United States Department of Agriculture

Forest Service

Greenbrier Southeast Project

Decision Notice and Finding of No Significant Impact

Monongahela National Forest – Region 9
Greenbrier Ranger District
Pocahontas County, West Virginia

March 2022

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Cover Image: Smoke Camp Knob. Photo Credit: Kelly Bridges

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1. DECISION NOTICE

1.1 INTRODUCTION

This Decision Notice and Finding of No Significant Impact (FONSI) describes my decision and the rationale for choosing the selected activities proposed for the Greenbrier Southeast project. The project area is located on the Monongahela National Forest, Greenbrier Ranger District, to the east of Bartow, WV. It is comprised of 16,888 acres in Pocahontas County, with 2,600 acres (15 percent) in private or non-Forest Service ownership.

This document is based on the *Greenbrier Southeast Project Environmental Assessment* (EA) dated March 2022 documenting the analysis of the proposed action. The EA analyzed one alternative, the Selected Alternative, which was consistently revisited and revised throughout the pre-planning and scoping process by an interdisciplinary team of Forest Service specialists to ensure the project was consistent with direction in the 2006 Monongahela National Forest Land and Resource Management Plan (Forest Plan). The March 2022 EA was amended from the November 2021 EA based on instructions provided by the Objection Reviewing Officer that resulted from the administrative review process, triggered by the receipt of one objection during the 45-day objection period.

This environmental analysis was conducted according to the Council on the Environmental Quality (CEQ) 1978 regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR §§1500-1508, as amended). The CEQ issued revised regulations for implementing the procedural provisions of NEPA, effective September 14, 2020. The revised regulations provide the responsible official the option of conducting an environmental analysis under the 1978 regulations if the process was initiated prior to September 14, 2020 (40 CFR §1506.13, 85 FR 137, p. 43373, July 16, 2020). The Greenbrier Southeast Project EA was initiated by a July 2019 scoping and thus was conducted under the 1978 regulations. The EA was used to determine whether implementation of proposed activities may significantly affect the quality of the human environment and thereby require the preparation of an environmental impact statement (EIS).

1.2 PUBLIC INVOLVEMENT

Since 2011, the Monongahela National Forest has been working collaboratively with a variety of partners, including Trout Unlimited, The Nature Conservancy, Ruffed Grouse Society, and the West Virginia Division of Natural Resources to increase the pace and scale of restoration on the Forest. This collaboration has led to the identification of the Greenbrier Southeast project area as a key location to support resilient lands in the face of a changing environment, encourage landscape habitat connectivity, restore spruce, provide a migratory corridor of connected landscapes, and create young forest habitat to support early successional forests. To help us achieve our desired conditions, the project incorporated two specific initiatives into the planning process: Central Appalachian Spruce Restoration Initiative (CASRI) and the Early Successional Habitat Partnership. In addition, this project was developed in collaboration with the Forest Service's Northern Research Station and the West Virginia Division of Forestry to assess the effects of prescribed fire on timber value. Results of these collaborations helped drive the development of the proposed actions. All public suggestions, input, and feedback provided at all stages of project development were considered when making my decision.

The project was first listed on the Schedule of Proposed Actions (SOPA) in April 2019 and was updated quarterly with project status updates in every subsequent SOPA, though much of the collaborative work discussed above predated its SOPA appearance. Formal public involvement for the project was triggered by the publication of a legal notice in the newspaper of record, *The Pocahontas Times*, on July 17, 2019, initiating a 30-day scoping period. A notice for scoping was sent to 151 parties (individuals, groups,

organizations, agencies, adjacent landowners) providing project information and instructions on how to submit comments. Scoping information was made available on the Monongahela National Forest website. Seven parties submitted input on the scoping proposal. Responses were shared with and reviewed by the interdisciplinary team and considered when finalizing the proposed action to meet project objectives.

The draft EA became available for a 30-day public comment period, triggered by the publication of a legal notice in *The Pocahontas Times* on April 20, 2020. A notice for comment was sent to 187 parties. The EA and accompanying legal notice were posted on the Forest website. The Forest received fourteen comment letters. Responses to the comments are included in Appendix D of the final EA. Delays in the Endangered Species Act Section 7 consultation process led to subsequent conversations with parties in October 2021, following receipt of the biological opinion from the US Fish and Wildlife Service (USFWS).

The final EA and draft Decision Notice and Finding of No Significant Impact (FONSI) became available to the public for a 45-day objection period in accordance with 36 CFR Part 218, triggered by the publication of a legal notice in *The Pocahontas Times* on November 18, 2021. The documents were provided to all parties who had previously commented during the scoping and comment periods. One objection letter (objection #22-09-21-0001 A218) was received.

1.3 DECISION AND RATIONALE FOR THE DECISION

1.3.1 Decision

After careful review of the final EA and the project record, discussion with the interdisciplinary team, partners, and USFWS, and consideration of all public comments, I have decided to implement the Proposed Action Alternative, as described in the Final EA. Henceforth in this decision, this is referred to as the “Selected Alternative”. Selected Alternative maps are displayed in Figures 1 through Figures 4 and harvest unit details are included in Table 1.

