timber from NFS lands, which would in turn provide valuable timber products for the nation, as well as economic benefits that ripple through local communities with jobs, income, and purchases of gas, food, lodging and other commodities. Residents in this part of Appalachia have some of the lowest household income rates in the nation and would benefit from revenue generated over the life of the project.

My Decision

Based on my 8/15/2012 decision on the Upper Greenbrier North corrected EA, supporting information in the EA and project file, and public/agency comments received throughout the process, I have decided to implement a set of actions from the Selected Alternative that focus on red spruce and spruce-hardwood ecosystem restoration activities that should take roughly 10 years to implement. These activities are described below.

Activities Selected for Implementation under This Decision

All acres and mileages given in this document are estimates obtained either from GIS data files or GPS measurements in the field. Activities are proposed only on NFS lands and roads, with some maintenance occurring on State roads. Each activity is described below. The commercial thinning with spruce emphasis, noncommercial spruce release, and timber stand improvement units are mapped in Appendix A to this decision. Snag creation will occur within the noncommercial spruce release units.

Commercial Thinning Emphasizing Spruce Release

An estimated 499 acres of hardwood overstory trees will be commercially thinned with an emphasis on releasing young red spruce trees in the understory. Hardwood trees to be thinned will be chosen primarily based on their proximity and competition with young spruce trees (Figure 3). Harvest is designed to allow the released spruce to grow faster into healthy and resilient mature trees that will eventually regenerate themselves to help form multi-aged spruce-hardwood stands, similar to those that are considered suitable habitat for West Virginia northern flying squirrel (WVNFS), a federally listed and rare endemic species on the Forest.

No helicopter harvest is planned. We will construct landings or use existing landings/openings for tree harvest. The landings will be used to prepare and load logs onto trucks for transportation to mill sites. After use, the landings will be ripped if needed to eliminate compaction. They will be seeded with a wildlife mix of native or noninvasive species for temporary wildlife openings. The landings will not be maintained. There will be 12 landings used for commercial thinning, and the average size of each landing will be about an acre.

Roads will also be constructed and maintained, and skid roads will be created and rehabilitated as needed for vegetation management and public access. See Table 2 for miles of road work.

Figure 3 - Commercial Thinning with Spruce Emphasis Unit. Hardwood overstory trees with flagging in the foreground will be left on site as they are open grown and are not competing with red spruce. Hardwood overstory trees that are next to young spruce in the background will be thinned out to release the spruce.

Noncommercial Spruce Release

Seedling, sapling, and pole-size red spruce trees will be released in existing hardwood stands by using herbicides, chain saws, and hand tools to thin out competing trees (Figure 4).

Figure 4. Noncommercial Spruce Release Unit. Beech brush (orange/yellow leaves) will be thinned out next to red spruce seedlings and saplings to release the spruce. Noncommercial small hardwoods will also be thinned out near spruce by treating individual trees with herbicide to prevent sprouting that would compete with the spruce. Areas without spruce will not be treated.

Some canopy trees will be girdled or treated with herbicide to release midstory and understory red spruce and to create snags. We will create snags on an estimated 800 acres within selected areas of noncommercial spruce restoration units. Scattered trees will be girdled, as well as groups of trees to create small (tenth of an acre) openings.

Herbicide will be applied to ferns, grasses, beech brush and other adjacent hardwood understory and midstory vegetation to prevent sprouting and reduce the competition the young spruce have for water, light, and soil nutrients. Herbicide treatments will be cut surface using glyphosate and basal spray using triclopyr. Broadcast herbicide treatment across entire units will not occur. Within each unit, vegetation treatments will be applied in scattered patches of understory spruce that cover about 30 percent of the area. For the Selected Alternative, an estimated 1,425 acres of trees will be treated, which is 30 percent of the 4,751 total unit acres. Thus, roughly 70 percent of the hardwood trees will not be treated and will remain on site to provide stand structure, site protection, and key wildlife habitat for species such as WVNFS.

Timber Stand Improvement (TSI) with Spruce Emphasis

Units that were previously harvested with a regeneration cut will be precommercially thinned to improve the health and vigor of the residual stands, with an emphasis on releasing red spruce. Regeneration units less than 15 years old will be mechanically thinned using chainsaws. These units total an estimated 48 acres. Regeneration units over 15 years old will be chemically thinned using cut surface herbicide application. These units total an estimated 585 acres. Herbicide will be used on the older trees to reduce the excessive sprouting that would occur if the trees were cut.

Herbicide Treatment for Nonnative Invasive Plant Species (NNIS)

We will control nonnative invasive plant species (NNIS) through spot herbicide treatments in areas where NNIS exist now or are likely to become established during project ground disturbance. Control activities for NNIS as described in Chapter 2 of the UGN corrected EA would occur at least once prior to the beginning of vegetation and ground-disturbing activities. Follow-up monitoring would occur annually during and after vegetation and ground-disturbing activities, with follow-up control implemented as needed. Control activities are expected to occur for at least five consecutive years, with the possibility of additional control if monitoring indicates that it is needed. Estimated treatment acres are in Table 1. Follow-up monitoring would occur until the treated sites have been free of the target species for three consecutive years, or until the Responsible Official determines that effective control cannot be achieved.

Table 1. Summary of Activities in the Selected Alternative

Activities	Estimated Amount
Acres of commercial thinning emphasizing spruce release	499
Acres of noncommercial spruce release units	4,751
Estimated acres of treatment within noncommercial spruce release units	1,425 (30% of 4,751)
Estimated acres with snags created in noncommercial spruce release units	800
Acres of TSI with spruce emphasis – mechanical in stands <15 years	48
Acres of TSI with spruce emphasis – chemical in stands >15 years	585

Activities	Estimated Amount
Acres of herbicide treatment to control NNIS, pre-harvest	7.9
Acres of herbicide treatment to control NNIS, post-harvest	31.2
Number of log landings used or constructed for commercial thinning	12
Miles of system road construction	0.66
Miles of system road maintenance*	60.1
Miles of skid road used or created and rehabilitated	23

*This road maintenance would occur in conjunction with road maintenance for hardwood timber harvesting that will be addressed in a subsequent decision. In other words, many of the same roads would be used to haul timber from both commercial spruce and hardwood harvest units, and those roads will need to be maintained to accommodate and mitigate impacts from log truck traffic.

