Foothills Landscape Project – Pre-Implementation Process Guide and Compliance Checklist

This document will be used by Forest Service (FS) employees to implement the Foothills Landscape Project by tiering projects to the Programmatic Environmental Assessment and Final Decision. Following the process outlined below will:

- Demonstrate regulatory compliance with all overarching law, policy and regulation.
- Aid in determining when/if additional analysis under National Environmental Policy Act (NEPA) is warranted for any actions within a given Implementation Area (IA) of the Foothills Landscape.
- Ensure public engagement with stakeholders occurs throughout the lifecycle of the project.
- Provide planning consistency across FS units.
- Result in an Implementation Plan(s) that documents the locations and timing of management actions, applicable mitigations (project design features) and adheres to the Final Programmatic Decision Notice (DN). These implementation plans should provide adequate documentation required under NEPA for subsequent public scoping and if needed, tiered analyses and/or decisions.

Planning Steps:

Implementation Area: Mooneyham
Ranger District: Conasauga

Step 1: Forest Identifies all Management Opportunities within Implementation Area

Instructions: District Interdisciplinary Teams (IDTs) will consult the Environmental Assessment, Decision Notice and Forest Plan to identify potential project-level activities for the IA that are consistent with analysis and management direction.

A. IDTs will identify the desired conditions throughout the IA by reviewing applicable management prescription (MRx) objectives and standards per the Forest Plan and characterization of current conditions based on existing data sets (i.e., FSVEG spatial, etc.) Examples include, but may not be limited to:
   - What MRx are present? Suitable or unsuitable for timber production?
   - What sixth (6^{th}) level watersheds are present? Watershed condition class? Percent Total Impervious Area (TIA)?
   - Scenic Integrity Objectives?
   - Known road or access issues? Illegal off-road problems?
   - Impaired streams, known sediment, or Aquatic Organism Passage (AOP) issues?
   - What vegetation treatment opportunities are present (GIS queries)?
   - What successional conditions are present? How many acres of young forest could be created?
   - Do some stands meet minimum old growth age? Does the IA need old growth small blocks?
   - Known recreation or trail issues/ concerns?

B. IDT will review proposed actions (EA – Table 17 & Appendix B) and select all appropriate management actions available and needed to achieve desired conditions within the IA, noting which are identified for implementation directly from programmatic DN versus those requiring further review.

Throughout the implementation planning process, if at any point the IDT discovers/ determines an action is needed or a condition exists that was not accounted for in the analysis, additional disclosure and NEPA would be triggered.

C. Summary of proposed actions covered in this Implementation Guide

Plan Summary

Activity Name (should correspond w/ Table 17 of EA)	**Location (i.e., HUC, Compartment Stand, and or Geographic Description)**	**Draft Acres and/or miles of road/trails, etc.**	**Final Acres and /or miles of road/trails, etc.**	**Anticipated year(s) implementation would begin**
Stream habitat improvements – large woody debris	Comp 716 – Perry Creek Comp 714 – Bogden Creek, Gizzard Branch, unnamed tributary to the Conasauga River	2.3 miles	2.3 miles	2025
Continuation of Prescribed Burning within Existing Blocks	Mooneyham Rx Burn – Comp 715, 716; Turkeybeard Rx Burn – Comp 714	724 ac	712 ac	2024 Turkeybeard; 2027 Mooneyham

Decommissioning of ML2 and ML1 system roads	FSR 1 Doogan Mountain Rd from intersection of Iron Mountain Trail to end of road	1.3 mi	1.3 miles	2023
Implement changes to system road ML and or use restrictions – reduce ML	FSR 1 Doogan Mountain Rd from start at Old Hwy 2 to Iron Mountain Trail	1.2 mi	1.2 miles	2023
Restoration of southern yellow pine forest on dry sites dominated by mid to late-successional Virginia or white pine – 2 aged regen harvest	Comp 714 Stand 11; Comp 715 Stands 3, 13; Comp 716 Stand 25	128 ac	86 ac	2023-2030
Restoration of southern yellow pine forest or oak forest on sites currently occupied by off-site pine plantations or failed shortleaf or pitch pine plantations – 2 aged regen harvest	Comp 716 Stands 10, 22, 24	59 ac	101 ac	2023-2030
Maintenance of oak forest – commercial thinning	Comp 716 Stands 3, 4	49 ac	49 ac	2023-2030
Commercial thinning of pine plantations to improve forest health	Comp 712 Stand 20; Comp 715 Stands 17, 18; Comp 716 Stands 1, 13, 20	151 ac	151 ac	2023-2030
Create young forest (ESH) by daylighting roads and permanent openings – two aged regen harvest	Comp 716, 50 ft width corridor following FSR 151	8 ac	8 ac	2023-2030
Restoring open woodland habitats on appropriate sites – noncommercial thinning	Comp 714 Stands 14, 19, 42	66 ac	66 ac	2023-2030
Maintenance of oak forest – midstory reduction	Comp 714 Stands 4, 10, 13, 21; Comp 716 Stands 8, 9	181 ac	181 ac	2023-2030

Non-commercial thinning of pine plantations to improve forest health	Comp 716 Stand 19	38 ac	38 ac	2023-2030
Replacement of culverts, fords, or bridges to increase aquatic organism passage (AOP) and function	Comp 716 – one on FSR 151; Comp 714 – two on FSR 1A Note: there are two AOP sites on Perry Creek south of forest boundary on private property	3 AOP sites	3 AOP sites	2023-2030
Prescribed fire in new burn blocks to facilitate restoration or maintenance of fire-adapted ecosystems or to reduce hazardous fuels	Halfway Branch Rx Burn – Comp 714; Iron Mountain Rx Burn – Comp 714, 712; Mooneyham Extension Rx Burn – Comp 716	958 ac	1,041 ac	2023 Halfway Branch; 2025 Iron Mountain; 2027 Mooneyham Extension

Step 2. Complete Initial Field Reviews and Validate Thresholds for Proposed Action

Instructions: Specialists should review the IA and complete their relevant checklist below. Information and documentation, if needed, should be included with this document. Once review is complete, and all specialists have signed, move to Step 3.

NOTE: It is the responsibility of the FS resource specialists to ensure **a)** the applicable steps below are followed, **b)** findings are communicated to IDT/ Line Officer, and **c)** resulting information is carried through accordingly and documented in the draft Implementation Plan for the IA.

Some of the following procedures may be repeated as planning evolves or deferred until sufficient information becomes available and it is prudent.

Aquatics and Terrestrial Wildlife

☒Review existing data to determine known locations of Threatened and Endangered (T&E) species, designated critical habitats, Regional Forester's Sensitive Species, or locally rare species (i.e., consult Georgia Department of Natural Resources (DNR) spatial database (DNR-WCS) on AGOL, FS GIS shapefiles and other applicable records.). As part of the above process and specific to Terrestrial Wildlife, also:

- Consult with Georgia DNR for current range information for all federally listed bats to determine applicability of Forest Plan standards at: https://georgiawildlife.com/BatSurveyGuidance
- Review current spatial extent of suitable Indiana bat roosting/ maternity habitat in IA.
- Consult with Georgia DNR to verify current information about known roost trees or hibernacula for NLEB (northern long-eared bat) in IA.