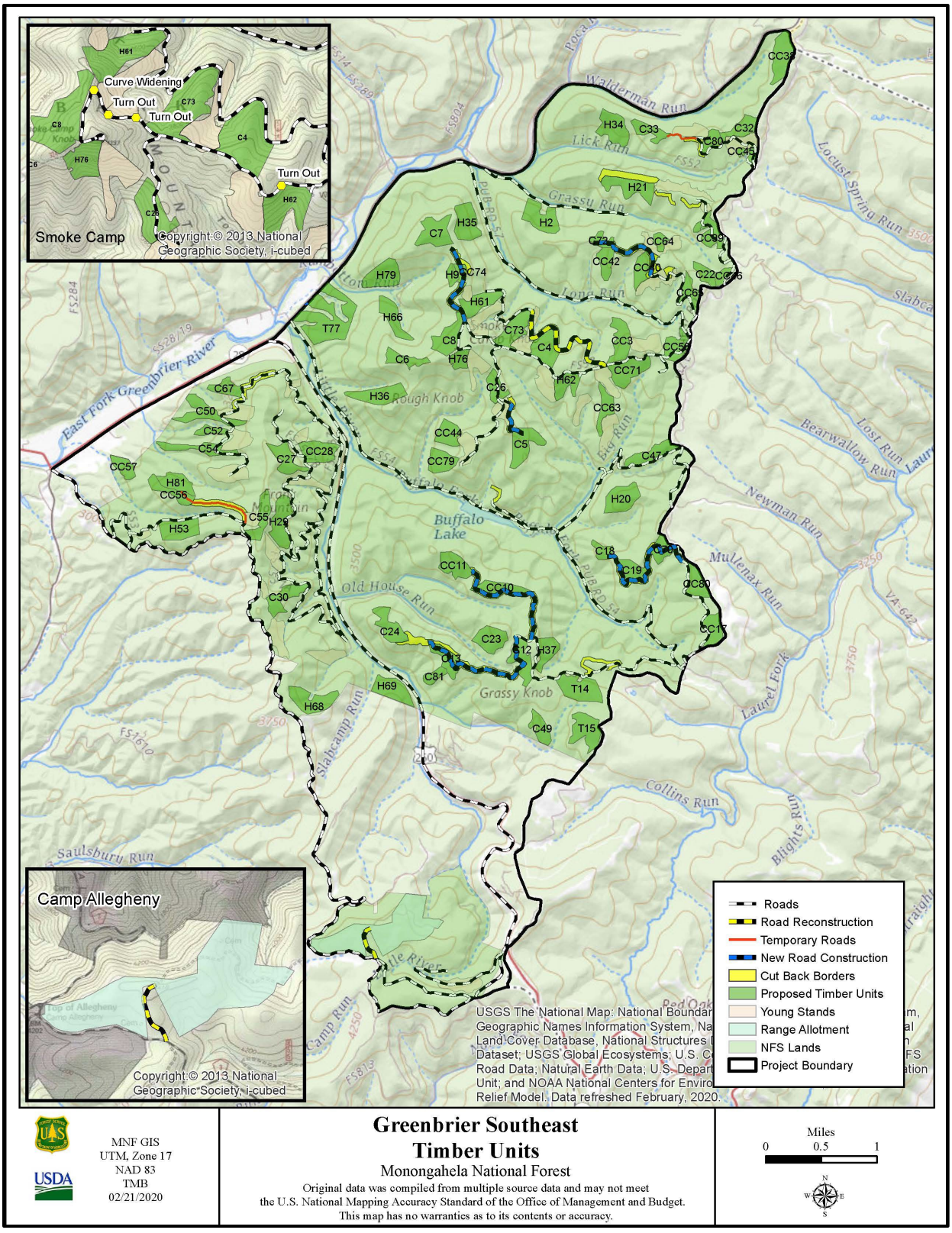

FIGURE 1. SELECTED ALTERNATIVE TIMBER UNITS MAP

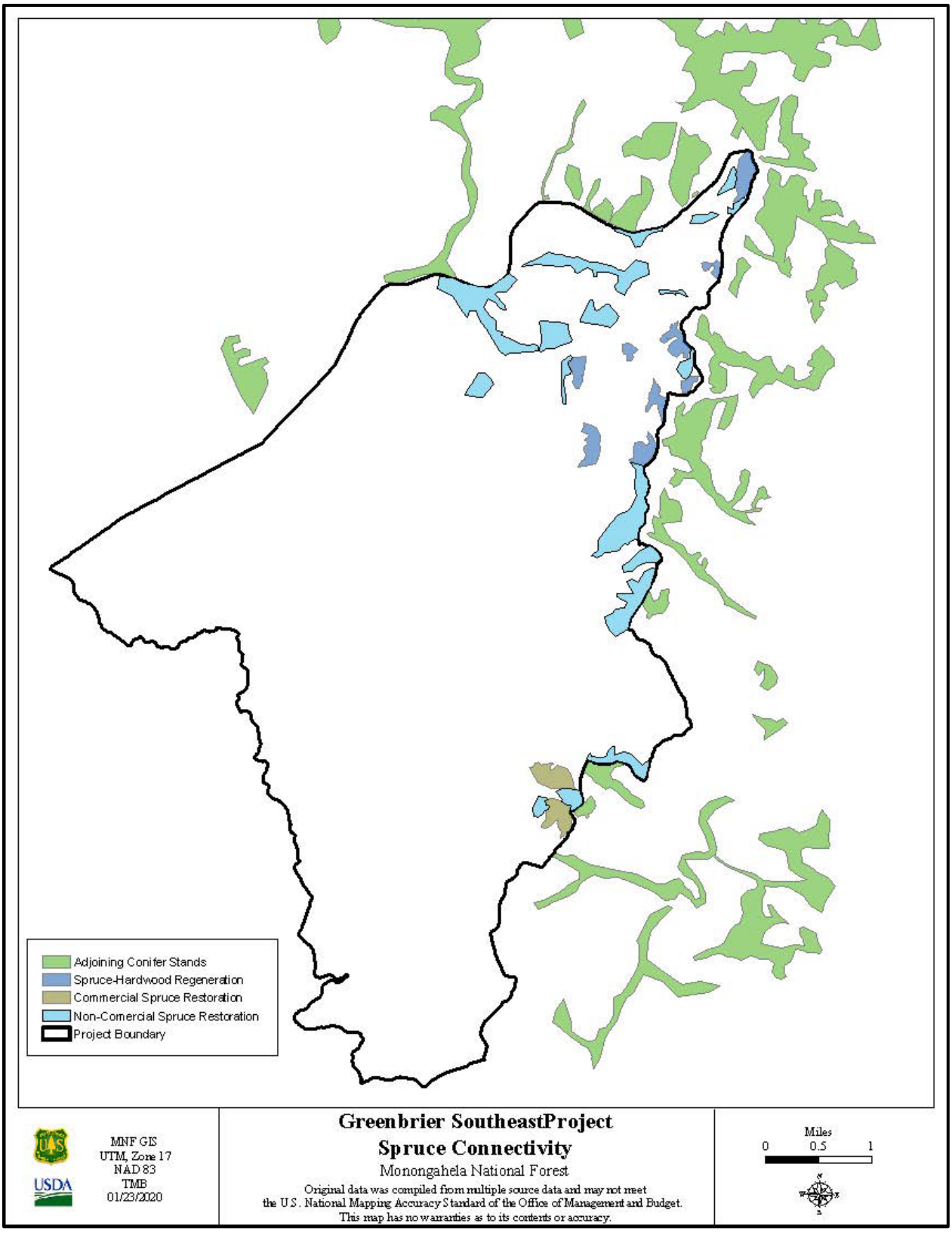

FIGURE 2. SELECTED ALTERNATIVE SPRUCE CONNECTIVITY MAP

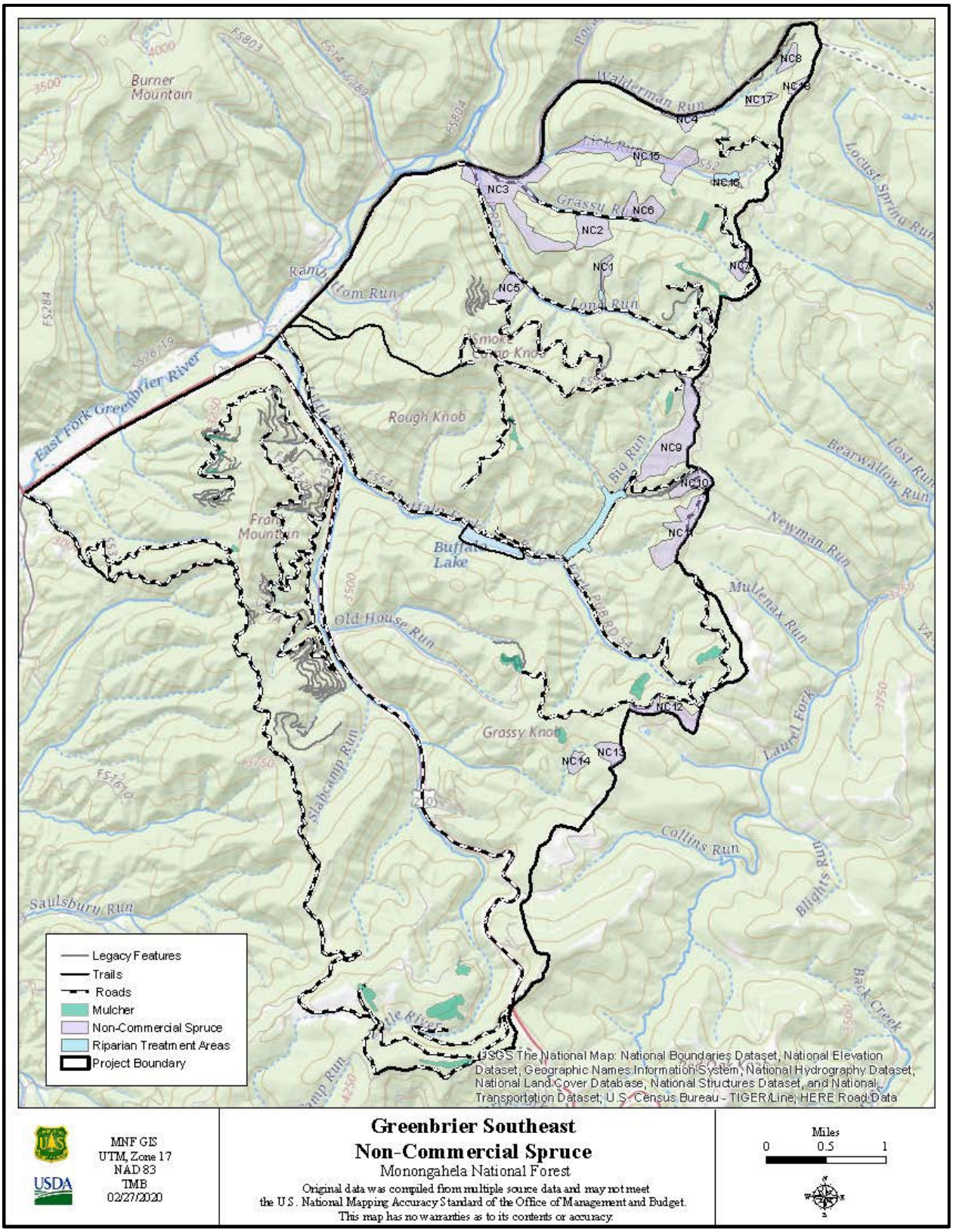

FIGURE 3. SELECTED ALTERNATIVE NON-COMMERCIAL SPRUCE MAP

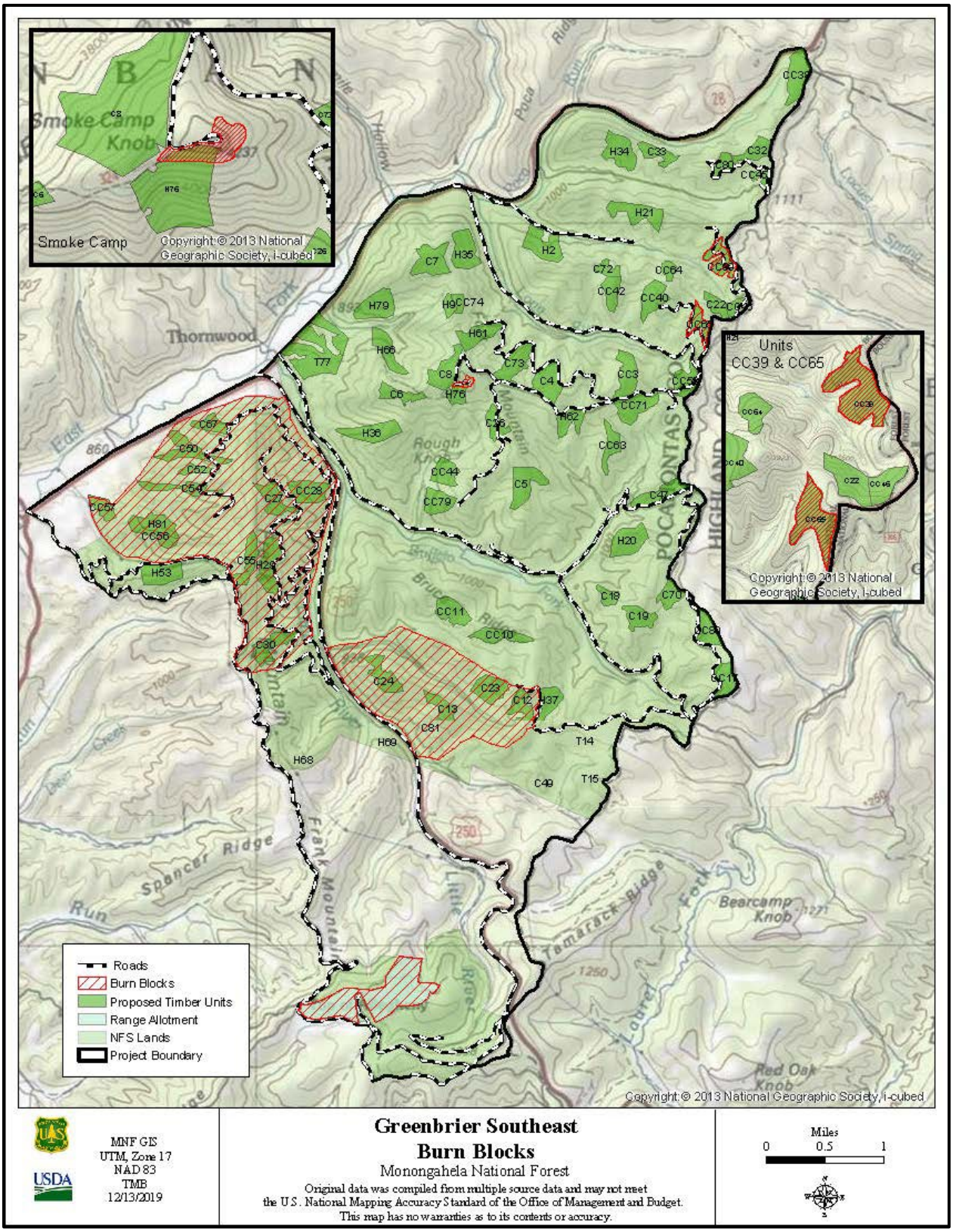

FIGURE 4. SELECTED ALTERNATIVE BURN BLOCKS MAP

TABLE 1. SELECTED ALTERNATIVE HARVEST UNIT DETAILS

Unit	Silvicultural Prescription	Harvest Method	Acres
C6	Clear-cut with Reserves (Hardwood Objective)	Conventional	19
CC10	Clear-cut with Reserves (Hardwood Objective)	Conventional	27
CC11	Clear-cut with Reserves (Hardwood Objective)	Conventional	31
CC17	Clear-cut with Reserves (Hardwood Objective)	Conventional	25
CC28	Clear-cut with Reserves (Hardwood Objective)	Conventional	35
CC40	Clear-cut with Reserves (Hardwood Objective)	Conventional	31
CC44	Clear-cut with Reserves (Hardwood Objective)	Conventional	25
CC56	Clear-cut with Reserves (Hardwood Objective)	Conventional	23
CC57	Clear-cut with Reserves (Hardwood Objective)	Conventional	18
CC63	Clear-cut with Reserves (Hardwood Objective)	Conventional	22
CC71	Clear-cut with Reserves (Hardwood Objective)	Conventional	39
CC74	Clear-cut with Reserves (Hardwood Objective)	Conventional	8
CC79	Clear-cut with Reserves (Hardwood Objective)	Conventional	27
CC80	Clear-cut with Reserves (Hardwood Objective)	Conventional	25
H2	Clear-cut with Reserves (Hardwood Objective)	Helicopter	40
H20	Clear-cut with Reserves (Hardwood Objective)	Helicopter	39
H21	Clear-cut with Reserves (Hardwood Objective)	Helicopter	38
H29	Clear-cut with Reserves (Hardwood Objective)	Helicopter	40
H34	Clear-cut with Reserves (Hardwood Objective)	Helicopter	39
H35	Clear-cut with Reserves (Hardwood Objective)	Helicopter	38
H36	Clear-cut with Reserves (Hardwood Objective)	Helicopter	39
H37	Clear-cut with Reserves (Hardwood Objective)	Helicopter	25
H53	Clear-cut with Reserves (Hardwood Objective)	Helicopter	38
H61	Clear-cut with Reserves (Hardwood Objective)	Helicopter	30
H62	Clear-cut with Reserves (Hardwood Objective)	Helicopter	24

H66	Clear-cut with Reserves (Hardwood Objective)	Helicopter	29
H68	Clear-cut with Reserves (Hardwood Objective)	Helicopter	40
H69	Clear-cut with Reserves (Hardwood Objective)	Helicopter	36
H76	Clear-cut with Reserves (Hardwood Objective)	Helicopter	15
H79	Clear-cut with Reserves (Hardwood Objective)	Helicopter	40
H81	Clear-cut with Reserves (Hardwood Objective)	Helicopter	25
H9	Clear-cut with Reserves (Hardwood Objective)	Helicopter	9
C12	Shelterwood (Hardwood Objective)	Conventional	33
C13	Shelterwood (Hardwood Objective)	Conventional	25
C18	Shelterwood (Hardwood Objective)	Conventional	13
C19	Shelterwood (Hardwood Objective)	Conventional	25
C22	Shelterwood (Hardwood Objective)	Conventional	15
C23	Shelterwood (Hardwood Objective)	Conventional	33
C24	Shelterwood (Hardwood Objective)	Conventional	31
C26	Shelterwood (Hardwood Objective)	Conventional	21
C27	Shelterwood (Hardwood Objective)	Conventional	28
C30	Shelterwood (Hardwood Objective)	Conventional	30
C32	Shelterwood (Hardwood Objective)	Conventional	23
C33	Shelterwood (Hardwood Objective)	Conventional	20
C4	Shelterwood (Hardwood Objective)	Conventional	40
C47	Shelterwood (Hardwood Objective)	Conventional	31
C49	Shelterwood (Hardwood Objective)	Conventional	21
C5	Shelterwood (Hardwood Objective)	Conventional	40
C50	Shelterwood (Hardwood Objective)	Conventional	38
C54	Shelterwood (Hardwood Objective)	Conventional	28
C55	Shelterwood (Hardwood Objective)	Conventional	27
C67	Shelterwood (Hardwood Objective)	Conventional	20

C7	Shelterwood (Hardwood Objective)	Conventional	40
C70	Shelterwood (Hardwood Objective)	Conventional	21
C72	Shelterwood (Hardwood Objective)	Conventional	12
C73	Shelterwood (Hardwood Objective)	Conventional	38
C8	Shelterwood (Hardwood Objective)	Conventional	35
C80	Shelterwood (Hardwood Objective)	Conventional	17
T14	Variable Density Thinning Harvest (Spruce Objective)	Conventional	46
T15	Variable Density Thinning Harvest (Spruce Objective)	Conventional	40
CC3	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	33
CC38	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	39
CC39	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	29
CC42	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	20
CC45	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	10
CC46	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	10
CC58	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	28
CC64	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	10
CC65	Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional	20
C52	Savannah	Conventional	11
C81	Savannah	Conventional	12
T177	Thinning/Group Selection at the Rothkugel Plantation	Conventional	96

1.3.2 Rationale

The Selected Alternative meets the purpose and need of the project and moves the existing resource conditions within the project area toward the desired future conditions as described in the Forest Plan (EA, "Need for Proposal" section, pp. 3 to 5). Specifically, the Selected Alternative will do the following:

- Take management action in Management Prescription (MP) 3.0 to improve forest stand age class diversity, provide for current and future sustainable timber production, and improve habitat for wildlife species tolerant of disturbances, such as deer, grouse, and squirrel.
- Ecologically move forest stands toward desired conditions favorable for oak, black cherry, spruce or other high value timber or wildlife tree species into the future. Beech bark disease and over browsing by deer have resulted in an abundance of diseased beech, birch and striped maple seedlings and saplings in the understory throughout the project area.
- Create young forest habitat to move the current forest stand age class distribution toward alignment with MP 3.0 and 6.1 direction in the Forest Plan. Age class distribution throughout the project area currently lacks young forest habitat (0 to19 years old).