Modifications to the Selected Alternative

The original proposed action (Alternative 2) for the Upper Greenbrier North project evolved into Alternative 5 over time, influenced by public input, consultation with the U.S. Fish and Wildlife Service, internal discussions, and analysis results. As noted above, I am only deciding to implement the spruce restoration activities of Alternative 5, the Selected Alternative, with this decision. I am also deciding to modify the Selected Alternative based on additional input and consultation. The activities and modifications are described below by activity.

Commercial Thinning Emphasizing Spruce Release

I am modifying the Selected Alternative by dropping 14 commercial thinning units and reducing the size of 17 units. The reductions in Units 257, 263, and 267 resulted in them being split into two units each (257a, 257b, 263a, 263b, 267a, 267b). All of these unit eliminations or reductions are being made to avoid disturbance in WVNFS suitable habitat, and they are shown by unit in the Appendix to this decision. Therefore I am approving 499 acres of the 1,171 acres of commercial thinning units that were analyzed under Alternative 5 in the UGN corrected EA. (Note: the corrected EA stated that 1,193 acres were analyzed for Alternative 5, but that was a typo. The actual number, as measured by GIS, is 1,171 acres).

Log Landing and Road Work Related to Timber Harvest

Due to the reduction in commercial thinning units and acres, we were able to reduce the amount of log landings needed from 30 to 12, and the miles of skid roads created from 31 to 23.

There are no modifications to the Noncommercial Spruce Release, TSI with Spruce Emphasis, or Snag Creation units or acres that were analyzed under Alternative 5 in the UGN corrected EA.

Reasons for My Decision

I have chosen to implement the Selected Alternative and modifications described above because, compared to the other alternatives I considered, they best address the following concerns:

- Ecological and social needs identified in the project Purpose and Need and objectives,
- Legal, Forest Plan, and technical requirements, and
- Internal and public issues and concerns, including those raised in the project appeal.

I elaborate on each of these areas of concern below. At the end of each area, I describe how the Selected Alternative with modifications compares with the other Alternatives that I considered in detail in the UGN corrected EA.

Project Purpose, Need, and Objectives

Restoration of Spruce Ecosystems and Connectivity. Increase the establishment, growth, and survival of red spruce in areas that formerly supported red spruce, but are now dominated by hardwoods, red pine, and Norway spruce.

The Selected Alternative is designed specifically to increase the establishment, growth, resiliency, and connectivity of red spruce and spruce-hardwood ecosystems in the project area. The Introduction and My Decision sections of this document describe how this objective would be accomplished. The restoration process will take a long time, but I believe that the activities I am authorizing with this decision will start thousands of acres of forest stands on the path to become fully functional spruce-hardwood ecoystems in the future (Figure 1) and increase the size and effectiveness of the spruce-hardwood corridor that connects Shavers Mountain with Spruce Mountain.

Comparison with Alternatives 1 and 2

Alternative 1, No Action, would not achieve any of the project objectives or meet the purpose and need because no activities would be implemented under this alternative.

Alternative 2, the Proposed Action, would achieve all of the project's objectives and purpose and need using the same activities as Alternative 5, the Selected Alternative. Indeed, Alternative 2 would have started even more acres of forest on the path to becoming fully functional spruce-hardwood ecosystems. However, after consultation with the U.S. Fish and Wildlife Service, I felt compelled to withdraw or reduce many harvest units that were in WVNFS suitable habitat in order to reduce the potential impacts on this habitat and any northern flying squirrels that might be present. These units were proposed after the WVNFS had been de-listed as an endangered species, but during project development the WVNFS was re-listed due to successful litigation against its de-listing. I therefore dropped or reduced many of the proposed commercial thinning units that were in WVNFS suitable habitat to meet our obligations under the Endangered Species Act and our Forest Plan. I do hope we can find a way to treat these units in the future, though, as they comprise some of the best potential and strategically located spruce-hardwood forest and WVNFS habitat within the project area.

Legal, Forest Plan, and Technical Requirements

The Selected Alternative is consistent with laws, regulations, and policies applied to Forest Service project planning and implementation. It will help achieve Forest Plan goals, objectives, and desired conditions, and it will comply with Forest-wide and MP standards and guidelines.

The Selected Alternative will be phased in over a period of 10 years. Some restorative actions must be finished prior to others starting due to the sequencing of the project. I feel that all potential impacts have been analyzed and the direct, indirect, and cumulative effects will not be significant. The selected actions have extensive design features and mitigation to reduce potential impacts as the project is implemented (UGN corrected EA, Chapter 3, Section 2.4.3).

My decision to implement the Selected Alternative, and the analyses it is based on, utilized the best scientific information available at this time. The need to employ the best science is not new,

as Agency decisions have always required a sound technical basis. What constitutes best available science can vary over time and across scientific disciplines. My conclusion is based on a review of the record that shows a thorough review of relevant scientific information, a consideration of responsible views, and the acknowledgement of incomplete or unavailable information, scientific uncertainty, and risk.

Comparison with Alternatives 1 and 2

Alternative 1, No Action, would not violate any laws, regulations, or policies because it is not implementing any activities that could result in a violation. Alternative 1 would be consistent with Forest Plan standards and guidelines for the same reason. However, the No Action Alternative would do nothing to help achieve Forest Plan goals, objectives, or desired conditions.

Alternative 2, the Proposed Action, is generally consistent with laws, regulations, and policies, but it would require a Forest Plan amendment due to potential impacts to WV northern flying squirrel (Plan Standard TE 64). Harvest units in WVNFS suitable habitat would also fail to meet the intent of the Endangered Species Act for protection of a federally listed species. Alternative 2 also had the best scientific information available at the time applied to its analysis of potential effects, but Alternative 2 does not incorporate changes due to the re-listing of the WVNFS.

Internal and Public Issues and Concerns, Including Those in the Project Appeal

As noted above, the Selected Alternative (Alternative 5 with modifications) evolved from the Proposed Action (Alternative 2), incorporating changes based on internal and public input during the analysis process. This evolution was intentional, as the responsible officials that preceded me on this project wanted to take an adaptive approach that addressed ID Team and public concerns in a single alternative as we went through scoping, analysis, and comment period. I agreed with this approach and carried it forward into my March 5, 2012 decision, where I modified Alternative 5 based on comments I received from the public and the U.S. Fish and Wildlife Service. I am following that adaptive approach in this decision as well.