☒ Obtain updated official species list from IPaC (Information for Planning and Consultation) for the project area at: https://ipac.ecosphere.fws.gov/. If new species are listed and present in IA and could be affected by the proposed action, consult with US Fish and Wildlife Service (USFWS)/ supplement NEPA accordingly.

List Date IPaC pulled: 7/20/2022

☒ Identify potential AOP opportunities (in conjunction with Forest Soil Scientist and Engineer).

- ***FLP Specific**: When increasing aquatic connectivity by removing barriers to aquatic organism passage, it should be noted that some barriers are beneficial in preventing encroachment of non-native species or movement of native species. The potential for negative consequences of removing a barrier should be evaluated on a case-by-case basis.*

☒ Identify known issues that are contributing to decreased habitat quality (i.e., sediment sources, riparian function, increased water temperatures, etc.).

☒ Review existing data to determine presence or potential of priority wildlife species such as migratory songbirds, game species (i.e., consult DNR-WRD, Game Management, Region 8 bird records).

☒ Consider opportunity or need for wildlife habitat improvement, especially in conjunction with commercial vegetation treatments such as:

- Permanent openings acres in the project area. Consider creation or expansion (could create up to 1% of NFS acres per 6th level HUC).
- Opportunities for daylighting selected system roads.
- Opportunities for pollinator habitat improvement.

☒ The project design must comply with the following project design features:

- ***Forest Plan Standard FW- 009****: Known black bear den sites will be protected from disturbance by a buffer of a minimum of 100 feet.*
- ***Forest Plan Standard FW- 010****: Potential bear den trees (greater than 20-inch diameter at breast height (dbh), hollow with broken tops) will be retained.*
- ***FLP Specific****: Within individual project areas to be implemented within the Foothills Landscape area, an assessment of existing acres of permanent openings would be completed prior to implementation to determine the maximum allowable acreage of new openings (up to 1% of the National Forest acreage in each 6th level watershed). Permanent openings would be managed as traditional grass/forb (food plots), shrub, native grass/forb, or pollinator habitat as appropriate for the site.*
- ***FLP Specific****: When feasible, native plants that support pollinators would be planted on the forest where appropriate i.e., including logging decks, wildlife openings, powerline, and road rights-of- way. This would specifically include planting milkweed for monarch butterflies. (Work with interested non-profits and organizations to determine the correct plants to consider and the proper locations to conserve and enhance the pollinator habitat across the landscape.)*

☒ If relevant, use space below to list additional survey needs or pertinent information to include in Implementation Plan (i.e., consideration of thresholds for annual reporting of activities affecting endangered bat habitat per Forest Plan standard FW-238, Large Woody Debris opportunities, roads w/in 300' of impaired streams present, etc.):

The Mooneyham IA is within the range of gray, Indiana, and northern long-eared bat per Georgia DNR current survey guidance. All Forest Plan standards for bat conservation apply. Approximately 289 acres of suitable habitat for Indiana bat exists in the IA. A roost tree utilized by northern long-eared bats is present in the IA, but no actions are proposed in the vicinity of that tree. New information regarding the listing status of the northern long-eared bat and tricolored bat is found on page 9 of this document.

There are 3 potential AOP candidates (culverts) in the IA. The SARP protocol was utilized to rank them regarding their severity as barriers to aquatic passage. Perry Creek includes 1 culvert ranked as a 'significant' barrier, Bogden Creek has 2 culverts ranked as 'severe' barriers. In addition, there are 2 culverts on private land on Perry Creek and an unnamed tributary to Perry. Both are 'significant' barriers.

Several perennial streams which are Conasauga River tributaries would benefit from the addition of large woody debris (LWD).

FS Road 151 (Mooneyham) has good potential for daylighting. Creating a corridor of young forest habitat would benefit pollinators and numerous other wildlife while improving road conditions.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

There are **changed conditions** for this resource since the decision was signed:

A new IPaC list for the Foothills Project Area was requested and received from the US Fish and Wildlife Service on 07/20/22; two additional wildlife species appear since the list was obtained in April 2021 for consideration in the project's Biological Assessment and NEPA analysis:

- Monarch butterfly (*Danaus plexippus*) is now a candidate for listing as threatened or endangered (12/15/20), but there are no requirements for consultation under Section 7 of the ESA for candidate species. There are voluntary conservation measures which could be undertaken; many of these are included in the Foothills Landscape Project's proposed action (avoiding milkweed during herbicide treatments, prescribed burning on a 3-5 year rotation, planting milkweed and native nectar-producing plants where possible, midstory control when thinning pine stands, creating or expanding permanent openings). The effects of the project on monarch butterfly were considered and disclosed in the Terrestrial Wildlife Report, Biological Evaluation, and summarized in the Environmental Assessment because the species is a Regional Forester's Sensitive Species (RFSS). This new information does not require any further review or NEPA analysis or consultation. This project is likely to benefit this species, however **it may impact individual monarch butterflies but is not likely to cause a loss of viability or a trend toward federal listing.** This is consistent with the findings in the Programmatic EA and Biological Evaluation.
- Frecklebelly madtom (*Noturus munitus)* is proposed for federal listing as Threatened (11/19/2020). This species was reviewed as a RFSS (Aquatic Resource Report) but was not considered for further analysis in the Biological Evaluation or EA because it does not occur in the project area or within 1 mile downstream. The Foothills Project would have **No Effect** on this species and this new information does not require any further review or NEPA analysis or consultation.

Bat species reclassified as endangered or proposed for listing as endangered:

- On March 23, 2022, the USFWS published a proposed rule to reclassify the northern long-eared bat (NLEB) from threatened to endangered; this is projected to be finalized by March 31, 2023. The effects of the FLP on NLEB were considered and disclosed in the Foothills Programmatic EA and Biological Assessment, but this change in status necessitates new consultation. In anticipation of this reclassification, Forest Service Regions 8 and 9 have initiated formal consultation with the FWS regarding this species and ongoing projects and previously signed decisions including the Foothills Landscape Project. This formal consultation should be completed by 3/31/23 resulting in a Biological Opinion (BO) and incidental take statement (ITS) covering the impacts of this and other projects. This project would comply with the BO. This project **May Affect, Is Likely to Adversely Affect** this species; however, there are no effects beyond those covered in the ongoing formal consultation process. The BO and ITS will ensure the continued compliance of the Foothills Landscape Project with section 7(a)(2) of the Endangered Species Act until the new *Bat Conservation Strategy for Four Species Affected by White-nose Syndrome on Eastern National Forests* (BCS) is finalized. This document includes conservation measures for tricolored bat, Indiana bat, northern long-eared bat, and little brown bat.