- Improve access for future sustainable timber management in MP 3.0 through the construction of new system roads in environmentally sustainable locations that would be maintained into the future.
- Manage the Max Rothkugel plantation (MP 8.4) to encourage the establishment of Norway spruce and European larch. Hardwood species have encroached, and the site no longer reflects the intentions of the plantation, which was established in 1907 to demonstrate the application of modern forestry principles to West Virginia's cutover forests.
- Implement red spruce restoration actions in key locations where evidence (current vegetation or soil properties) suggests the areas were part of the historic range for red spruce. This action would promote connectivity of the future red spruce-influenced ecosystem in key locations through the project area and across the landscape.
- Treat non-native invasive plants throughout the project area, with an emphasis on areas of proposed management to reduce future spread.
- Address the loss of hemlock from invasive pests by protecting healthy trees and planting red spruce, white pine, or other native conifers in areas with dead and dying hemlock to maintain the conifer component to the site when hemlocks die.
- Use prescribed fire to reduce hazardous fuels, restore fire adapted ecosystems, improve wildlife habitat, maintain vista and range allotment conditions, and restore forest composition or structure to historic conditions.
- Improve watershed conditions by addressing soil restoration needs, stream bank stability, instream channel improvements and hydrologic connectivity.
- Provide sustainable, vehicle-accessible recreation opportunities that highlight scenic values and emphasize the exploration, enjoyment, and awareness of cultural heritage, especially in areas within MP 3.0.

The Selected Alternative was developed to encourage landscape habitat connectivity, create young forest habitat to support early successional forests, and restore spruce and provide a corridor of connected spruce landscapes. Specifically, this project seeks to improve forest stand health, tree species composition, ecological connectivity and resiliency for both flora and fauna, ecosystem services, and recreation opportunities.

The interdisciplinary team review process ensured that this selected alternative was compliant with the Forest Plan standards and guidelines and they recommended monitoring, design features, and mitigations to minimize or eliminate potential impacts/concerns. I maintained involvement with this review process and agree with the recommendations put forth by the team. My decision includes the adoption of these monitoring activities, design features, and mitigation measures, and it is expected that they will be

applied accordingly during implementation. Due to the programmatic nature of this project, there is a need to coordinate resource areas during implementation. An implementation guide will be developed and will become part of the project record.

In response to comments received during the 30-day scoping period and 30-day notice and comment period following release of the draft environmental assessment, several clarifications were added to the final environmental assessment. Below is a summary of the minor changes/clarifications to the proposed action in the final EA:

- At the time the draft EA was released in April 2020, approximately half of the necessary botany surveys for threatened, endangered, and sensitive (TES) species had been completed. A design feature (GSE-4) was included in the draft EA stating that surveys would be completed prior to implementation. Since then, the remainder of the surveys have been completed (Summer 2020), with one occurrence of the since-delisted running buffalo clover identified within the Little Spruce Mountain burn unit, which will be buffered from prescribed fire by removing fuels and raking the soil within a 5-foot radius prior to burning (Biological opinion, page 8). Prior to implementation, protective measures would be established for occurrences of Regional Forester's Sensitive Species (RFSS) in areas of proposed management. The biologist and/or ecologist will develop and recommend protective measures (e.g. monitoring, avoidance, fencing, translocation, etc.) to me for approval. Design feature GSE-4 has been amended in the final EA to reflect survey completion. I am committed to monitoring the Roan Mountain sedge (5 occurrences) and Blue Ridge Saint John's wort (4 occurrences) in two timber units to determine the effects of commercial timber harvest on these species and inform future management of the species. Monitoring will occur pre- and post-harvest and the process will be developed and coordinated with partners and stakeholders.
- The final EA was corrected to clarify that a shelterwood harvest is not a "thinning" as stated in a few places in the draft EA. The specialists analyzed the 705 acres of shelterwood according to the description of shelterwood harvests ("The first harvest would reduce the relative density of the stand. After adequate regeneration is established (3-5 years), the remaining overstory would be removed.").
- We have explicitly named the types of uneven-aged management in the EA. The commercial spruce release units will be variable density thinning uneven-aged management.
- The draft EA proposed action included language to allow salvage sales of timber resulting from events, such as residual material from implementation, natural weather occurrences, and insect and disease, though it was not clear that this salvage would occur only in areas proposed for commercial timber management in the Greenbrier Southeast project. The language in the final EA has been updated to clarify that any necessary salvage outside of areas proposed for action in this EA would require that the proper level of NEPA analysis be conducted prior to implementation.