Public Scoping Issues and Concerns

Through public scoping on the Proposed Action (Alternative 2), seven issues and concerns were identified to be substantive enough to warrant the development of a new alternative, or the modification of an alternative, or the development of design features or mitigation measures, or the analysis of potential effects. The three issues and concerns that are applicable to this decision are summarized below. Detailed information on all of the issues is described in Sections 2.2.1 through 2.2.7 in the UGN corrected EA.

Herbicide Use – Herbicide use in the area is needed to control ferns, grasses, striped maple, diseased beech, and nonnative invasive species to decrease competition in stands to be thinned, to help release red spruce without promoting hardwood sprouting, and to minimize the introduction or spread of nonnative invasive species from other ground-disturbing activities. However, herbicides used may affect non-targeted terrestrial and aquatic plants, animals, water quality, and human health and safety. This issue is addressed through Forest Plan standards and guidelines, design features and mitigation measures, and the development of Alternative 5, which has less herbicide use than the original proposed action. I heard from many people that would rather not have us use large amounts of herbicide in this project. I understand and share their concerns but I feel that our proposed herbicide use is acceptable for the following reasons:

- Herbicides are needed to reduce sprouting of undesirable striped maple and diseased beech trees that would out-compete desirable species like red spruce and black cherry.
- It is very likely that less herbicide use will occur than the amounts analyzed in the EA, which were maximum potential amounts. Actual amounts will depend on what problems we find in each area to be treated.
- These herbicides have short persistence, meaning that their toxic effects wear off within a couple of months to a year or so in the soil, and much less time when exposed to air/light.
- Potential impacts to non-target species have been carefully researched and disclosed in the EA; no impacts were found to be directly, indirectly, or cumulatively significant.
- All herbicides would be applied under the direction of a certified pesticide applicator, following label instructions, as well as design features and mitigation measures, thereby further reducing the potential for significant impacts.

Watershed, Riparian, and Aquatic Resource Health

Earth-disturbing and other activities have the potential to affect watershed, riparian, and aquatic resource health. Aquatic and riparian restoration actions can eliminate or reduce the amount, severity, and/or duration of existing degraded conditions, offset added effects of some new actions, and speed resource recovery. This issue was addressed through design features and mitigation measures, alternative modification, and effects analysis. It is also be addressed by applying appropriate Forest Plan standards and guidelines. The analysis indicated that project activities will not result in significant effects to watershed, riparian, and aquatic resources with the resource protection measures we have in place. This issue was also addressed in my 8/15/2012 decision for the UGN project, in which I approved a number of activities (road decommissioning, road maintenance, stream and riparian area restoration, aquatic passage improvements, and dispersed recreation site improvements) that will improve the overall health of watershed, riparian, and aquatic resources over the long term.

Soil Erosion and Stream Sedimentation - The effects of ground-disturbing activities could result in more soil erosion and delivery to stream channels, which could adversely affect in-stream habitat for trout and other aquatic biota. This issue was addressed through design features and mitigation measures, development of Alternative 5, and effects analysis. It is also addressed by applying appropriate Forest Plan standards and guidelines. The analysis indicated that project activities will not result in significant effects to soils and aquatic habitat or biota with the resource protection measures we have in place. I also made a number of modifications to the Selected Alternative to further reduce the risk of impacts from soil erosion and stream sedimentation, such as dropping many harvest units and their associated skid roads and landings.

Due to the measures that were taken to address these issues and concerns, I am confident that they were adequately considered and resolved in the Selected Alternative. Indeed, one of the main reasons I selected Alternative 5 is because I felt that it was developed specifically to better address both internal and public issues and concerns.

Comparison to Alternatives 1 and 2

Alternative 1, No Action, does not implement any activities but it did generate some public interest. We received some comments that were not in favor of us implementing certain activities, such as timber harvest or herbicide application. We received other comments that were very supportive of certain activities, such as spruce and watershed restoration. Chapter 3 of the final UGN EA analyzed the potential effects of not implementing any activities.

Alternative 2, the Proposed Action, generated issues and concerns through public and internal comments. In many cases these issues and concerns were addressed through the development of Alternative 5, which incorporated changes based on those comments. For example, compared to Alternative 2, Alternative 5 (the Selected Alternative) has less timber harvest and herbicide application. Alternative 5 also treats more overall acres for spruce restoration; however, some of these acres were reduced when I agreed during consultation to modify Alternative 5 and drop specific spruce restoration units that were in WVNFS suitable habitat. The changes made to Alternative 5 were generated by updated information from our cooperators and Forest specialists. I believe this information contributed to a better decision.

Project Appeal Issues

The appellant, Friends of Blackwater, emphasized repeatedly in their appeal that they thought the UGN project was so large and complex, and it would take so long to implement, that the Forest Service could not possibly analyze all of the potential unknown effects or changes that could occur over that period or guarantee that the project would receive the funding needed for full implementation. These concerns were addressed in my first (08/15/12) Decision Notice on the Upper Greenbrier North project and are incorporated here by reference.

Since that time, the Forest Supervisor, Forest Environmental Coordinator, and I have met with the Executive Director of Friends of Blackwater to discuss more specific concerns she has with our spruce restoration activities. One concern she has is that we may be harvesting or treating too many mature hardwood trees in the commercial thinning and noncommercial spruce release units. She noted that the hardwood trees are essential components of the spruce-hardwood ecosystem we are trying to restore, and they have many important values such as providing dens for WVNFS and shade needed to keep these high-elevation moist ecosystems from drying out. We agreed with this assessment and assured her that we would not be treating or removing all the mature hardwoods in these units. In fact, many of the thinning treatments will focus mainly on the fraction of trees that are directly suppressing adjacent spruce seedlings and saplings. These stands are overstocked now and treatments are designed to reduce stocking to levels where the spruce will have a better opportunity to mature faster and remain healthy and resilient trees into the future. In addition, noncommercial spruce release would create snags in areas that are currently deficient in these features that will increase denning and foraging habitat.

Another concern she expressed was over the amount of slash that would be created in treated units and how it might affect wildlife movement. We responded that there would be some slash but it would probably not be as much as she expected because we would not be cutting as many trees as she assumed we would. We showed her photos of an area we thinned to release spruce and black cherry a couple of years ago, in which there was some slash evident but it was mainly small and centered around trees that had been released, with little slash present in other areas.