- On September 13, 2022, the USFWS proposed to list the tricolored bat as endangered. The effects of the FLP on tricolored bats were considered and disclosed in the Foothills Programmatic EA and Biological Evaluation because the species is on the Regional Forester's Sensitive Species (RFSS) list; it was determined that this project **may impact individuals but is not likely to affect viability or lead to federal listing of the species.** The proposed listing triggers the need for *conference* with the USFWS or *consultation* once listing is finalized, therefore this project is currently in compliance with ESA regarding this species. It is expected that the listing will be finalized in late summer 2023 and that formal consultation to cover this and other existing projects regarding tricolored bat will be completed prior to final listing. Finally, the above referenced BCS is currently in draft form and will include protective measures for tricolored bat and three other species. This project will comply with that strategy and resulting BO and incidental take statement. The determination of effect would be that the project **May Affect, Is Likely to Adversely Affect** this species, but compliance with the anticipated BO and incidental take statement would satisfy the Forest Service's responsibilities under Section 7(a)(2) of the Endangered Species Act.

Considering these changed conditions or information and the existing analysis, this project **remains in compliance** with the Programmatic Environmental Assessment and the requirements set forth under NEPA, ESA, and other applicable laws, regulations, and policies.

Signature Ruth Stokes
Biologist

Botanical and Rare Communities (T&E and Sensitive*, NNIS)

☒ Review existing data to determine known locations of T&E species, designated critical habitats, Regional Forester's Sensitive species, or locally rare species (i.e., consult DNR – WCS spatial database on AGOL, FS GIS shapefiles and other records).

☒ Obtain updated official species list from IPaC for the project area at: https://ipac.ecosphere.fws.gov/. If new species are listed and present in IA and could be affected by the proposed action, consult with USFWS/ supplement NEPA accordingly.

List Date IPaC pulled: 7/20/2022

☒ Review existing data to determine known locations of rare communities (i.e., bogs, caves, rock outcrops).

☒ Review existing data to determine known locations of Non-native Invasive Species (NNIS); If needed, utilize risk assessment and conduct botanical surveys and NNIS assessment to determine if individuals or populations occur once activity locations are known.

☒ Communicate known site locations to IDT for avoidance (i.e., protected information for internal planning purposes only).

☒ The project design must comply with the following project design features:

- ***FLP Specific**: Known populations of T&E, Sensitive and LR plants would be protected by placement of a buffer zone around them where possible. The appropriate measures would be determined in coordination with U.S. Fish and Wildlife Service and Georgia Department of Natural Resources.*

☒ If relevant, use space below to list additional survey needs or pertinent information to include in the Implementation Plan (i.e. additional opportunities for unique habitat work):

A botanical survey of the Mooneyham IA project area was completed in June and August 2022. The contractor located populations of 2 RFSS plant species. Both were addressed in the EA and BE.

- Eastern turkeybeard *(Xerophyllum asphodeloides*) was previously known to exist, but many more plants were located and mapped. This species would benefit from continued prescribed burning and other actions such as midstory removal or canopy to provide more sunlight. This population is located within the proposed Iron Mountain burn unit.
- Small spreading pogonia (*Cleistesiopsis bifaria*) was found in one stand during surveys. This species is adapted to fire and benefits from prescribed fires that reduce overstory trees and shrubs to maintain open conditions. If commercial timber harvest operations are planned, individual plants will be protected from impacts during timber sale operations by Special Area provisions. This will be designated on the ground by banding selected trees surrounding the plants with white paint and by designation on timber sale contract maps with Special Area symbology.

The implementation of the Mooneyham IA project may benefit these rare plant populations but **may impact individual eastern turkeybeard and/or small spreading pogonia but not affect population viability or lead to federal listing of either species.** This is consistent with the findings in the Programmatic EA and Biological Evaluation.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

There are **changed conditions** for this resource since the decision was signed:

The new IPaC list for the Foothills Project Area was requested and received from the US Fish and Wildlife Service on 07/20/22; one additional species was added since the list was obtained in April 2021 for consideration in the project's Biological Assessment and NEPA analysis:

> Tennessee yellow-eyed grass (*Xyris tennesseensis*) is federally-listed as endangered. It is a wetland plant with no known occurrences in the Foothills Landscape Project area. We have reached out to Georgia DNR botanist Carlee Steppe for information about why the species was added to the IPaC list for this project. She confirmed that there are no new occurrences of the species in the project area. The most likely explanation for the listing on IPaC is that there is a new occurrence outside the project area but in one of the 8 counties encompassing the Foothills Project boundary. This project would have **no effect** on Tennessee yellow-eyed grass or any wetland habitats.

Considering these changed conditions or information and the existing analysis, this project **remains in compliance** with the Programmatic Environmental Assessment and the requirements set forth under NEPA, ESA, and other applicable laws, regulations, and policies.

Signature Ruth Stokes
Biologist

Cultural Resources

☒ Archaeologist gathers relevant cultural resources data for IA, determines maximum survey needed, and notifies tribes and Georgia State Historical Preservation Office (SHPO) of proposed undertakings and cultural resources work. Tribes/SHPO have 45 days to review.

☐ Archaeologist gathers relevant cultural resources and plant species data and provide to tribes for 60-day sacred site review. **Once consultation completed, begin surveys and required mitigations.**

☐ Communicate known site locations to IDT for avoidance (i.e., protected information for internal planning purposes only).

☒ The project design must comply with the following project design features:

- ***FLP Specific**: Cultural Resources sites with an eligible or undetermined National Register of Historic Places status will be avoided and protected from project effects. The standard avoidance method will consist of a 100-foot protective buffer around each site, or as determined through consultation with the Georgia State Historic Preservation Officer and interested Tribes.*

- ***Forest Plan Standard FW- 208****: Manage heritage resources in accordance with applicable federal laws, regulations, policy, agreements, and in the public interest. Emphasize the protection of significant heritage properties, completion of the forest wide inventory, and assessment of the significance of inventoried properties. Identify opportunities for appropriate use and interpretation of heritage properties.*
- ***Forest Plan Standard FW- 211:*** *Consult with Heritage specialists in the planning stages of projects involving ground disturbance, diminished jurisdiction, or increased public use of, or access to, an area.*
- ***Forest Plan Standard FW- 212****: Responsible official will halt any project during ground disturbance activities if known or newly discovered heritage resources are encountered, regardless of whether the area has been previously disturbed, until the significance of the site has been determined by Forest heritage staff through coordination with consulting parties.*
- ***Forest Plan Standard FW- 214****: Pursuant to 36 CFR 196.18, site locations are exempt from provisions of the Freedom of Information Act. Do not disclose site locations in documents available to the public, including heritage GIS data, unless agreed to by all parties, including Native American tribes as appropriate.*
- ***FLP Specific****: All actions associated with the Foothills Landscape Project will follow the stipulations of the Foothills Programmatic Agreement.*

☒ If relevant, use space below to list additional survey needs or pertinent information to include in the Implementation Plan:

Draft consultation report has been prepared and submitted to Tribes and SHPO for review the week of August 15. Proposal calls for survey of 365 acres of high probability area that will be affected by proposed activities and 261 acres of high probability areas within the IA but outside area of potential effect. Sacred Site review will be completed when botanical surveys are done in fall so that information can be included. Contract to complete archeological surveys on 626 acres has been awarded and fieldwork is scheduled to start September 2022. Once surveys have been completed in 2023 sites to protect will be identified and shared with IDT.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed

conditions or specific actions that are not in compliance. These conditions or actions are listed below.