A common concern raised during the comment periods was the potential impact to candy darters, a federally-listed endangered aquatic species. Populations of candy darter are located in the project area within the Greenbrier River watershed and the project area also contains critical habitat (finalized in April 2021). Although effects analyses were conducted prior to designation of final critical habitat, our analysis treated proposed critical habitat as if it were final critical habitat. Both excessive stream sedimentation and genetic hybridization with the variegate have been identified as risks to candy darter populations.

The Greenbrier Southeast project was developed through an interdisciplinary process. The team worked hard to develop actions that focused on sending cool, clean water downstream, which not only would benefit the candy darter, but the Forest's only aquatic management indicator species, brook trout, and Regional Forester's Sensitive Species that have similar requirements to the candy darter. The team

extensively reviewed actions to ensure impacts to resources were minimized while still meeting the project needs and moving the area towards the desired conditions in the Forest Plan. Specifically, every proposed timber unit was assessed by the full interdisciplinary team, a time-intensive, but very important process that included altering the shape/size of harvest units to avoid sensitive areas and changing the harvest method to helicopter for units where sensitive areas could not be avoided.

In addition, a design feature was developed (GSE-1) that will ensure all new skid trails be treated following management to reduce the risk of sedimentation and hillslope hydrology impacts. This design feature requires that skid trails on slopes greater than 30% and temporary roads would be treated through recontouring, while slopes less than 30% would be treated with WV and USFS best management practices and deep ripping to 12". Skid trails needed for multiple-entry harvests (e.g. shelterwood) would receive the appropriate treatment (recontouring or BMPs/ripping) during the storage period as well.

Additional proposed action was developed that would benefit water quality and stream habitat, including the addition of large woody material (LWM) to streams. LWM additions in candy darter critical habitat would target bedrock and silted habitat reaches and would not occur during spawning or larval development periods. Prior to LWM additions in critical habitat, Forest fisheries and aquatic staff will conduct fish surveys. In the event candy darter are detected, the site would not be treated. The proposed action also included application of soil restoration activities (decompaction/recontouring) to legacy features determined to be in areas of soil sensitivities or on slopes greater than 30% that show evidence of soil and/or water impairment. Project planning utilized LiDAR data, a newer technology not available during the planning of previous projects, which allowed the interdisciplinary team to develop a more informed proposal. The LiDAR data allowed the team to identify legacy features on the landscape in need of restoration, estimate the mileage of new skid trails that should result from this project, and identify avoidance areas.

The proposed action is in compliance with the Forest Plan standards and guidelines that serve to protect soil and water quality, including standard SW07. Any small inclusions of slope greater than 40% within timber units have been assessed by the interdisciplinary team to determine the best method of operation to maintain soil stability and productivity. Inclusions greater than 50% were similarly assessed and recommendations by the interdisciplinary team resulted in my approval of the timber unit layout.

When the EA was released for the 30-day notice and comment period in April 2020, the biological assessment (BA) was in draft form and being reviewed by senior biologists prior to being sent to US Fish and Wildlife Service (USFWS) for Section 7 Consultation under the Endangered Species Act. The USFS decided to wait until the BA was no longer deliberative before releasing it. The USFS determined the BA was deliberative throughout the consultation process as we had continued conversations with the USFWS on the newly listed endangered species, the candy darter, and potential impacts to its critical habitat. The BA was submitted to the USFWS on March 29, 2021. USFWS responded with the biological opinion (BO), dated August 20, 2021, in which they concurred with the Forest Service's determination of "Not Likely to Adversely Affect for the candy darter". The BA and BO were posted on the project webpage in August. In October 2021, I engaged several stakeholder groups in virtual meetings to discuss any remaining concerns related to candy darter. We responded to specific questions related to the candy darter and shared requested project GIS data. I have decided that the team's thorough project planning, adherence to Forest Plan standards and guides, and the inclusion of conservation measures, design features, mitigation measures, and best management practices will result in no significant effect to the candy darter.

1.3.3. Selected Alternative

The following sections provide a detailed description of the activities included in the Selected Alternative.

1.3.3.1 Vegetation Management for Age Class Diversity

- Pre-harvest applications of herbicides (on 1859 acres) could occur to control beech, striped maple, fern, etc., to encourage successful regeneration of desirable species (e.g. black cherry, oak). After the harvest, if monitoring shows that interfering vegetation is problematic to successful regeneration, herbicides could be used on up to approximately 1000 acres. Application types would be soil spot grid, cut surface, foliar spray, and spot foliar using sulfometuron-methyl, imazapyr, glyphosate, and hexazinone. Foliar application of herbicide via mist-sprayer (also known as a mist-fogger or mist-blower) would not be used in this project area; mist-sprayer application is likely to impact non-target species due to the indiscriminate nature of the application method. A total footprint of 2025 acres could be treated with either pre-harvest application, post-harvest application, or both.

- Regenerate mixed hardwood or mixed oak timber stands using a commercial clear-cut with reserves method through both conventional ground-based skidding operations (355 acres) and helicopter harvesting (584 acres). All trees 1 inch in diameter and greater would be felled to achieve a regeneration harvest. Slash generated from tree-tops and non-merchantable trees would remain onsite to reduce deer browsing.

- Regenerate stands back to a mixed oak or Allegheny hardwood stand using a commercial shelterwood method (705 acres). The first harvest would reduce the relative density of the stand. After adequate regeneration is established (3-5 years), the remaining overstory would be removed.

- To integrate scenic importance, interpretive signage would be installed to communicate details of the project activities to the public.

- Buffer, flag, and avoid isolated occurrences of Regional Forester Sensitive Species. Apply mitigation measures (i.e. avoidance, transplantation, etc.) to known occurrences of Roan Mountain sedge (RMS) and Blue Ridge St. John's-wort (BRSJW) in or near areas of proposed ground disturbance to the maximum extent practical while still accomplishing the purpose of the action. Monitoring of RMS and BRSJW would occur in two timber units to determine the effects of logging on these species.

- Conventional harvests would require the creation of 34 new conventional landings (and the use of 12 existing conventional timber landings). All helicopter landings utilized in this project are existing. Closure orders would be issued to prevent public access to: units and areas being harvested or treated; roads being constructed, reconstructed, maintained, or treated following use; roads, trails, and other areas that helicopters are flying over; and areas where the safety of individuals or property may be impacted by project activities (e.g., dispersed camping and picnic sites).

- Construct 6 miles of new Forest Service system road for future management activities, construct one mile of temporary road[1], and reconstruct 1.7 miles of existing road. The new road is located within MP 3.0 and would increase the road density from 0.58 to 0.6 mi/mi[2].

- Construct approximately 49.1 miles of skid trails[2] for use in timber harvest operations (see Appendix C for calculations of expected skid trail mileage). Following use, apply soil restoration activities to new skid trails and the one mile of temp road to minimize risk of effects to soil and water quality. All

[1] Any Forest Service-specified system road used for vehicular travel by registered/licensed vehicles are referred to as "roads." Any Forest Service-specified temporary road used for vehicular travel by licensed vehicles to haul timber from a landing to a specified road are referred to as a "temp roads."

[2] A skid trail is any route created by clearing and/or excavating to move/skid logs with a skidder/dozer or similar unregistered machine from a cut stump of tree to a timber landing. These skid trails can be mechanically created.

new ground disturbance resulting from skid trail construction (approximately 88 acres/49.1 miles) would be treated following use in timber operations. Mitigation specifics of these soil restoration activities can be viewed in Appendix B (GSE-1).

- Allow for timber salvage of both merchantable and/or non-merchantable stems from all catastrophic or isolated events that may happen within areas already analyzed for harvest through this EA. Salvage timber could result from events such as, but not limited to, harvest of residual material from implemented activities (i.e. road construction, thinning, etc.), insect and disease (i.e. emerald ash borer, gypsy moth, etc.), fire, wind, or other natural occurrences. As silvicultural prescriptions are developed for the timber harvest units prior to implementation, the Silviculturist would determine the extent of the unit affected by the above-mentioned events that could be classified as salvage. In addition, silvicultural activities (e.g. supplemental planting) may need to follow salvage activities if determined necessary. If salvage-related activities have not been analyzed through this EA on the affected area, the proper level of NEPA analysis must be conducted prior to implementation.

- Promote active management of non-native invasive species (NNIS) using an integrated approach to treating non-native invasive plants across the project area, to prevent the spread of non-native species into new areas and to treat existing and new infestations of high-priority species before, during, and after project implementation. Areas identified during botany surveys as having NNIS infestations have been evaluated and tiered to the Forest-wide Non-Native Invasive Plant Management Environmental Assessment through a Review of New Information (RONI) process and have been added to the District's herbicide treatment schedule. Treatment methods for NNIS include hand-pulling, mowing, grubbing, biological control, and herbicide application.