She also expressed concern over the potential disturbance to WVNFS individuals created by harvest activities, new road construction, and helicopters flying to and from log landings. We informed her that the harvest units and constructed roads and landings are located outside of WVNFS suitable habitat. No helicopters would be used to harvest timber under this decision. Some noise from other activities—like road work or chainsaw operation—will likely be heard but direct or indirect disturbance to squirrels should be minimal. She requested a map of the spruce restoration activities, showing WVNFS suitable habitat and capture sites, which we provided to her both in hard copy and electronic formats.

Public Involvement Process

Public input on the UGN proposed activities was solicited from the general public, Forest Service employees, other public agencies, and organizations. Public involvement was sought through various means:

- On April 1, 2009, the UGN proposal was listed in the MNF's Schedule of Proposed Actions (SOPA), a publication that is mailed to over 140 individuals and organizations and is posted on the MNF's website. The project has been listed in each subsequent issue of the SOPA.
- The week of August 3, 2009, a scoping letter requesting input was sent to over 180 interested parties, permittees, and landowners. This scoping letter summarized the Proposed Action, and described various ways to get additional information and how to provide input.
- On August 6, 2009, a legal notice was published in *The Pocahontas Times,* the newspaper of record, requesting input. This legal notice gave a short summary of the purpose and need and Proposed Action, and described how to get additional information and how to provide input.
- On August 7, 2009, the proposal and request for input were posted for review on the MNF's website at www.fs.fed.us/r9/mnf/ under "Forest Planning".
- On August 20, 2009, an open house about the proposed UGN project was held at the National Radio and Astronomy Observatory in Greenbank, WV.
- On February 2, 2010, the scoping letter, appendices, and maps were attached in the SOPA/PALS database so that the public could access them from: http://www.fs.fed.us/nepa/project_content.php?project=28198.
- On February 24, 2011, the UGN draft EA was released for a 30-day notice and comment period. This release was accompanied by a legal notice published in *The Pocahontas Times.*

Over 150 individuals and organizations contacted us about the UGN project in the form of letters, e-mails, phone calls, or by attending the public meeting since the public input process began in April 2009 (project file). The Interdisciplinary Team and I reviewed information received from individuals, organizations, and other agencies. All public and internal comments were reviewed and considered prior to my decision. The disposition of the comments that were received is documented in the project file. Some of the comments received were either outside the scope of this analysis or not applicable to the decision being made, and were therefore not relevant to the EA. Comments relevant to the EA and the decision to be made were used to help define potential issues, develop and modify alternatives, develop design features or mitigation measures, identify environmental effects, and guide the analysis and decision process.

Project Appeal

A DN/FONSI for the UGN project was originally released to the public on March 5, 2012, and that decision was appealed by the Friends of Blackwater on April 23, 2012. The appeal was reviewed following standard agency procedures, and the appeal reviewing team found in favor of the Forest on many of the appeal points, including the Forest did not need to analyze the project under an Environmental Impact Statement due to:

- The size and timeframe of the project,
- The context or intensity of impacts,

- Significant effects of the proposal, either negative or positive,
- Highly uncertain effects on, or unknown risks to the human environment,
- Adverse effects to threatened, endangered, or sensitive species,
- The Finding of No Significant Impact was not supported.

However, the Appeal Reviewing Officer (ARO) recommended that the March 5, 2012 decision by reversed because he concluded that "...members of the public could reasonably question the accuracy of information presented in the analysis and decision" (ARO Letter, 6/4/2012, p. 20). This conclusion was based on some discrepancies in activity numbers that were found in the EA and DN, a missing map, and incomplete survey information for a newly designated Regional Forester's Sensitive Species, Shriver's frilly orchid.

On June 6, 2012 the Appeal Deciding Officer (MNF Supervisor, Clyde Thompson) concurred with the ARO's recommendations and reversed the March 5, 2012 DN/FONSI. The Forest has since worked to address the concerns of the appellant and the problems highlighted in the ARO letter, while moving forward with the UGN project in a modified format. Specifically, we have:

- Had in-person and phone conversations with the appellants to try and better understand and address their concerns,
- Cleaned up activity numbers and maps in the EA so that what we plan to implement is clearer to the public and Forest employees,
- Filled in data gaps for Shriver's frilly orchid with additional surveys and interpreted that data in the corrected version of the UGN EA. Analysis conclusions did not change based on the new data, and I considered that information as part of this decision,
- Sent the appellants additional information about the project, including clearer tables of activities, maps, and the responses to comments documentation from our project file,
- Decided to issue new decisions on the UGN EA, grouped by similar activities so that the information is easier for everyone involved to understand.

This decision is part of the updated public involvement and appeal resolution processes.

Alternatives Considered but Eliminated from Detailed Study

During initial planning and scoping, six alternatives to the Proposed Action were suggested and considered. Sections 2.3.1 through 2.3.6 in the final UGN EA describe the alternatives that contributed to the overall range of alternatives that were considered, but were eliminated from detailed study. These alternatives are listed below, and described in detail in Chapter 2 of the EA, along with the reasons they were eliminated from detailed study.

1. Do Not Include Any Conventional Logging; Only Log by Helicopter
2. Do Not Include Any Herbicide Use
3. Do Not Use Any Even-Aged Timber Management
4. Limit Proposed Project Activities to 5 Years Instead of 10 Years
5. Developed Recreation and Trails Proposals
6. Alternatives 3 and 4

Finding of No Significant Impact

After considering the potential effects described in the UGN corrected EA, I have determined that implementing spruce restoration activities in the Selected Alternative with modifications will not have a significant effect on the quality of the human environment (40 Code of Federal Regulations (CFR) 1508.27). Therefore, an Environmental Impact Statement is not needed.

To determine significance, I considered both the context and the intensity of these actions.

Significance of an action is to be considered in several contexts such as society as a whole, the affected region, affected interests, and the locality, depending on the setting of the proposed projects. This decision notice and finding of no significant impact is for a set of projects that are site-specific in nature, and their effects were analyzed as such. Significance in this case is heavily based on the effects in the local area rather than the larger regional, national, or global context where effects would be diluted to a relatively meaningless level.

Intensity refers to the severity of the impact. I based my determination of intensity of impacts on the following ten criteria (40 CFR 1508.27).