Click or tap here to enter text.

Signature James Wettstaed
Archaeologist

Fire and Fuels

☒ Identify the existing fire condition class (FCC) and opportunities/ needs for treatment (EA Appendix F: Table 45).

☒ Identify any existing hazardous fuels and opportunities for treatment in WUI based on risk (EA Appendix F: Table 44).

☒ Identify existing Rx burn unit(s) present in the IA.

☒ Identify if new burn units need to be established. Consider the implementation needs for that new burn unit. For example, but not limited to:

- Are natural barriers present?
- Is dozer line needed? If so, resource concerns?
- Other?

☒ If relevant, use space below to list additional survey needs or pertinent information to include in the Implementation Plan:

The Mooneyham IA has a history of summertime natural fire ignitions. For example, in July of 2022, an 89-acre wildfire was started at the summit of Iron Mountain in the proposed Iron Mountain Rx burn block, presumably by lightning strike. These summertime wildfires show a resistance to control and can result in mortality of the overstory. Areas outside of existing burn units would fall into FCC3.

Areas within existing burn units have a FCC of 2. These units have several occurrences of fire-dependent species, including eastern turkeybeard. The burn units have each received 3+ prescribed fire treatments within the past 10+/- years. The units still have substantial fuel loadings from mortality due to wildfires and prescribed burns.

Existing burn units in IA: Mooneyham and Turkeybeard (Georgia portion)

The Turkeybeard burn boundary extends north into TN on the Cherokee National Forest, following the boundary of the Conasauga River. Only the 404 acres in Georgia that are part of the Foothills landscape are included in the Foothills decision.

New burn units proposed: Mooneyham Extension, Iron Mountain (Georgia portion), and Halfway Branch (Georgia portion).

The Mooneyham burn unit is adjacent to the state line, forest boundary, and private lands with multiple structures occurring in the Wildland Urban Interface. Mooneyham Extension would require new dozer line to be constructed. Existing temporary access roads would be used where possible to limit additional soil disturbance.

The proposed Iron Mountain burn unit is adjacent to or within ¼ mile of multiple private residences and outbuildings and Forest Service recreation facilities such as Cottonwood Patch Campground and the Snorkel Hole on the Cherokee NF. It is bounded by the Conasauga River to the North, East, and Southeast. A population of eastern turkeybeard has been documented on the western boundary of the unit. The planning of the Iron Mountain RX unit requires cooperation with the Cherokee National Forest as a portion of the unit extends north into Tennessee across the forest/state Boundary. This occurs because the northern boundary of the unit is the natural barrier of the Conasauga River. The Cherokee National Forest will complete NEPA for the portion of the Iron Mountain Prescribed fire unit extending into Tennessee.

The Cherokee National Forest is proposing a new burn unit (Halfway Branch) that extends south into Georgia (and the Foothills Landscape) due to utilization of the Conasauga River as its southern boundary. They will complete NEPA for the portion falling in Tennessee.

Terrain and access are limiting factors to all units within the planning area. Steep, rocky terrain with heavy fuels limit safe access and fire line construction for fire line personnel.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

Signature Jeffery Schardt
Fire Management Officer

Soils and Hydrology

☒ Check with Forest Soil Scientist/ Hydrologist to determine existing and projected Total Impervious Area (TIA) in each 6th level HUC (EA Table 48, Appendix F).

- **FLP Specific Project Design Feature**: *Watershed TIA should not exceed 10%. Impervious surfaces are those that prohibit the movement of water from the land surface into the underlying soil (ex. Roads, trails, and other compacted areas).*

☒ Identify current Watershed Condition Class and identify any Priority Watersheds (See Tables 6 and 7 in EA). If Priority Watersheds exist, work with Forest Soil Scientist and/or Hydrologist on Watershed Restoration Action Plan (WRAP).

☒ Identify Streamside Management Zones (SMZs), proper widths, and any prescriptions within the SMZ.

☒ Coordinate with Forest Soil Scientist to ensure past detrimental disturbance in combination with proposed treatment disturbance would not exceed 15% of the activity area. If 15% would be exceeded by the treatment, evaluate the area for soil restoration activities.

☒ Coordinate with Forest Soil Scientist to identify any sensitive soil types (see various hazards and ratings in soil report) and slopes greater than 35%.

☒ The project design must comply with the following project design features:

- ***Forest Plan Standard FW- 065****: On all soils dedicated to maintaining forest cover, the organic layers, topsoil, and root mat will be left intact over at least 80% of an activity area.*
- ***Forest Plan Standard FW- 06****: Water control structures necessary for the control of surface water movement resulting from soil disturbing activities will be constructed within 30 days of completion of the activity.*

☒ If relevant, use space below to list additional survey needs or pertinent information to include in Implementation Plan:

This Implementation Area consists of two watersheds: Bogden/Ballplay Creek and Perry Creek. According to the analysis conducted for the EA, if the maximum veg treatments were implemented within the Bogden/Ballplay watershed the total impervious area would only be 1.9%. For Perry Creek, the total impervious area would only be 1.5%. Note: It seems Bogden/Ballplay was left off the final version of Table 7 in the Hydro report, but it was evaluated and is included in previous versions. Both watersheds have been identified as Priority Watersheds and WRAPS have been completed and updated with essential projects accordingly. Bullet points 3-6 have been evaluated for current planning and will be revisited and refined throughout the planning process.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

Click or tap here to enter text.

Signature Taylor Hughes
Soil/Hydrology Specialist

Recreation and Transportation/ Road System

☒ Identify impacts to developed recreation, designated dispersed recreation, and trails from non-recreation actions.

☒ Identify road maintenance/ improvements needed to implement proposed activities

☐ Verify data in INFRA and correct any discrepancies.

☒ Identify any roads from the EA with ML changes identified for maintenance level reduction or decommissioning.

☒ Identify opportunities to improve the condition of NFS roads. Coordinate with Silviculture, Soils and Engineering.

☒ The project design must comply with the following project design features:

- ***Forest Plan Standard FW- 129****: During active projects, all roads, ditches, and other improvements in the project area are kept free of logs, slash, and debris. Any road, ditch, or other improvement damaged by operations is promptly repaired.*

☒ Identify the impacts to the recreation user (user experience, access, public health and safety) from both the recreation-specific actions and non-recreation actions and determine appropriate methods of notification and communication. For example, but not limited to:

- Are there any potential road closures that may impact access to recreation sites? Seasonal or temporary closures?
- Prescribed burning or vegetation management that may cause closures?
- Smoke or equipment that may conflict with users?
- Other?