- Protect against the infestation of NNIS plant material, by ensuring the following practices are adhered to:

    - Seed mixtures used for soil stabilization and wildlife openings would be certified weed-free. If not available, the seed vendor's test results for noxious weed content would accompany the seed shipment and demonstrate that the seed is substantially free from noxious weed seeds. Seed-mixes may contain species that are pollinator-friendly.

    - Do not use hay for mulch. A local source for certified weed-free mulch is not yet available; therefore, use straw, coconut fiber, wood fiber, synthetic mulch, or other low-risk Forest Service-approved material.

    - Equipment would be cleaned prior to arriving at the project area in order to prevent new NNIS infestations. When equipment used for any activity is operated in a known infestation of high priority NNIS, it would be cleaned as thoroughly as is practical using dry methods prior to continuing along the route. Any necessary wet cleaning of equipment and vehicles used by contractors and timber purchasers would be conducted off National Forest land, or at a Forest Service-approved wash station if cleaning on National Forest land is the only practical option. Any necessary wet cleaning of Forest Service equipment and vehicles would be conducted at an administrative site or other designated wash station, so as not to introduce invasive plants to unimpacted sites and contaminate soil or water.

- Complete 566 acres (through chainsaw felling or girdling) of pre-commercial timber stand and wildlife improvement in stands 14 to 43 years old to encourage vigor and species diversity. Work would focus on retaining healthy tree and shrub species most beneficial to wildlife ensuring cover and food sources remain.

TABLE 2. SUMMARY OF TIMBER MANAGEMENT ACTIVITIES[3]

Activity	Type of Management	Proposed Extent (Approximate)
Herbicide Application in Commercial Timber Units	Pre-Harvest Application on 1859 acres; Post-Harvest Application on 1000 acres	2025 acres total footprint to receive treatment (some units would receive only pre- or post-harvest application, some to receive both)
Commercial Timber Regeneration Harvest Clear-cut with Reserves (Hardwood Objective)	Conventional Method on 355 acres; Helicopter Method on 584 acres	939 acres
Commercial Timber Shelterwood Harvest (Hardwood Objective)	Conventional Method	705 acres
New Conventional Harvest Landings	Infrastructure to support management actions	34 landings
New Forest System Road Construction	Infrastructure to support management actions	6 miles
Temporary Road Construction	Infrastructure to support management actions	1 mile
Road Reconstruction	Infrastructure to support management actions	1.7 miles
Skid Trail Construction	Infrastructure to support management actions	49.1 miles
Soil Restoration Activities to New Linear Features	Best management practice (BMP) application, ripping, recontouring, seeding, mulching, planting of native plants[4]	88 acres (49.1 miles)
Non-commercial Timber Stand Improvement	Chainsaw felling, girdling	566 acres

1.3.3.2 Habitat Restoration Using Prescribed Fire

- Integrate prescribed fire with other resource management programs to meet multiple resource objectives. Prescribed fire can create desired uneven age structure of timber stands and promote oak regeneration by reducing fire-intolerant, undesirable species, such as striped maple and diseased beech. Wildlife habitat would be improved through reduction of closed canopy forest, favoring growth of plants on forest floor with increased sunlight. Heritage sites can be enhanced using prescribed fire. Existing roads, trails, and streams would be favored control lines where practicable. Where natural or existing fire breaks are not already in place, wet line or hand line using leaf blowers may be necessary.

[3] Additional proposed commercial timber harvests using conventional methods are listed under headings to which the activity benefits (i.e. “Spruce Enhancement and Connectivity”, “Max Rothkugel Plantation Management”, etc.). Total proposed commercial timber harvest using conventional methods is 1464 acres for the entire GSE project.
[4] Treatment type differs according to slope, number of entries, and type of linear feature. See mitigation GSE-1 in Appendix B for details.

- Introduce prescribed fire to two burn blocks, Frank Mountain (1679 acres) and Little Spruce Mountain (737 acres), which were identified by ecologists and fire specialists as having the greatest potential to benefit the ecosystem. Fire would be ignited along the ridgetops and allowed to back down from the ridgetops into hollows and drains to elevation where moisture extinguishes surface burning. Running buffalo clover known to occur within the proposed Little Spruce Mountain burn unit would be buffered from prescribed fire by removing fuels and surrounding green vegetation by raking the soil within a 5-foot radius prior to burning. The order of operation for timber activity and fire activity within these burn blocks would be guided by Forest Plan direction. Within MP 6.1, which encourages management for wildlife habitat, restoration of fire-adapted vegetation communities through prescribed fire would take precedence to achieve the desired future condition and promote oak and hickory regeneration. Within MP 3.0, which emphasizes age class diversity, timber management would take precedence over prescribed fire.

- Use prescribed fire to retain the scenic value of the Smoke Camp Knob overlook (6 acres) and enhance the Camp Allegheny grazing allotment (169 acres) (see "Recreation and Cultural Heritage Improvement at Smoke Camp Knob" and "Range Allotment Improvements at Camp Allegheny" sections for more details).

- Utilize prescribed fire in Units CC39 (30 acres) and CC65 (20 acres) to prepare site for planting and for temporary control of competing vegetation. These prescribed fires would return nutrients to the soil in a more readily form and reduce the need for herbicide application.

- Reduce hazardous leaf litter and woody fuels through prescribed fires that would decrease the potential for wildfire risk.

- Low intensity fire is recommended in areas adjacent to riparian areas. This would allow prescribed fire to back naturally down slope and extinguish into riparian areas. Standing snags along the edges of the proposed burn blocks that pose a threat to firefighter safety would be felled. Trees needing felled close to stream channels would be directionally felled towards the stream channels. Wood laying in the stream channel would not be cut up into smaller sections. If wood within stream channels pose a risk to maintaining a fire barrier, watershed specialists would be consulted. The intent from the above statement is for prescribed fire to meet multiple resource objectives.

TABLE 3. SUMMARY OF PRESCRIBED FIRE ACTIVITIES

Activity	Type of Management	Proposed Extent (Approximate)
Prescribed Fire	Two burn blocks for habitat restoration	Little Spruce Mountain, 737 acres; and Frank Mountain, 1679 acres
	Vista management	Smoke Camp Knob, 6 acres
	Heritage site enhancement	Allegheny range allotment, 169 acres
	Site prep burn to reduce herbicide use in two timber units	Unit CC39 (30 acres) and Unit CC65 (20 acres)

1.3.3.3 Spruce Enhancement and Connectivity

- Release red spruce on 670 acres through non-commercial methods, targeting hardwood midstory vegetation around naturally regenerating understory and midstory red spruce. Herbicide would be used to release the spruce in the understory or midstory by controlling sapling-sized hardwoods around the spruce. Herbicides would be used to control diseased beech and striped maple on

approximately 30% (235 acres) of the red spruce release units, targeting areas with naturally occurring red spruce. Stems larger than 1-inch diameter at breast height (dbh) and smaller than 10" dbh would be injected with glyphosate or imazapyr. Stems smaller than 1-inch dbh would be applied as basal spray (with triclopyr mixed in oil and applied to the lower 15 inches of the stems). No larger trees would be killed, so as not to lose future commercial timber value of mature hardwood trees because of the management prescription designation (MP 3.0) in this area.

- For the benefit of West Virginia northern flying squirrel habitat, commercially treat 86 acres of even-aged hardwood dominant stands with naturally occurring red spruce in the understory and midstory for the purpose of spruce restoration. These areas are considered suitable habitat for the West Virginia northern flying squirrel. An uneven-aged/variable density thinning treatment would be used in order to promote a multi-age stand structure and increase the prevalence of red spruce in key landscape corridors in the project area. No spruce or hemlock would be harvested. Any trees cut in the riparian areas to release spruce would be felled toward the streams for stream habitat. If funding and resources allow, conduct acoustic surveys in this treatment area. If WVNFS are documented, use this as an opportunity to coordinate with academia to attempt to track individual WVNFS during timbering operations.

- In areas with soils indicative of historic red spruce but currently lack the presence of red spruce, regenerate stands to mixed hardwood-red spruce composition using a commercial clear-cut with reserves method (199 acres). No areas proposed for this type of treatment (regeneration harvest) are in suitable West Virginia northern flying squirrel habitat. Unless otherwise noted, all hardwood trees 1-inch in diameter and greater would be felled. Stands would be regenerated through natural regeneration and planting. Any existing red spruce and healthy hemlock would be retained, and some hardwood trees would be retained to meet other resource objectives (e.g. disease resistant beech, snag retention, etc.). Red spruce would be planted (approximately 200 trees per acre, except units CC80 and C32 which would receive limited planting of about six acres). Herbicide would be applied as a soil-applied spot treatment to control competition with red spruce. Hexazinone (Velpar L) would be applied on a grid system throughout areas of the unit where red spruce would be planted or around individual trees if needed.

- Identify and protect areas of mature forest with at least 30 percent overstory red spruce.

- Under plant areas of dying hemlock with red spruce, white pine, or other native conifers (depending on site conditions) by hand planting methods, particularly in riparian areas.

TABLE 4. SUMMARY OF SPRUCE ENHANCEMENT ACTIVITIES

Activity	Type of Management	Proposed Extent (Approximate)
Non-commercial Spruce Release	Timber Stand Improvement	670 acres
Herbicide Application in the Non-commercial Spruce Release Units	Timber Stand Improvement	235 acres
Commercial Timber Variable Density Thinning Harvest (Spruce Objective)	Conventional Method	86 acres
Commercial Timber Regeneration Harvest Clear-cut with Reserves (Spruce-Hardwood Objective)	Conventional Method, Planting	199 acres

1.3.3.4 Wildlife Habitat Enhancement

- Create habitat complexes, within and adjacent to the proposed timber management units. This would entail a high concentration of management in smaller areas, leaving large blocks of mature forest intact. Complexes would:

    - Create 229 acres of commercial cutback borders by cutting or girdling to feather edges of the commercially harvested units, access roads, or existing wildlife openings for habitat enhancement. Trees chosen for retention would be most beneficial to wildlife by mast production, or would be red spruce, healthy hemlock or American beech. Provide habitat for Indiana bats by retaining a minimum of six snags per acre across the habitat complexes.