1. Impacts that may be both beneficial and adverse.

As described in Chapter 3 of the UGN corrected EA, both beneficial and adverse impacts to the human environment may result from implementation of the UGN project:

- Vegetation will be impacted as mostly overstocked hardwood trees are thinned by cutting or herbicide to release red spruce and other desired northern hardwoods. The long-term benefit should be restoration of the spruce-hardwood ecosystems that once dominated in this area, as well as expanded habitat for the rare and endemic species that depend on those ecosystems.
- Soil disturbance that will occur during implementation may result in sediment being released to nearby streams in the short term. Harvest units, roads, and skid roads have been located to minimize their impact to sensitive soils, such as steep slopes and wet soils. Existing skid trails from previous timber sales will be used to the extent possible. We will follow design features and mitigation measures (UGN corrected EA, Chapter 2), and Forest Plan direction to ensure that sediment delivery is minimized. Mulching and revegetation will help retain soil on-site. Contract provisions will include erosion control measures. Based on the EA analysis, the impacts to the soil resource would fully comply with Forest Plan direction.
- A short-term spike of sediment that may occur in stream channels as a result of conventional logging and road work may impact individual fish and other aquatic biota over the short term. In the long term, however, activities in the Selected Alternative are not expected to be detrimental to the viability of aquatic populations, including sensitive fish species and wild brook trout (see UGN corrected EA, Chapter 3, Section 3.3.6).
- Impacts to wildlife and botany vary depending upon the species. The Selected Alternative potential impacts are discussed in the UGN corrected EA (Chapter 3, Sections 3.3.7 through 3.3.10), Biological Assessment, Biological Opinion, and Specialist Resource Reports (in the project file). No effects for the Selected Alternative were determined to be significant.
- Monitoring will allow us to detect any potential problems over time and develop solutions (UGN corrected EA, Chapter 2, Table 2.4.4.A).
- Disturbance will be noticeable to the public for the next decade while projects are being implemented. All of the timber harvest units will meet Forest Plan requirements for spacing

between regeneration units (Forest Plan, p. II-40) and be consistent with scenic integrity direction (UGN corrected EA, Section 3.4.3).

- The Selected Alternative will provide job opportunities and timber products to local communities (UGN corrected EA, Chapter 3, Section 3.4.4).

2. The degree to which the proposed actions affect public health or safety.

- Public health and safety should not be significantly affected by implementing the UGN project. Standard provisions will be included in all timber sale contracts to protect the safety of others. Signs will be placed along roads to inform individuals of increased traffic resulting from timber sale operations and other treatments. Closure orders may be issued to prevent public access to units and areas being harvested or treated; roads being constructed, reconstructed, maintained, or decommissioned; and areas (e.g., dispersed camping and picnic sites) where the safety of individuals or property could be impacted by project activities if closure orders were not issued (UGN corrected EA, Chapter 2, Section 2.4.2.6).
- Some opposition and concern about herbicide use was voiced (see public comments in project file). Analysis of the herbicides to be used indicates very little risk to human or environmental health. Monitoring of water quality has been included as a part of the Selected Alternative. Water and drift card monitoring show little to no undesired effects for the Monongahela's Hogback Project and the Little Beech Mountain Project (same type projects in same forest types) for four of the same herbicides to be used in the UGN project. Safeguards include buffer strips between herbicide treatments and adjacent stream channels, target-specific application methods, and wet weather application restrictions. See analyses for aquatics and soils in Sections 3.2.2 and 3.2.1 in Chapter 3 of the UGN corrected EA.
- The Selected Alternative will be consistent with all applicable Federal and West Virginia air and water quality standards (Air Quality and Water/Hydrology and Aquatic Resource Reports in the project file, UGN corrected EA, Chapter 3, sections 3.2.1 and 3.2.2). Harvesting operations will emit pollutants, but the expected emissions from the Selected Alternative will not significantly impact air quality in the airshed in any way (UGN corrected EA, Chapter 3, section 3.2.3). The effects will be transient and the amount released each day is not expected to exceed National Ambient Air Quality Standards.

3. Unique characteristics of the geographic area.

There will be no significant impacts on unique characteristics of the geographic area. Historic and cultural resources are discussed in the UGN corrected EA (Section 3.4.1). Project activities will not occur within, nor will they significantly impact any congressionally designated areas (Wilderness, Wilderness Study Areas, National Parks or Monuments or Wildlife Refuges, National Recreation Areas, Wild and Scenic Rivers, etc.), or Research Natural Areas. Noncommercial spruce restoration and snag creation will occur within Inventoried Roadless Areas (IRAs) as allowed by the Forest Plan. Analysis of this activity determined that it would not have significant impacts on the IRAs nor detract substantively from the undeveloped character or wilderness potential of the IRAs (Special Area Report in project file).

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

Controversy in this context refers to cases where there is substantial dispute as to the size, nature, or effect of Federal action, rather than opposition to its adoption. None of the issues within the

scope of this analysis are believed to be highly controversial within the scientific community (UGN corrected EA, Chapter 3, and Resource Special Reports in the project file).

- The UGN is a large watershed and project activities will take place on less than 10 percent of the watershed. We have planned the UGN project to be phased in over an estimated 10 years. We do not plan on disturbing more than a fraction of those acres in any one year. These activities represent normal work that we accomplish on a routine basis. Activities included in this Decision will help move existing conditions toward desired conditions for the project area as described in the Forest Plan.
- The effects of the Selected Alternative on various resources is not considered to be highly controversial by professionals, specialists, and scientists from associated fields of forestry, wildlife biology, entomology, recreation, fuels, etc. I do not believe that there is significant controversy over the effects of this project in that context (UGN corrected EA, Chapter 3 Sections 3.2, 3.3, and 3.4).

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

We have considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risks. I have made this determination because:

- No highly uncertain, unique, or unknown risks have been identified. The technical analyses conducted for determinations of the impacts to the resources are supportable with the use of accepted techniques, reliable data, and professional judgment documented throughout the EA and the Specialist Reports in the project file. The best available and relevant scientific information was used to evaluate the site-specific effects of these projects (UGN corrected EA - Chapter 3 by resource, and resource specialist reports in the project file).
- Timber harvest, timber stand improvement, herbicide applications, and road work similar to these activities have been successfully conducted in these types of ecosystems in the past on this Forest and across the Region. Results have been similar to the effects described in Chapter 3 of the UGN corrected EA and the Specialist Reports in the project file. Forest Plan Monitoring Reports and inspection reports of timber sale projects across the Forest and within the project area support the fact that these activities do not involve unique or unknown risks. The Selected Alternative does not contain new types of activities for which the possible effects would be highly uncertain or involve unique or unknown risks (Chapter 3 UGN corrected EA and Specialist Reports in the project file).