☒ Identify Scenic Integrity Objectives (SIOs) and Recreation Opportunity Spectrums (ROS) for the IA and communicate with Silviculture, Soils and Engineering any concerns of not adhering to these management directions.

- ***Forest Plan Standard FW- 097:*** *The Forest SIO Maps and Tables in each prescription govern all new projects, including special uses. Assigned SIOs are consistent with ROS management direction. Existing conditions may not currently meet the assigned SIO.*
- ***Forest Plan Standard FW- 114:*** *Maintain consistency between adopted SIOs and ROS management direction (Standard FW-102, 2-29), including promptly rehabilitating firelines to appear natural in areas of High and Very High SIO.*

☐ Wild and Scenic River designation exists in the implementation area

☐ Confirm presence of designated National Scenic, Historic or Recreation Trails. If present, coordinate appropriately.

☒ If relevant, use the space below to list additional survey needs or pertinent information to include in Implementation Plan (i.e., other Recreation actions (including Categorical Exclusion level actions) occurring in the IA, anticipated public notices/ closure order needs specify):

The Iron Mountain Trail (FT 77) would be impacted infrequently by use of prescribed fire in the area and the use of the trail as a fire line. These impacts would be similar or less than recent wildfire impacts in the same area and would consist of temporary closures of the trail during prescribed fire activities, and limited clearing and widening of the trail where necessary to improve fire control lines.

Proposed commercial timber harvest in two units would also impact the Iron Mountain trail due to 1.5 miles of the trail being concurrent with Forest Service Road (FSR)1A. These impacts would be limited to the duration of timber sale operations and would include potential closure of the trail during active operations for visitor safety, and temporary impacts to the trail conditions from heavy equipment use and hauling activities. Timber sale activities would occur on weekdays only to minimize these impacts to trail users, and trail conditions would be left suitable safety-wise for the weekends.

Some benefit to the long-term sustainability of the trails may be gained by removal of infringing vegetation and blowdown during these road and fire line maintenance/improvement activities. Trail sections utilized as fire line and timber sale access will be rehabilitated to maintain proper trail drainage and barriers will be constructed as necessary to eliminate illegal motorized vehicle access to the trail.

There is an existing equestrian Outfitter and Guide permit that includes the Iron Mountain Trail. The O&G permit holder will be notified as much in advance as possible of impending trail closures associated with both prescribed fire and timber operations and be allowed to temporarily utilize alternate trails during the closure period(s). Timber harvest activities will not be occurring on weekends, so impacts to the O & G permit from sale operations are anticipated to be very limited. Trail closure orders for the Iron Mountain Trail will be issued and posted as needed during periods of prescribed burning or timber harvest.

Forest Service Road (FSR) 151 is a seasonally gated hunting access road. Proposed timber and/or vegetation management would potentially include maintenance/improvement of FSR 151 in conjunction with timber sale and prescribed burning activities, which may result in improved hunter access.

The Conasauga River is a “recommended” Wild and Scenic River and as such, all areas adjacent to this river are to be managed under MRx 2.B. Portions of the Turkeybeard, Iron Mountain, and Halfway Branch (proposed by Cherokee National Forest) prescribed burns, and a non-commercial treatment to favor Eastern Turkeybeard are proposed within management prescription area 2.B.1 adjacent to the Conasauga River. No changes to current recreation facilities or trails are proposed. All actions within this area will be consistent with MRx standards for this 2.B. area.

One area proposed for two-aged regeneration harvest has an assigned HIGH SIO due to proximity to Hwy 411. A landscape architect has been consulted as required by the R8 Scenery Treatment Guide.

Decommissioning a portion of FSR 1 and downgrading to ML2 will have limited impact on the public as the access to this road is private and has been gated by the landowner for several years.

All roads planned for use in the Mooneyham Implementation Area have been surveyed for needed/deferred maintenance; FSR 151, 1, 1A. All roads used for vegetation and/or timber management will be maintained and improved to GA BMPs and Forest Plan Standards.

Currently the INFRA data for FSR 1 and 1A is incorrect. We are working with Forest Engineering staff to correct the information. The INFRA data for FSR 151 is correct.

Proposal identifies two maintenance level (ML) reductions or decommissioning: FSR 1 (1.2 miles) for a ML reduction from ML 3 to ML2 – Administrative use only and 1.3 miles of FSR 1 for decommissioning.

Planned management actions will have multiple opportunities for FSR improvement. All timber management will include road work according to GA BMPs and the Forest Plan Standards. The proposal includes replacing 5 culverts with AOPs to improve habitat and road drainage as well as 1.5 miles of daylighting on FSR 151.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

Click or tap here to enter text.

Signature Karen Larsen
Recreation Specialist

Vegetation

☒Review/ collect stand exam data in accordance with current policy (forest health, species composition, stand age, basal area, etc.).

☒Determine existing acres of young forest habitat (0-10 years old) in the IA using aerial imagery, remote sensing data, and/or ground truthing.

☒Work through Foothills decision matrixes for stands being considered for silvicultural treatment.

☒Confirm stands are not identified for proposed old growth or forest plan designated Table 17 in EA.

☒Do hemlock treatments exist, and if so, are any in Inventoried Roadless Areas (IRAs)?

☒Review operational feasibility and access. This includes, but not limited to:

- Management Prescriptions
- Identify potential roads needed based on proposed action. Coordinate with Engineering on any needed improvements (culvert replacements, road widening, etc.)
- Temporary road construction anticipated. Coordinate with Soils, Engineering, Timber Sale Administrator, and other applicable resource areas
- Slopes

☒ Determine connected actions (prescribed fire, herbicides, etc.). See EA, Table 17 and Appendix B for full list.

☒ The project design must comply with the following project design features:

- ***FLP Specific****: Forested areas greater than 1/2 mile from a road should be excluded from commercial timber harvest.*

☒ If relevant, use space below to list additional survey needs or pertinent information to include in Implementation Plan:

Stand exam data collected 2017-2019.

Two existing prescribed burns in the Mooneyham implementation area (IA) have created small pockets of existing early successional forest (ESF) greater than two acres in the project area. The age of these blocks was determined using the Landscape Change Monitoring System web tool to determine what year the canopy was disturbed and a general area for the disturbance. These areas were ground truthed and there is determined to be 46 acres of existing young forest habitat (0-10 years old) in the project area.

No stands in the Mooneyham implementation area (IA) were proposed for small block old growth designation under the Foothills EA because both of the 6th level HUC watersheds meet the 5% minimum as required by the Forest Plan.

No hemlock treatment areas are proposed in this IA.

☐ Maps and visual aids have been attached. Level of detail should be sufficient to allow for adequate planning and identifcation of issues and concerns.