- Complete up to 125 acres through mulching of pre-commercial timber stand and wildlife improvement in stands 14 to 43 years old to encourage vigor and species diversity. Irregular paths would be created through existing regeneration units using mulching equipment (tracked skid-steer with mulching head) to increase the variability of ages within the stands while releasing desirable tree species. Shredder-mulcher would not be used on slopes greater than 20 percent or on wet soils due to machinery limitations and safety considerations. Reduce the number of equipment passes to reduce the risk of organic and topsoil disturbance, rutting and compaction. Work would focus on retaining healthy tree and shrub species most beneficial to wildlife ensuring cover and food sources remain.

- Create savannahs from two commercial timber units (C52 and C81; 23 acres) on oak ridgetops located within the Little Spruce Mountain and Frank Mountain prescribed fire burn blocks. These savannahs would be maintained with moderate intensity fire approximately every three to five years to reduce basal area to promote young and uneven-aged stands, with vigorous oak regeneration.

TABLE 5. SUMMARY OF WILDLIFE HABITAT ENHANCEMENT ACTIVITIES

Activity	Type of Management	Proposed Extent (Approximate)
Habitat Complex Creation	Commercial Cutback Borders adjacent to Timber Harvest Units	229 acres, with 6 snags retained per acre
Non-commercial Timber Stand and Wildlife Improvement	Mulching	125 acres
Savannah Creation (from two timber units)	Conventional Method	23 acres

1.3.3.5 Riparian and Stream Habitat Enhancement and Hydrology Improvement

- Enhance and restore aquatic habitat in stream channels and riparian areas. To provide flexibility to improve aquatic habitat in all perennial and intermittent streams within the project area, the maximum length of these streams within the project area are being considered (up to 40 miles). Restoration activities would include:

    - In existing openings in Long Run, Lick Run and Big Run of Buffalo (above Lake Buffalo): Add large woody material (LWM) and perform stream channel and floodplain reshaping where stream banks are actively eroding and stream channels are incised and disconnected from the floodplain. Channel and floodplain actions in these three areas may include embedding logs and root wads in stream banks, creating side-channels, swales, floodplain wetlands, and other microtopography features with heavy equipment followed by planting of wetland and riparian species.

  - In candy darter proposed critical habitat (Little River), LWM would be added without ground disturbance (chainsaw felling of trees into the stream) and would avoid coarse substrate habitat (cobble and boulders).
  - In all other stream treatment areas, LWM would be added by chainsaw felling nearby trees into the channel or transporting and placing into the channel using a grip-hoist and hand crews.

- Re-establish up to 47 acres of native vegetation/forest in open riparian areas to improve stream shading.
- Address and treat instability at former tributary crossings and other areas of erosion and sedimentation on a legacy feature on Lick Run (formerly Forest Road 52, approximately 2 miles) using techniques such as channel reshaping to natural form, partial decompaction, and recontouring. Maintain the existing travel path.
- Apply soil restoration treatment to the end portion of Forest Road 57a (approximately 0.5 miles) and convert to a small wetland for a wildlife watering source. No liners would be used for wetland creation.
- Apply up to 34 acres (18.7 miles) of soil restoration activities to legacy features on the landscape to restore soil and water quality and vegetative vigor. These features are primarily in areas with soil sensitivities or on slopes greater than 30 percent that show evidence of ground water interception, surface flow concentration, or soil erosion, with limited indication of public use, and would be treated by decompaction and recontouring to natural slope contours.

TABLE 6. SUMMARY OF RIPARIAN/STREAM/HYDROLOGY ACTIVITIES

Activity	Type of Management	Proposed Extent (Approximate)
Stream and Riparian Habitat Enhancement	Large Woody Material Additions Riparian Restoration & Planting	Up to 40 miles Up to 47 acres
Address unstable crossings and compaction on former FR52 and FR57A	Former stream crossing reshaping, partial decompaction, recontouring	Up to 2.5 miles
Wildlife Watering Source	Wetland Creation	1 wetland, ¼ acre
Soil Restoration Activities on Legacy Features to address historic logging and other impacts of unknown origin	Ripping, recontouring, seeding, mulching, planting of native plants	34 acres/18.7 miles

1.3.3.6 Recreation and Cultural Heritage Improvements at Smoke Camp Knob

- Construct a CCC-style pergola with interpretive signs to inform visitors of the former fire tower, explain active forest management and reforestation activities, and educate visitors on historic properties.
- Use the combination of fire and herbicide treatments to retain the scenic value of the Smoke Camp Knob overlook by suppressing vegetation growth. This would be achieved by instituting a cycle of herbicide treatments and prescribed fire on six acres utilizing handline with leaf blowers or wet line as control. Prescribed fire activities would not include any surface disturbing actions. A broadleaf plant

specific herbicide would first be applied to vegetation. Dead vegetation would then be eliminated through a prescribed fire. Prescribed fire could be used every one to two years to maintain the opening. If conditions preclude a prescribed fire from being effective, herbicide or manual removal would be used prior to reinstituting regular burning.

- Expand the existing two-car parking area to include three additional spaces.
- Ensure the site is handicapped-accessible by constructing one handicap parking space and a ramp to the existing picnic table.
- Improve safety of the one-lane access road by constructing three pullouts and widening the road at one key point.
- Provide opportunity for dispersed camping near the overlook while restricting camping at the overlook itself.

TABLE 7. SUMMARY OF ACTIVITIES AT SMOKE CAMP KNOB

Activity	Type of Management	Proposed Extent (Approximate)
Improvements to Visitor Experience	Improved signage	Install a CCC-style pergola with interpretive signage
	Vegetation control for vista management	Utilize fire and herbicide for vista management (6 Acres)
	Improved parking, road access, and handicapped accessibility	Expand the 2-car parking area to include 3 additional spaces
		Construct three turn outs and widen the access road (FR58A)
		Create a handicapped-accessible ramp and one handicapped parking space
		Provide dispersed camping opportunities near the overlook to discourage camping directly at the overlook

1.3.3.7 Range Allotment Improvements at Camp Allegheny

- Reconstruct the entrance road (0.3 miles) to improve access into the allotment and to alleviate erosion issues. Conduct tree clearing activities for road reconstruction within WVNFS suitable habitat only from September 15 to March 31 to avoid impacting young, immobile WVNFS on the ¼ mile of road reconstruction accessing the Camp Allegheny range allotment.
- Remove the current barrier and discontinue use of approximately 0.15 miles of linear feature through the center of the field to restore to natural conditions, reestablish vegetation, and increase the aesthetic appeal and historic integrity.
- Create a more pedestrian-friendly site by installing a public access gate.
- Harden, improve, or move dispersed camping sites to protect resources.
- Install two water troughs and approximately 500 feet of pipeline in the range allotment to improve cattle disbursement and vegetation reduction to help cultural resources in the allotment. To minimize visual effect, troughs would be buried with approximately eighteen inches exposed above ground level and lined with native stone.
- Conduct 169 acres of prescribed fire using wet line and mowing as control lines on the Camp Allegheny grazing allotment to improve vegetation and help with archeological needs and the reduction of hazardous fuel loads. Prescribed fire activities would not include any surface disturbing actions.

TABLE 8. SUMMARY OF ACTIVITIES AT CAMP ALLEGHENY RANGE ALLOTMENT

Activity	Type of Management	Proposed Extent (Approximate)
Improvements to Visitor Experience	Improved site access/Soil erosion prevention/Historic integrity retention/Resource protection/Vegetation Improvement	Reconstruct entrance road (0.3 miles) Discontinue use of linear feature through center of the field (0.15 miles) Install public access gate Harden, improve, and move dispersed camping sites
Improvements to Range Allotment	Range management/Resource protection Vegetation Improvement	Install two livestock watering troughs and approximately 500 feet of pipeline Prescribe burn the grazing allotment (169 acres)

1.3.3.8 Max Rothkugel Plantation Management

- Thin the plantation (96 acres) through group selection to encourage growth of Norway spruce and European larch and emphasize the original goal of the plantation to display a historic type of forest management. Any damage to the Rothkugel Loop or Smoke Camp Trail caused by project activities would be repaired in accordance with established trail management objectives.
- Under plant with Norway spruce and European larch, as needed, using hand planting methods.
- Create 3-4 vehicle parking area on a former landing and a short access road by utilizing the proposed timber landing after the harvest is complete. This would improve visitor access to the site, as there is no on-site parking. This lot would be located approximately 100-200 feet from the trail and would provide direct access to the trail and plantation.

TABLE 9. SUMMARY OF ACTIVITIES AT THE MAX ROTHKUGEL PLANTATION

Activity	Type of Management	Proposed Extent (Approximate)
Commercial Timber Harvest	Thinning and Group Selection	96 acres
Under-planting plantation species	Hand planting	As needed
Improvements to Visitor Experience	Improved parking and road access	Create parking for 3-4 vehicles and a short access road

1.3.4 Design Features and Mitigations

The following design features and mitigations were developed by the interdisciplinary team to ensure the proposed action is compliant with the Forest Plan. In addition to the proposed action, I commit to implementing the following measures in Table 9.