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The Selected Alternative will not establish a precedent for future actions with significant effects. The activities are commonly implemented management activities and they do not compel additional actions by their completion (UGN corrected EA, throughout Chapter 3). These activities have been implemented on the same soil types and in the same watersheds types in the past across the Forest and Region. No other actions are expected in the project area that would cause selected projects to establish a precedent for future actions with significant effects (Cumulative Effects sections throughout Chapter 3 of the UGN corrected EA and Reasonably Foreseeable Future Activities, Section 3.1). All activities in the Selected Alternative are within

the scope of the Forest Plan EIS analyses and would comply with the Forest Plan (Forest Plan Consistency sections throughout Chapter 3 of the EA).

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

The cumulative impacts will not be significant. Table 3.1 at the beginning of Chapter 3 in the UGN corrected EA describes the past, present, and reasonably foreseeable future actions that may have a bearing on the cumulative effects of implementing the UGN project. The "Scope of Analysis" sections throughout Chapter 3 of the EA and in the Specialist Reports in the project file identify the areas and rationales used to assess the cumulative effects of various resources. The "Cumulative Effects" sections throughout Chapter 3 of the UGN corrected EA and in the Specialist Reports in the project file explain how the past, present, and reasonably foreseeable future actions are considered and why the impacts of the UGN project will not be cumulatively significant. The Selected Alternative would have fewer impacts than Alternative 5 as analyzed, and the analysis determined there would be no significant cumulative impacts with Alternative 5 (see project file for more information). In addition, this project is not connected to a larger project that could result in significant cumulative effects.

8. The degree to which action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.

The Selected Alternative will not adversely affect infrastructure, scientific, cultural, or historic resources. I have made this determination because:

- The area has been surveyed for heritage resources. Survey information is contained in the MNF heritage files. Heritage resources have been located, mapped, and marked so that the Selected Alternative can be implemented on the ground in a manner that avoids impacts to them (UGN corrected EA, Section 3.4.1, Heritage Specialist Report in project file).
- Known heritage sites will be avoided as described in design features and mitigation measures attached to this document and Chapter 2 of the UGN corrected EA. Should additional or potential prehistoric or historic sites be identified during the course of project implementation, the Forest Archeologist will be notified and activity in that area will cease immediately until protection measures can be applied, as specified in the standard timber sale contract. Thus, the analysis shows that there would be no significant effects to heritage resources (UGN corrected EA, Chapter 3, Heritage Specialist Report in project file).
- The West Virginia State Historic Preservation Office has been consulted regarding this project, and concurs with these findings (UGN corrected EA, Section 3.4.1, Heritage Specialist Report in project file).
- There are no Native American concerns that will be adversely affected by the proposed activities (UGN corrected EA, Section 3.4.1, Heritage Specialist Report in project file).

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973, as amended.

Potential impacts to species listed as threatened or endangered (T&E) under the Endangered Species Act were evaluated in the Biological Assessment (BA) for the UGN EA (March 2011) and the Addendum to Biological Assessment for the UGN EA (May 2011). The addendum was

due to the relisting of the WV northern flying squirrel. All actions are consistent with the Forest Plan for T&E species. As supported in the UGN BA and Addendum, the project activities are not likely to result in significant direct, indirect, or cumulative effects to any T&E species or their critical habitats, and they are not anticipated to cause any loss of viability of populations of sensitive species or create a trend toward federal listing (UGN corrected EA, Sections 3.3.3, 3.3.6, 3.3.7, and 3.3.8).

Implementing the selected activities resulted in the following determinations for species listed as threatened or endangered under the Endangered Species Act:

- May affect, and is "likely to adversely affect": Indiana bat (No effects beyond those previously disclosed and addressed in the Biological Assessment (USDA 2006) and Biological Opinion (USFWS 2006) for the Forest Plan EIS. Because the entire Monongahela National Forest is potential Indiana bat foraging and roosting habitat, prescribed fire and large scale tree removal that occur outside the hibernation period have the potential to adversely affect the Indiana bat. The Forest consulted with the USFWS on a programmatic BA written for T&E species management direction for the Forest Plan (2006). Through this process, an incidental take statement was issued to the Forest for the Indiana bat.
- May affect, but is "not likely to adversely affect": Virginia big-eared bat; running buffalo clover; small-whorled pogonia; WV northern flying squirrel; and Virginia spirea.
- Will have "no effect" on: Cheat Mountain salamander; and shale barren rock cress.
- Gray wolf, eastern cougar, and the gray bat are not believed to exist in the area, and therefore there will be no effect on them (UGN BA March 2011).

The U.S. Department of Interior Fish and Wildlife Service (USFWS) has been consulted regarding this project and concurs with the findings in the UGN BA (USFWS correspondence, March 2, 2012, in project file). Mitigation measures and design features attached to this decision will be followed to help reduce the potential for adverse effects to threatened, endangered, and sensitive species. If any federally-listed endangered or threatened species are found during project design or implementation, and they are not already protected by Forest Plan standards and guidelines, or the design of these projects, including design features and mitigation measures, all activities that could impact the listed species within that area will cease until coordination with USFWS has been concluded.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The Selected Alternative will not violate Federal, State, and local laws or requirements for the protection of the environment (UGN corrected EA, Chapter 3 analyses, and project file).

Based upon the review of the test for significance and the environmental analyses conducted, I have determined that the UGN project is not a major federal action and that its implementation will not significantly affect the quality of the human environment. Therefore, this EA is a sufficient and appropriate level of NEPA-related analysis, and an EIS is not needed.

Findings Required by Other Laws and Regulations

Multiple Use Sustained Yield Act

The UGN proposal and subsequent analysis was completed in an integrated fashion using an interdisciplinary team of resource professionals (UGN corrected EA, Chapter 4, and project file)

and with extensive public involvement (UGN corrected EA, Chapter 2, project file). Vegetation manipulation and ecosystem restoration is being used to meet goals and specific needs identified in the Forest Plan and in the UGN corrected EA. The effects of these actions are described in Chapter 3 of the EA and in the Specialist Reports in the project file.