Please select one of the statements below:

☒ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are no changed conditions at the time of this review.

OR

☐ All activities shown in the draft plan have been reviewed for compliance with the Foothills Landscape EA or other relevant NEPA compliance and my resource. There are changed conditions or specific actions that are not in compliance. These conditions or actions are listed below.

Click or tap here to enter text.

Signature William Hunter
Silviculturist

IDT Leader or District Ranger

☒ Communicate IA location to Forest Land Surveyor early so that Boundary Management policies are followed, and concerns are either addressed and/or mitigated.

☒ Verify that all resource specific maps or visual aids have been completed.

☒ NEPA for any changed conditions or activities not covered in the Foothills Landscape EA or other existing analysis has been initiated. Please review each specialist section above to identify the specific conditions or actions not covered.

☒ Besides the resource specific PDFs listed above, the project design must also comply with the following project design features:

- ***FLP Specific**: All activities should be evaluated for their potential to affect NNIS. A risk assessment (Example in Appendix A of NNIS report) should be utilized prior to implementation of any activity to determine the risks and consequences of the action on NNIS, and the necessary mitigations included as part of the activity.*
- ***Forest Plan Standard FW- 031:** As part of recurrent monitoring and any project inventories, include data collection on existing or potential threats such nonnative invasive species*
- ***Forest Plan Standard FW- 032**: Nonnative invasive species shall be controlled with priority given to areas where they are causing adverse effects to federally listed species, or to individuals of other species needed to maintain their population viability on the national forest. Nonnative invasive species are not intentionally introduced near these species or individuals, nor will management actions facilitate their inadvertent introduction.*
- ***Forest Plan Standard FW- 056**: When seeding disturbed soils, use only native or non-persistent non-native species per Region policy.*

☒ If relevant, use space below to list additional needs or pertinent information to include in Implementation Plan:

District has completed force account boundary line maintenance within ¼ mile of proposed Mooneyham commercial vegetation treatment actions. All proposed actions within the Mooneyham IA were considered within the programmatic Foothills Landscape Project EA and DN. NNIS treatments are covered under existing NEPA; however, a pesticide use proposal and will be completed for NNIS treatment needs within the IA. A preliminary NNIS risk assessment has been completed for proposed actions in the IA.

Signature Jeff Gardner
District Ranger

Step 3: Draft Implementation Plan and Initiate Surveys

Instructions: District IDTs review data from initial field visits, surveys and inventories. The IDT works together to consider all information captured in Steps 1-2 above, identifies applicable project design features and recommend management actions needed for IA to the local Line Officer. The resulting information will be presented as a draft implementation plan (see end of this document) used to communicate the project-specific proposals for each IA to stakeholders and identify locations of remaining survey work/ data needs.

The following checklist provides guidance in completing the implementation plan attached to this document. This plan provides the baseline information necessary to comply with the overarching law, policy, and regulation while ensuring consistency with the final EA and DN. Each resource specialist is responsible for ensuring the information presented in this implementation plan is accurate and complete.

☒ All activities within the IA are fully listed and described. Please provide sheets for each project and summarize on the first page.

☒ Ensure all relevant resource maps are attched to Implementation Plan. Level of detail should be sufficient to allow for adequate planning and identification of issues and concerns.

☒ Ensure PDFs for each resource area (Step 2) have been included in the Draft Implementation Plan.

☒ Ensure that all activities (or specific conditions or activity components) that need additional analysis are clearly articulated in the Draft Implementation Plan.

☒ Determine any outstanding needs or missing data and add to the Implementation Plan.

- ☒ Conduct site-specific inventories for botanical species based on forest risk assessment direction
- ☒ Conduct site-specific inventories for NNIS species
- ☒ Conduct other biological inventories as needed
- ☒ Complete NNIS risk assessment to determine needed mitigations
- ☐ Conduct site-specific inventories for cultural resources
- ☐ Other

Use space below to provide additional information such as process for obtaining or detailed description of outstanding needs:

Site-specific inventories for botanical species have been conducted

Site specific cultural resource inventories will be conducted in the Fall of 2022

A preliminary NNIS risk assessment has been completed

Additional NEPA analysis is required for portions of the Turkeybeard, Halfway Branch and Iron Mountain prescribed burns that fall outside of the Foothills landscape on the Cherokee National Forest. This NEPA will be completed by the Cherokee National Forest.

Step 4: Present Draft Implementation Plan to Stakeholders (Foothills Collaborative Group)

Forest intends to engage the Foothills Collaborative Group (FCG) early and often throughout the life of the project to identify issues, concerns, and desires of its members. The FCG is *(will be)* a diverse, self-governing body of representatives from various interest groups and organizations who wish to assist the Forest in successful implementation of the FLP in accordance with the Final Environmental Assessment and Decision Notice.

The FCG would have opportunity to provide feedback and make recommendations on draft implementation plans prior to public notice. Utilizing collaborative input in this way allows for robust stakeholder influence throughout the life of the project. Ideally, having the FCG influence and refine draft implementation plans prior to public release will result in less controversial, more socially acceptable projects and help the agency accomplish its objectives with greater efficiency.

Summary of Comments Received:

Summary of how comments were incorporated into Implementation Plan:

Click or tap here to enter text.

Step 5: Public Notice and Opportunity for Input

Instructions: The Forest will hold an annual meeting (anticipated late summer/ early fall) to provide public assessment of the draft implementation plan(s), refined maps, and schedule. If planned activities are demonstrated to fall within the scope and scale of the final EA/DN, feedback received during the annual meeting will be considered by implementation teams and responsible official and used to further collaborative efforts and adjust implementation activities as appropriate. If subsequent analysis is needed due to new or changed conditions in the IA that were not accounted for in the programmatic EA/ DN, the Forest will also seek official comment in accordance with NEPA. Outyear plans may also be presented at this time with opportunity for public engagement, though in less detail.

Summary of Comments Received:

The Chattahoochee-Oconee National Forest hosted its first annual stakeholder meeting for Foothills Landscape Project implementation on Thursday, October 13, 2022, at Cohutta Springs Conference Center in Crandall, Georgia. Forest Service specialists from the Conasauga Ranger District were available to answer questions on specific implementation plans for the upcoming year.

One letter was received from Southern Environmental Law Center (SELC) representing the Chattooga Conservancy, Georgia Forest Watch, the Sierra Club of Georgia, the Wilderness Society, and SELC. Those comments and Interdisciplinary Team responses can be found in Attachment D: Mooneyham Feedback Responses.

Summary of how comments were incorporated into Implementation Plan:

Comments that were incorporated into the plan (as detailed in Attachment D) are listed as "Additional Project Design Features" on the activity page for each proposed action.

Step 6: Conduct Field Trip(s)/Educational Outreach

Instructions: Hold a public field trip of Choose an item. IA. The Forest anticipates at least one field trip per year, depending on public interest. These field reviews will focus on pre-implementation priorities/concerns identified from Steps 2-4; however post-treatment and monitoring activities may be viewed on the same trip if desired and feasible. The FCG should help identify priorities or potential areas of concern, and subject matter experts for furthering education opportunities.