Ref. No.	Associated Forest Plan Direction	Design Feature or Mitigation	Where to Apply
GSE-1	Standards SW03, SW04, SW07, and RF15 Guidelines SW11, SW13, SW14, RF12, and RF13	A. New skid trails needed for single entry timber harvest would be treated following harvest as weather and soil conditions allow. Features on slopes >30% would be treated by recontouring the compacted surface which includes: decompacting the surface, pulling the fill and placing it on the cut to achieve a minimum of 20% outsloping, removing drainage structures, and seeding, planting, and/or placing woody debris on finished surfaces. B. New skid trails on slopes <30% would be treated following harvest, as weather and soil conditions allow, by decompacting the surface by deep ripping/subsoiling the surface a minimum of 12" and treating with West Virginia and USFS BMP requirements. C. New temporary non-system haul roads would be treated following management activities by decompaction and recontour methods outlined above. D. New skid trails used for multiple-entry harvest would be stored and treated with WV and USFS BMPs and decompacted to a minimum of 12 inches via ripping or subsoiling. After second entry, ground disturbance on slopes over 30% or areas of wet soils would receive additional treatments to improve soil and water quality during the storage period including but not limited to: more frequent water bars, greater out-sloping, and mulching.	Throughout project area on new skid trails/temp roads associated with timber harvest
GSE-2	Standards HR04 and HR05	If tree felling occurs adjacent to a heritage resource, directional fell trees away from the site be implemented, or a buffer comprising the height of the nearest possible fell, plus one-half, would be established. These buffers shall be incorporated into the field marking of sites. All historic properties identified as having potential direct effects from project activities should be marked and avoided during all phases of project implementation.	All ground disturbing activities
GSE-3	Standards HR04 and HR05	If the unanticipated discovery of previously unidentified historic properties should occur during implementation, the Heritage Program Manager shall be notified and activity in that area cease until the size and nature of the resource can be determined in consultation with the West Virginia Division of	All ground disturbing activities

Ref. No.	Associated Forest Plan Direction	Design Feature or Mitigation	Where to Apply
		Culture and History and sovereign tribal partners of the Monongahela National Forest.	
GSE-4	Standard VE13	Implementation would not be allowed to proceed, until protective measures have been established to avoid or minimize negative effects to Regional Forester's Sensitive Species plant occurrences. Protective measures could include the following mitigations: monitors on site, avoidance areas, temporary fencing, translocation, etc. Protective measures would be developed by the biologist or ecologist and approved by the Responsible Official.	Areas of proposed management with documented RFSS plant occurrences.
GSE-5	Standard TE64	Retain mature red spruce to the maximum extent practicable and limit removal of mature hardwood trees during clearing for the temporary road construction and soil restoration activities following use.	Proposed timber units
GSE-6	Standard TE64	For areas of suitable WVNFS habitat (0.5 acres along 4 roads), retain all hardwood trees greater than 6" dbh with a visible cavity and all conifers (especially spruce) greater than 10" dbh	Proposed soil restoration activities to legacy features
GSE-7	Standard TE64	Fell larger trees from September 15 – March 31.	Proposed temporary road construction, road reconstruction, soil restoration activities to new linear features, riparian treatments.
GSE-8	Standard TE64	Ensure the soil restoration activities performed on temporary road upon completion of use would be consistent with maintaining, or possibly improving WVNFS habitat (plant spruce, snag hardwoods, etc.).	Proposed temp road construction

Ref. No.	Associated Forest Plan Direction	Design Feature or Mitigation	Where to Apply
GSE-9	Standard TE64	Exclude fire from suitable WVNFS habitat. This would be achieved by placing a leaf blower fireline at the edge of the pasture and lighting fire on the inside of the fireline.	34 acres in the Allegheny Battlefield Range Allotment prescribed fire unit
GSE-10	Standard TE26	Trees felled into Buffalo Fork Creek from the northwest edge of the project area upstream to Lake Buffalo would be felled during the hibernation period for the Indiana bat and NLEB (November 15 – March 31).	Buffalo Fork Creek

1.4 FINDINGS REQUIRED BY LAW AND REGULATION

This section provides my findings associated with the Greenbrier Southeast project regarding compliance with appropriate laws and regulations.

1.4.1 National Environmental Policy Act (NEPA)

The National Environmental Policy Act requires public involvement and consideration of potential environmental effects of federal actions. The entirety of documentation for this decision supports compliance with NEPA, including CEQ and Forest Service NEPA implementing regulations (40 CFR 1500 -1508; and 36 CFR 220) (EA, “Introduction” section, p. 1).

1.4.2 National Forest Management Act (Forest Plan Consistency)

The National Forest Management Act (NFMA) requires the development of long-range land and resource management plans and all site-specific project activities be consistent with direction in those plans. The Monongahela National Forest Land and Resource Management Plan (Forest Plan) was completed and approved in 2006 (updated in 2011) as required by the NFMA and provides the direction for all resource management activities on the Monongahela National Forest.

The Forest Plan has been reviewed in consideration of this project. As required by the NFMA at 16 U.S.C. 1604(i), I have determined the actions included in the Selected Alternative are consistent with Forest Plan direction including goals, objectives, desired conditions, and Forest-wide and Management Prescription standards and guidelines (Forest Plan, pp. II-6 to II-7, II-8 to II-57, III-4 to III-8, III-25 to III-33, III-40 to III-45, and III-56 to III-57). My decision is based on the best available science, including a review of the record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgment of incomplete or unavailable information, scientific uncertainty, and risk.

The Selected Alternative will specifically move the project area toward the desired future condition for the Vegetation Diversity (MP 3.0), Wildlife Habitat Emphasis (MP 6.1), and Ecological Areas (Max Rothkugel Plantation MP 8.4) Management Prescriptions (Forest Plan, pp. III-6 to III-7, III-28 to III-29, and III-43, respectively; and the EA, “Need for Proposal” section, pp. 2-5). The project is also consistent with

standards and guidelines for these Management Prescriptions (Forest Plan, pages III-7 to III-8, III-30 to III-33, and III-56 to III-57, respectively). This decision tiers to the Record of Decision for the Final Environmental Impact Statement to accompany the Land and Resource Management Plan, dated September 2006. All of the expected impacts from this project are consistent with, and within the range of, the impacts disclosed in the Final Environmental Impact Statement.

1.4.3 Endangered Species Act

The Endangered Species Act requires that federal activities do not jeopardize the continued existence of any species federally listed or proposed as threatened or endangered, or result in adverse modification to such species' designated critical habitat. A biological assessment was submitted to the US Fish and Wildlife Service (USFWS) to comply with Section 7 of this Act, with effects determination for five federally-listed species and one critical habitat summarized in the EA (EA, "Environmental Impacts" section, pp. 26 to 27 for aquatic wildlife; pp. 37 to 40 for terrestrial wildlife, and pp. 52 to 54 for plants; EA, Appendix B, GSE-10 for the Indiana bat). The USFWS concurred with the Forest's determinations.

1.4.4 Regional Forester's Sensitive Species

Forest Service Manual 2670 direction requires analysis of potential impacts to sensitive species, those species for which the Regional Forester has identified population viability is a concern (Regional Forester's Sensitive Species). Biological evaluations completed for terrestrial wildlife, aquatic wildlife, and plants conclude that the Selected Alternative will not likely cause a trend towards federal listing or loss of viability for any Regional Forester's Sensitive Species within the project area (EA, "Environmental Impacts" section, pp. 27 to 30 for aquatic wildlife, pp. 40 to 45 for terrestrial wildlife, and pp. 54 to 58 for plants; EA, Appendix B, GSE-4 for RFSS plants and GSE-5 through GSE-9 for the West Virginia northern flying squirrel).

1.4.5 Clean Water Act

The intent of the Clean Water Act is to restore and maintain the integrity of waters. The Forest Service complies with this Act through Forest Plan standards and guidelines, and project design features and mitigation measures to ensure protection of soil and water resources (EA, "Environmental Impacts" section, pp. 17 to 30 for the fisheries and hydrology; pp. 30 to 34 for the soil resources; and EA, Appendix B, GSE-1).

1.4.6 National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in the National Register. It also requires federal agencies to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment.

The Selected Alternative will have no adverse effects on historic properties listed in or eligible for listing in the National Register of Historic Places (EA, "Environmental Impacts" section, pp. 67 to 68; and EA, Appendix B, GSE-2 and GSE-3). Historic property inventory has been completed. The inventory effort followed the West Virginia Guidelines for Phase I, II, and II Archaeological Investigations and Technical Report Preparation. All identified historic properties have been marked for avoidance or protection measures to eliminate or minimize potential adverse effects. Standard protection measures will be carried out as set forth in the Programmatic Agreement among Monongahela National Forest, West Virginia Division of Culture and History, and Advisory Council on Historic Preservation.

1.4.7 Environmental Justice (Executive Order 12898)

Executive Order 12898 requires consideration of whether projects would disproportionately impact minority or low-income populations. This decision complies with this Executive Order. Public involvement occurred for this project, the results of which I have considered in this decision, and did not identify any

adversely impacted local minority or low-income populations (EA, “Environmental Impacts” section, p. 67). This decision is not expected to adversely impact minority or low-income populations.

1.4.8 Other Relevant Laws

I have considered other relevant laws and regulations that this decision may affect. I have fully considered the effects of this decision on the public, as well as the public’s issues and concerns brought forward during the comment periods and feel that these issues have been adequately addressed in the Greenbrier Southeast project Final EA, its appendices, and in this Decision Notice. All relevant federal, state and local permits will be obtained prior to project implementation in cooperation with respective agencies and municipalities. I have determined that my decision to implement the Selected Alternative meets all applicable laws, regulations, and policies, as well as Forest Service direction and guidance as outlined in the Forest Service Manuals and Handbooks.

2. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The FONSI documents the reasons why an action, not otherwise excluded from documentation in an EA or EIS in accordance with 40 CFR §1508.4, will not have a significant effect on the human environment and for which an EIS therefore will not be prepared. When determining the potential significance of a proposed action, both context and intensity must be considered. This FONSI discussion takes into consideration all information included in the EA, as well as documentation included in the project record. Pertinent specialists have reviewed the proposal and, based on their input, the responsible official made the following determinations with regards to the degree of potential effects for the context and intensity factors considered for a Finding of No Significant Impact.

2.1 CONTEXT (40 CFR 1508.27(a))

The project area comprises only 14,288 acres of the 920,785 acres of land administered by the Monongahela National Forest (less than two percent). Based on the proposed action and associated design features and mitigations, this is a site-specific action with minor localized effects on the forest resources of the area. Potential environmental effects would be localized to the project area and would not be measurable at a regional or larger scale. Further, implementation would occur over approximately ten years, with a small percentage of acres being treated in any one watershed at one time. My decision is consistent with Forest Plan Management Prescription and Forest-wide standards and guidelines, as well as the Forest Plan EIS that analyzed, at a larger scale, the effects of the type of activities that will be implemented through this decision.