National Forest Management Act (NFMA)

The activities approved under this decision meet the requirements of the NFMA and its implementing regulations for the following criteria:

Forest Plan Consistency (16 USC 1604(i)). All actions implemented as part of the Selected Alternative are consistent with management direction identified in the Forest Plan (UGN corrected EA, Chapter 3). Approved activities will comply with Forest-wide standards and guidelines and direction for Management Prescriptions 3.0, 4.1, 6.1, 6.2, and 8.0.

Suitability for Timber Production (16 USC 1604(e)(2)). Proposed timber harvest activities will occur on lands suitable for timber production [16 U.S.C. 1604(k)]. Lands within the area are productive forest sites (UGN corrected EA, CDS Land Suitability Classification information, and Vegetation Specialist Report in the project file). No harvesting will occur on unsuitable land.

Vegetation Manipulation. NFMA and its implementing regulations require that manipulation of tree cover for any purpose must comply with the following seven requirements found at 36 CFR 219.27(b).

- *Be best suited to the goals in the Forest Plan.* The applicable Forest Plan goals and objectives are given beginning in Chapter 1 of the UGN corrected EA. This decision is responsive to those goals and is best suited to meet those goals.
- *Assure that technology and knowledge exists to adequately restock lands within five years after final harvest.* Commonly used stocking surveys can be used to check stocking adequacy in harvest units. Stocking can be supplemented by common reforestation practices if surveys show a deficiency, which would be highly unusual on this Forest.
- *Not to be chosen primarily because they give the greatest dollar return or the greatest output of timber (although these factors shall be considered).* While economics were considered in my decision, other factors also played a part in my decision, such as ecosystem restoration and various environmental constraints.
- *Be chosen after considering potential effects on residual trees and adjacent stands.* Potential effects on residual trees and adjacent stands have been considered in the EA analysis.
- *Be selected to avoid permanent impairment of soil productivity and to ensure conservation of soil and water resources.* Potential effects to soil productivity are within the Soil Management direction in FSH 2509.18 and Forest Plan direction. Mitigation measures and design features are included in my decision to further protect the soil and water resources.
- *Be selected to provide the desired effects on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation users, aesthetic values and other resource yields.* This decision is consistent with the Forest Plan and I believe it would provide the desired effects on the above resources.

- *Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging, and administration.* The activities in this decision have been designed to be practical and to accomplish project objectives.

Environmental Justice

I do not believe any groups will be disproportionately affected by this decision because of the implementation of the Selected Alternative. Environmental Justice is discussed in detail in the UGN corrected EA, Chapter 3.

Other Legal Requirements

I have reviewed the UGN corrected EA and the project file and have determined that my decision does not threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment (EA - Chapter 3 by resource, resource specialist reports in project and Forest files). As documented in the UGN corrected EA, and in reports in the project and Forest files, my decision is consistent with applicable laws and executive orders.

Administrative Review and Appeal Opportunity

This decision is subject to appeal pursuant to regulations at 36 CFR 215. An appeal may be filed by those who provided comment or otherwise expressed interest in the proposed action during the 30-day notice and comment period. To appeal this decision, a written Notice of Appeal must be postmarked or received within 45 calendar days of when the Legal Notice is published in *The Pocahontas Times*, the newspaper of record for this decision, published in Marlinton, West Virginia. However, when the 45-day filing period would end on a Saturday, Sunday, or Federal holiday, then the filing time is extended to the end of the next Federal working day. The date of the publication of the Legal Notice is the exclusive means for calculating the time to file an appeal. Those wishing to file an appeal should not rely upon dates provided by any other source.

The Notice of Appeal must be sent to: Appeal Deciding Officer, Attn: Appeals & Litigation, USDA - Forest Service, Eastern Region, 626 East Wisconsin Avenue, Milwaukee, WI 53202. The Notice of Appeal may alternatively be: faxed to (414) 944-3963, Attn: Appeals Deciding Officer; mailed electronically (in a format such as pdf, txt, rtf, or other format compatible with Microsoft Office applications) to appeals-eastern-regional-office@fs.fed.us; or hand delivered to the Eastern Region office between the hours of 7:30 am and 4:00 pm., Monday through Friday. Contents of the Notice of Appeal must meet the requirements of 36 CFR 215.14.

Implementation Date

The appeal period for this decision begins the day after notice of this decision is published in *The Pocahontas Times.* If an appeal is not filed, implementation may begin on, but not before the fifth business day from the close of the appeal-filing period (36 CFR 215.9(a)). If an appeal is received, implementation may occur on but not before the fifteenth business day following the date of appeal disposition. In the event of multiple appeals, the date of the disposition of the last appeal controls the implementation date (36 CFR 215.9(b)).

Projects could begin in the next few months and be completed in approximately ten years.

Contact Person and Responsible Official

Further information about this decision may be obtained from David Ede at

Address: Monongahela National Forest, 200 Sycamore Street, Elkins WV 26241.
Phone: (304) 636-1800, extension 233
E-mail: dede@fs.fed.us

The Greenbrier District Ranger of the Monongahela National Forest is the Responsible Official for the Upper Greenbrier North decision. He may also be contacted about this decision at:

Address: Greenbrier Ranger District, Box 67, Bartow WV 24920
Phone: (304) 456-3335, extension 116
E-mail: jtribble@fs.fed.us