Summary of field trip details and comments received:

On Monday, October 24th, the Conasauaga Ranger District hosted a field trip to review the proposed actions in the Mooneyham Implementation Area. Six Forest Service personnel joined three attendees from Georgia Forest Watch, two from The Nature Conservancy, one from Georgia Department of Natural Resources, and one landowner with property adjacent to the implementation area.

The following questions were asked by attendees and answered by Forest Service resource specialists:

- What types of herbicide are you proposing to use for site prep in shortleaf restoration stands?
- How wide is the road daylighting treatment?
- Why not cut all loblolly plantations in the project area now?
- How will you access Perry Creek for large woody debris treatment and what type of equipment will you use?
- Are any follow up treatments planned in the precommercial thinning stand?
- Will anything larger than 8 inches be cut in the non-commercial oak midstory treatment?

Attendees were given a QR code directed at the Foothills website to leave comments if they chose. No comments were received.

Summary of how comments were incorporated into Implementation Plan:

No comments were received from field trip attendees.

Step 7: Identify Additional Monitoring Needs

Instructions: Identify specific monitoring that may be needed. Those already listed in the Forest Plan are considered mandatory. Additional monitoring recommendations provided from the FCG will be considered. Any additional monitoring is at the discretion of the line officer.

Monitoring of known turkeybeard plants in the proposed Iron Mountain burn is needed to determine how the plants are responding to the reintroduction of fire as well as the non-commercial woodland treatments. These monitoring needs have been added to Attachment C: Monitoring Plan for Mooneyham Implementation Area.

Step 8: Finalize Implementation Plan

Instructions: The IDT will finalize the implementation plan. Update the draft plan created in Step 4 with information and revisions that resulted from public involvement and survey results. Ensure all aspects of this checklist have been completed, including signatures, before submitting for approval by the line officer (District Ranger). Ensure contracts, agreements, burn plans, or other implementation instruments are reflective of this framework. Ensure proprietary information is protected (cultural and T&E).

- ☒ Update final project acres and miles in Implementation Plan
- ☒ For each resource area, update final acres and ensure information is complete
- ☐ Finalize Silviculture prescriptions and marking guides
- ☐ Finalize prescribed burn plans
- ☒ Confirm all relevant PDFs are included
- ☒ Confirm all maps are attached
- ☐ Any additional analysis, if required, is completed and documentation is attached

Step 9: Submit for District Ranger Approval

Instructions: Submit the completed implementation plan to the District Ranger for review and approval.

I have ensured my district and SO specialists followed this guide as intended, and the resulting implementation plan and selected design features have been designed accordingly and in compliance with the final DN for the FLP. Additional information, if relevant to this review, has been documented below:

Details of the oak midstory treatment activity under Foothills were unintentionally miscommunicated at the annual stakeholder and Foothills Collaborative meetings. It was presented that "Proposed treatment includes herbicide application to midstory vegetation ≤ 8" DBH" but the Foothills EA restricts midstory treatments by crown position and species, not diameter at breast height (DBH). The proposed oak midstory treatment will be applied to "trees below the main canopy" and "[o]ak and hickory species would not be treated with herbicides…."(Foothills EA, B8) These are the design features that will be used when implementing oak midstory treatments.

Signature _____

District Ranger

Step 10: Conduct Contract Review (if applicable)

The Timber Contracting Officer will review the contract package to ensure the applicable design features included in final implementation plan are identified within various contract C provisions.

Signature _____

Contracting Officer

Foothills Landscape Project Implementation Plan

Implementation Area: Mooneyham
Ranger District: Conasauga
Date: August 10, 2022

Instructions: Use the tables and template(s) that follow to summarize all actions to be implemented within the IA; drafted during Step 3 and finalized during Step 8. The Plan Summary table should list all activities selected from the checklists below, with each activity described in detail in the section that follows. When completing all project information, ensure all information is sufficient and relevant to provide a full and detailed project description. The summary table below can be used to quickly track the number of projects within the IA and the acres or miles of disturbance impacts.