2.2 INTENSITY (40 CFR 1508.27(b))

Intensity is a measure of the severity of effects and is based on the following ten factors. The effects of this project have been appropriately and thoroughly considered with an analysis that is responsive to concerns and issues raised by the public. The agency and interdisciplinary team assigned to this project have taken a thorough look at the environmental impacts using relevant scientific information and knowledge of site-specific conditions gained from field visits.

2.2.1 Impacts may be both beneficial and adverse.

My finding of no significant impact is not biased by the beneficial effects of the Selected Alternative. I have considered the environmental analyses provided by resource specialists which disclosed both beneficial and adverse impacts (EA, “Environmental Impacts” section, pp. 17 to 70). I did not use beneficial impact to “balance” out the significance of adverse impacts. In fact, to ensure that these potential impacts brought forward from resource specialists, partners, and the public are reduced or eliminated during project implementation, an extensive amount of thought and collaboration was put into the proposed action and recommended design features and mitigation measures. Previous projects having had similar activities and effects were also taken into consideration when measuring severity and significance.

2.2.2 The degree to which the proposed action affects public health or safety.

Implementation of the Selected Alternative is not expected to have significant negative effects on public health and safety. If necessary, closure orders may be issued to prevent public access to units and areas being treated through harvest or with prescribed fire; roads being constructed or maintained; and areas (e.g., dispersed camping and trailheads) where the safety of individuals or property could be impacted by project activities. Herbicide will be used in conjunction with some of the commercial timber activities. The chance of the public coming into contact with these herbicides during application is very low due to application method (EA, “Environmental Impacts” section, pp. 66 to 67). In addition, the hazard quotients

are at an acceptable level and application will occur as instructed by the manufacturer and in compliance with the Forest Plan.

2.2.3 Unique characteristics of the geographic area

Unique characteristics are defined as "historical or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas" according to 40 CFR 1508.27(b)(3). Proposed activities within Camp Allegheny, Max Rothkugel Plantation, and Smoke Camp Knob were designed to prevent or eliminate adverse effects to those properties and were developed in collaboration with consulting parties. All other identified historic properties would be marked and avoided during all phases of project implementation. Ground disturbing activities shall be prohibited within marked boundaries of historic properties. No adverse effects are anticipated to wetlands in the project area based on the design of project activities, adherence to the Forest Plan standards and guidelines, the proper application of best management practice, and implementation of design features and mitigation measures. No parklands, prime farmlands, ecologically critical areas, inventoried roadless areas, wild and scenic rivers, or wilderness areas will be affected by the Selected Alternative (EA, "Environmental Impacts" section, p. 69). Based on these considerations, I conclude there will be no significant impacts to unique characteristics within the geographic area.

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

In the context of NEPA, controversy refers to a substantial scientific community regarding the effects of an action, rather than to public opposition of a proposed action or alternative. The EA is tiered to the Forest Plan Final Environmental Impact Statement and Record of Decision signed by the Regional Forester in September 2006, which disclosed forest-wide effects of actions similar to those in this decision. All actions are of a similar type and intensity to activities that have occurred in the past throughout the Forest, which have not shown to be scientifically controversial to the extent that the quality of the human environment is significantly impacted. Fourteen commenters responded to the Greenbrier Southeast EA, with differing opinions on the project. I do not expect this decision will be preferable to everyone. Based on the comments received, the involvement of partners, and the consideration of the best available science by the interdisciplinary team, it is my determination that the effects of the Selected Alternative are not thought to be highly controversial.

2.2.5 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 that will be implemented in the Selected Alternative in which no highly uncertain, unique, or unknown risks have been identified. The environmental analyses conducted for impacts to resources are supported with the use of accepted techniques, reliable data, best available and relevant scientific information, and professional judgment documented throughout the EA and the project file (EA, "Environmental Impacts" section, pp. 17 to 70). Selected Alternative activities are similar to other forest projects that have been successfully conducted in these types of ecosystems in the past on this Forest and across the Eastern Region and results have been similar to the effects described in the "Environmental Impacts" section of the Greenbrier Southeast EA. Further, Forest Plan monitoring reports for similar projects across the Forest 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.

2.2.6 The degree to which the action may establish 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, nor does it represent a decision in principle about a future consideration. The project activities are commonly implemented management activities and they do not compel additional actions by their completion.

These activities have been implemented on similar soil types and in similar watersheds in the past across the Forest and Eastern Region. All activities in the Selected Alternative are within the scope of the Forest Plan Final Environmental Impact Statement and Record of Decision and will comply with the Forest Plan.

2.2.7 Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.
The past, present, and reasonably foreseeable future actions that may have a bearing on the cumulative effects of implementing the project are disclosed (EA, "Proposed Action", pp. 6 to 7) and discussed by the interdisciplinary team during their effects analysis (EA, "Environmental Impacts" section, pp. 17 to 70). None of the Selected Alternative activities are severe enough to create a significant impact when considered with other actions.

During the 45-day objection period for the EA and associated draft Decision Notice/Finding of No Significant Impact (DN/FONSI), we received one objection (objection #22-09-21-0001 A218), resulting in an administrative review process detailed in 36 CFR 218. Edits to the EA were completed to address two instructions from the Objection Reviewing Officer (Objection Reviewing Officer Letter, dated February 17, 2022), resulting in an amended final EA (dated March 2022) that addresses cumulative effects for candy darter and its critical habitat (EA, "Environmental Impacts" section, pp. 27 to 29) and cumulative effects to the soils resource (EA, "Environmental Impacts" section, pp. 36 to 37).

2.2.8 The degree to which the 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 historical resources.
The Selected Alternative will have no adverse effect on historic properties listed in or eligible for listing in the National Register of Historic Places (EA, "Environmental Impacts" section, pp. 67 to 68). Proposed activities within Camp Allegheny, Max Rothkugel Plantation, and Smoke Camp Knob were designed to prevent or eliminate adverse effects to those properties and in some cases enhance visual integrity and improve visitor experience through historic property interpretation.

Historic property inventory has been completed. The inventory effort followed the West Virginia Guidelines for Phase I, II, and II Archaeological Investigations and Technical Report Preparation. All identified historic properties have been marked for avoidance or protection measures to eliminate or minimize potential adverse effects. Standard protection measures will be carried out as set forth in the Programmatic Agreement among Monongahela National Forest, West Virginia Division of Culture and History, and Advisory Council on Historic Preservation.

2.2.9 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.
Analysis of the activities in the Selected Alternative resulted in the following effect determinations for the five species listed as threatened or endangered under the Endangered Species Act that are known to occur or could have potential habitat within the project area:

- *May affect, not likely to adversely affect:* candy darter and its critical habitat, running buffalo clover[5], small whorled pogonia
- *May affect, likely to adversely affect:* Indiana bat and Northern long-eared bat

[5] The USFWS removed running buffalo clover from the Federal List of Endangered and Threated Plants in September 2021 on the basis of recovery. The species was included in the USFWS's August 2021 biological opinion, due to finalization of the biological opinion prior to the effective date of the rule.

Potential effects of the activities on listed endangered or threatened species were documented in the EA, (EA, “Environmental Impacts” section, pp. 26 to 27 for aquatic wildlife; pp. 37 to 40 for terrestrial wildlife, and pp. 52 to 54 for plants. To comply with Section 7 of the Endangered Species Act, the Forest submitted a biological assessment to the US Fish and Wildlife Service (USFWS) on March 29, 2021. The Forest has determined that while the project may affect and is likely to adversely affect the Northern long-eared bat, such take is not prohibited pursuant to the final northern long-eared bat 4(d) rule. The Forest also requested initiation of formal consultation on the Indiana bat under the tier II process described in the 2006 Biological Opinion. The Forest has determined that while the project may affect and is likely to adversely affect the Indiana bat, such take is permitted under the FWS Incidental Take Statement and Reasonable and prudent measures which are built into the project specific design features and mitigation measures. The USFWS concurred with the Forest’s determinations in their August 20, 2021 biological opinion.

The Selected Alternative was thoughtfully developed by the interdisciplinary team to avoid significant adverse effects to federally-listed species. If any federally-listed species are found during implementation, and they are not already protected by Forest Plan standards and guidelines or the design features and mitigation measures, all activities that could impact the listed species within that area will cease until additional consultation with USFWS has been conducted. The Selected Alternative will not jeopardize the continued existence of any endangered or threatened species or result in adverse modifications to designated critical habitat.

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

The Selected Alternative is in compliance with federal, state, and local laws and regulations (see section 1.4.8 of this decision document). Any required permits will be obtained before implementation. The activities are consistent with and follow the management direction and standards and guidelines mandated by the Forest Plan. The Forest Plan Final Environmental Impact Statement and Record of Decision document the consistency of the Forest Plan with laws and requirements imposed for environmental protection. Therefore, the Selected Alternative does not threaten a violation of federal, state, or local environmental protection laws.

3. ADDITIONAL INFORMATION

3.1 FINAL DECISION AND IMPLEMENTATION DATE

One eligible objection was filed within the 45-day time period for the Draft Decision Notice ending on January 3, 2022. The Reviewing Officer reviewed the project in light of the objection issues, and found that it is in compliance with all applicable laws and the Forest Plan, with an exception of two issues related to the cumulative effects for the candy darter and its critical habitat and the soils resource. Both instructions have been addressed in the EA, dated March 2022 pursuant to 36 CFR 218.12(b). Implementation of all management activities may begin immediately.

3.2 PROJECT CONTACT

For additional information concerning the Greenbrier Southeast Project EA, supporting documentation, my decision, and/or the Forest Service objections process, please contact Amy Albright. Contact information is included on the inside cover page. Additional project information can be found on the project webpage at https://www.fs.usda.gov/project/?project=55797.

3.3 SIGNATURE OF RESPONSIBLE OFFICIAL

3/18/2022

JACK TRIBBLE — Date
Greenbrier District Ranger
Monongahela National Forest

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