JACK TRIBBLE
Greenbrier District Ranger

11/28/12
Date

USDA Nondiscrimination Statement

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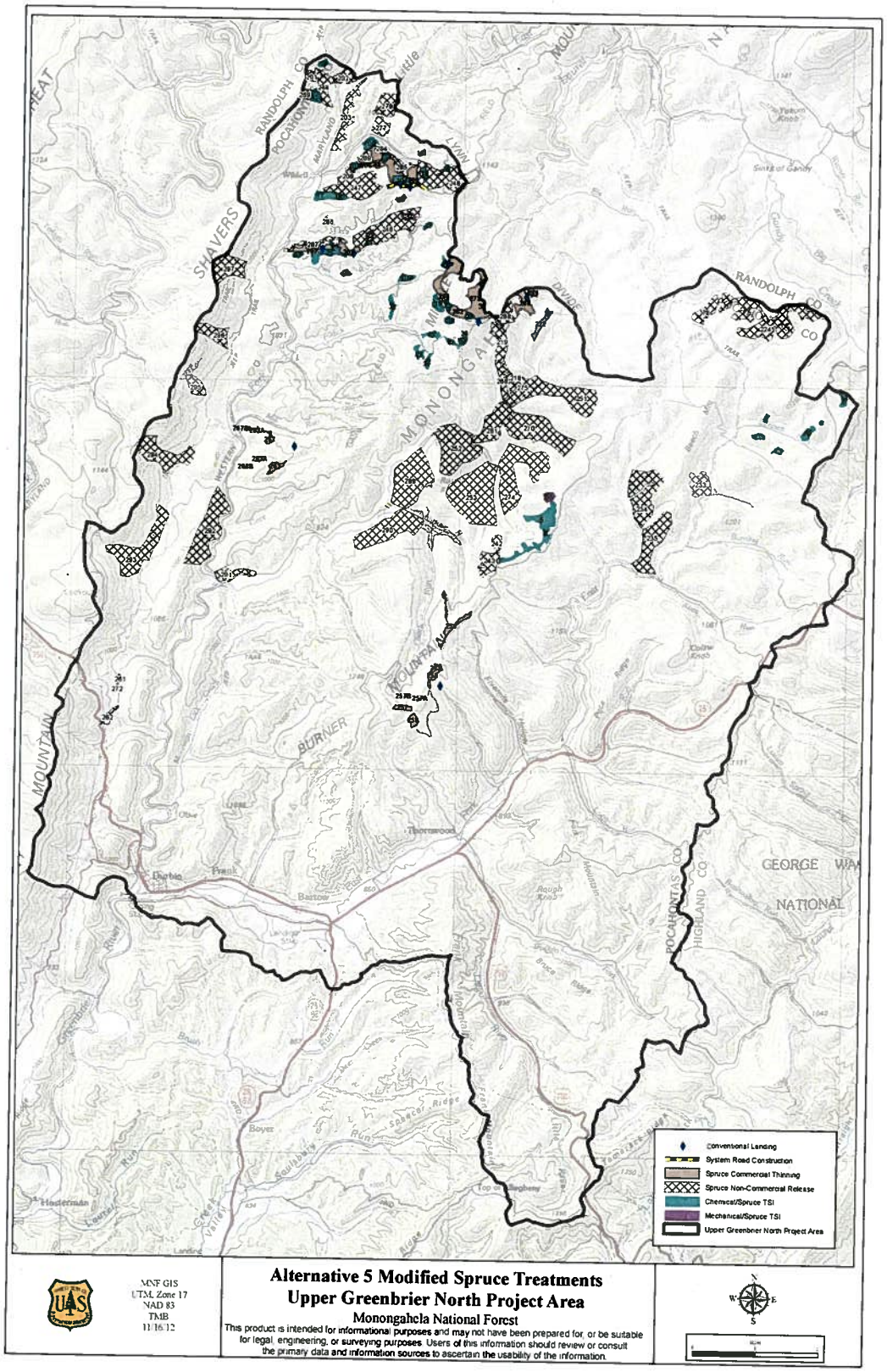
Appendix A – Selected Alternative Treatment Map



Appendix B – Modifications to Selected Alternative for Commercial Thinning Harvest Units

The following table compares the units in the Selected Alternative (Alternative 5) and the Selected Alternative with modifications made in the UGN Decision Notice #2 for Spruce Restoration Activities. Modifications consisted of either dropping or reducing the acres in selected units in order to avoid WVNFS suitable habitat. No modifications were made to Non-commercial spruce release or Timber Stand Improvement units.

Unit No.	Treatment Method	M.P.*	Alt. 5 Acres	Alt. 5 with Modifications Acres
89	Commercial thinning with spruce emphasis	4.1	14	0
204	Commercial thinning with spruce emphasis	4.1	67	65
206	Commercial thinning with spruce emphasis	4.1	71	0
207	Commercial thinning with spruce emphasis	4.1	41	28
222	Commercial thinning with spruce emphasis	4.1	28	22
225	Commercial thinning with spruce emphasis	4.1	30	0
226	Commercial thinning with spruce emphasis	4.1	8	0
227	Commercial thinning with spruce emphasis	4.1	15	0
228	Commercial thinning with spruce emphasis	4.1	18	0
229	Commercial thinning with spruce emphasis	4.1	28	0
231	Commercial thinning with spruce emphasis	4.1	63	0
232	Commercial thinning with spruce emphasis	4.1	36	0
238	Commercial thinning with spruce emphasis	4.1	5	0
240	Commercial thinning with spruce emphasis	4.1	7	0
245	Commercial thinning with spruce emphasis	4.1	13	0
254	Commercial thinning with spruce emphasis	3.0	71	30
255	Commercial thinning with spruce emphasis	3.0	26	16
257	Commercial thinning with spruce emphasis	3.0	59	12
257a	Commercial thinning with spruce emphasis	3.0	0	2
257b	Commercial thinning with spruce emphasis	3.0	0	1
258	Commercial thinning with spruce emphasis	3.0	17	15
263	Commercial thinning with spruce emphasis	3.0	88	17
263a	Commercial thinning with spruce emphasis	3.0	0	4
263b	Commercial thinning with spruce emphasis	3.0	0	1
264	Commercial thinning with spruce emphasis	4.1	83	63
265	Commercial thinning with spruce emphasis	8.0	16	7
266	Commercial thinning with spruce emphasis	8.0	54	41
267	Commercial thinning with spruce emphasis	4.1	40	10
267a	Commercial thinning with spruce emphasis	4.1	0	2
267b	Commercial thinning with spruce emphasis	4.1	0	1
273	Commercial thinning with spruce emphasis	4.1	123	82
282	Commercial thinning with spruce emphasis	3.0	13	0
283	Commercial thinning with spruce emphasis	4.1	19	8
300	Commercial thinning with spruce emphasis	4.1	27	25
301	Commercial thinning with spruce emphasis	4.1	35	25
302	Commercial thinning with spruce emphasis	4.1	23	22
303	Commercial thinning with spruce emphasis	3.0	33	0
		Total Acres	**1,171**	**499**

*M.P. stands for Management Prescription