Activities Implementable from Final DN: Select all that apply. See Table 17 in the EA for full description of action and connected actions.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☐	Bog improvement actions including hydrologic restoration and removal of encroaching vegetation (may include commercial treatment)	Raise stream profiles by filling or plugging ditches Removing encroaching vegetation by commercial, non-commercial harvest	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Canebrake restoration actions including overstory removal (may include commercial treatment)	Removing encroaching vegetation by commercial, non-commercial harvest	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Small-whorled pogonia improvement actions including experimental canopy and midstory removal	Non-commercial thinning or hand clearing	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☐	Non-commercial release of hemlock trees to decrease susceptibility of hemlock to hemlock woody adelgid outside of HCAs	Individual tree release, non-commercial thinning	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Designate small blocks of old growth	Allocate small blocks of old growth stands that are arranged in mosaics and connected by other habitat types	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☒	Stream habitat improvements	Add large woody debris to stream channels through cut and leave operations (mechanical and non-mechanical) Maintain and enhance existing in-stream structures Stabilize streambanks	Comp 716 – Perry Creek Comp 714 – Bogden Creek, Gizzard Branch, unnamed tributary to the Conasauga River	2.3 miles	2.3 miles
☒	Continuation of prescribed burning within existing burn blocks	Prescribed burning during dormant and/or early growing season on a recurring basis	Mooneyham Rx Burn – Comp 715, 716; Turkeybeard Rx Burn – Comp 714	724 ac	712 ac
☒	Decommissioning of maintenance level (ML) 2 and ML1 system roads	Close road/trail to public; may include full obliteration of roadbed, removal of stream crossing fills/ culverts with restoration of channel, crushing and burying inlets, seeding, fertilizing, mulching, drainage improvements, scattering slash, etc.	FSR 1 Doogan Mountain Rd from intersection of Iron Mountain Trail to end of road	1.3 mi	1.3 mi
☒	Implement changes to system road ML and/or use restrictions	Reduce ML in system roads, including seasonal closure in some roads update MVUM	FSR 1 Doogan Mountain Rd from start at Old Hwy 2 to Iron Mountain Trail	1.2 mi	1.2 mi
☐	Implement changes to system road ML and/or use restrictions	Increase ML, pave road, install safety features, improve drainage (NFSR 18, Holly Creek)	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☐	Reconstruction of existing roads that are causing sedimentation to streams, particularly within watersheds with 305b and 303d listed streams	Widen curves Upgrade culverts Harden or repair low-water stream crossings Upgrade or reconstruct drainage features, spot reconstruction if needed Upgrade surface material and configuration using Georgia BMPs	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Decommission a section of Tatum Lead motorized trail and Milma Creek OHV trails	Close trail to public; may include full obliteration of roadbed, removal of stream crossing fills/ culverts with restoration of channel, crushing and burying inlets, seeding, fertilizing, mulching, drainage improvements, scattering slash, etc.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Convert the Tibbs All-Terrain vehicle (ATV) trail and a section of Milma Creek OHV trail back to a system road	Administratively convert a section of the trail back to a system road	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Convert the Rocky Flats OHV trail back to a system road	Administratively convert a section of the trail back to a system road	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Decommission low-use trails (Murray's Lake Trail and Peeples Lake Trail)	Administrative removal of trails from system Update maps	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Decommission Boggs Creek developed campground	Administratively decommission campground	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Decommission Oakey Mountain developed campground	Close to public; remove all infrastructure (may include full obliteration of infrastructure), hardened surfaces, seeding, fertilizing, mulching, drainage improvements, scattering slash, etc.	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Commercial Activities (May only occur in MRx suitable for timber production per selected Alternative (Alt 3)): Select all that apply. See Table 17 in the EA for full description of action and connected actions.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☒	Restoration of southern yellow pine forest on dry sites dominated by mid to late-successional Virginia or white pine	Two aged regeneration harvest	Comp 714 Stand 11; Comp 715 Stands 3, 13; Comp 716 Stand 25	128 acres	86 acres
☒	Restoration of southern yellow pine forest or oak forest on sites currently occupied by off-site pine plantations (loblolly or white pine) or failed shortleaf or pitch pine plantations	Two-aged regeneration harvest	Comp 716 Stands 10, 22, 24	59 acres	101 acres
☐	Maintenance of southern yellow pine forest	Commercial thinning	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Maintenance of southern yellow pine forest	Expanding gap treatment	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☒	Maintenance of oak forest	Commercial thinning	Comp 716 Stands 3, 4	49 acres	49 acres
☐	Maintenance of oak forest	Expanding gap treatment	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☒	Commercial and non-commercial thinning of pine plantations to improve forest health	Commercial thinning	Comp 712 Stand 20; Comp 715 Stands 17, 18; Comp 716 Stands 1, 13, 20	151 acres	151 acres
☐	Create young forest (ESH) in mesic hardwoods	Two-aged regeneration harvest	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☒	Create young forest (ESH) by daylighting roads and permanent openings	Two-aged regeneration harvest	Comp 716, 50 ft corridor following FSR 151	8 acres	8 acres
☐	Creating young oak forest (ESH)	Shelterwood or two-aged regeneration harvests	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☒	Restoring open woodland habitats on appropriate sites	Commercial or non-commercial thinning	Comp 714 Stands 14, 19, 42	66 acres	66 acres
☐	Canopy gap creation in closed-canopied mesic stands	Commercial and non-commercial thinning Overstory and midstory reduction w/ variable tree density retention; gaps implemented would total <25% of stand acreage with gap size no more than ¾-acre each.		Click or tap here to enter text.	Click or tap here to enter text.
☐	Create or expand permanent openings	Remove trees Prepare site by grading and stump removal	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Reduce hazardous fuels in the WUI	Mid-story reduction Commercial or non-commercial thinning	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Non-Commercial Action(s): Select all that apply. See Table 17 in the EA for full description of action and connected actions.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☒	Maintenance of oak forest	Mid-story reduction	Comp 714 Stands 4, 10, 13, 21; Comp 716 Stands 8, 9	181 acres	Click or tap here to enter text.
☐	Maintenance of oak forest	Crown-touching release with manual methods	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☒	Commercial and non-commercial thinning of pine plantations to improve forest health	Non-commercial thinning	Comp 716 Stand 19	38 acres	38 acres
☒	Replacement of culverts, fords, or bridges to increase aquatic organism passage and function	Replacement of culverts, fords, or bridges	Comp 716 – one on FSR 151; Comp 714 – two on FSR 1A Note: there are two sites south of forest boundary on private property	3 aquatic organism passage projects	3 aquatic organism passage projects
☒	Prescribed fire in new burn blocks to facilitate restoration or maintenance of fire-adapted ecosystems or to reduce hazardous fuels	Prescribed burning during dormant and/or early growing season on a recurring basis	Halfway Branch Rx Burn – Comp 714; Iron Mountain Rx Burn – Comp 714, 712; Mooneyham Extension Rx Burn – Comp 716	958 acres	1,041 acres
☐	Willis Knob Horse Trail Improvements	Construct new trail Re-route and construct/re-construct portions of trail on areas with resource concerns outside of the WSR, block or obliterate problem portions of trail Relocate parking area Construction of connector trails from parking to campground Campground improvements	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Selected for this Project	Activities That are Part of This Project	Primary Actions	Location (ie. HUC, Compartment Stand, and or Geographic Description)	Draft Acres and/or miles of road/trails, etc.	Final Acres and /or miles of road/trails, etc.
☐	Develop and maintain sustainable recreation within the WSR corridor – Earls Ford	Construction of new system trails Removal and restoration of degraded sites and designation of dispersed camping areas	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.
☐	Willis Knob Horse Trail Improvements within the WSR	Re-route and construct/re-construct portions of trail on areas with resource concerns, block or obliterate problem portions of trail	Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.

Action(s) or Conditions that Need Additional Analysis (Please Refer to Step 2 Resource Sections):

Specific Action or Condition Needing Analysis, if applicable	Analysis complete?
Proposed Iron Mountain Rx portion in TN – outside of Foothills landscape, being analyzed by the Cherokee NF in conjunction with their Halfway Branch prescribed burn.	☐yes ☒no
Click or tap here to enter text.	☐yes ☐no
Click or tap here to enter text.	☐yes ☐no
Click or tap here to enter text.	☐yes ☐no

Activity Name: Stream habitat improvements

Detailed Description:

Existing Condition (Need): Recent surveys in several tributaries to the Conasauga River (in Tennessee) indicate that large wood and habitat complexity is severely lacking in the Conasauga watershed. Large woody debris (LWD) can slow flows and restore a more natural stream channel, while allowing passage for aquatic organisms. LWD additions can retain sediment locally, build point bars, and aggrade the stream channel, bringing it closer to the historic floodplain.

Desired Condition: Increase of LWD in streams (Forest Plan Goal 26). The Watershed Condition Framework defines the desired condition of a watershed as having large woody debris in the streams and appropriate stream geometry and bank stability. LWD additions should reflect local reference conditions or an estimated 12 pieces per 100 m (200 pieces per stream mile).

Known Conditions that Trigger Restoration Actions: Perennial and intermittent streams where lack of wood is impairing hydrologic and biologic processes; structure is lacking; or severe erosion occurring.

How to Implement Change: The addition of large woody debris to streams in several streams in the Mooneyham IA is proposed in order to increase structural complexity in streams where a lack of wood is impairing the hydrologic and biologic processes of the aquatic environment. This activity would be completed by hand felling trees (or utilizing storm or insect-killed trees on the ground) into or across the stream channel, using winches and tackle to move and position felled trees, and in some locations, a farm tractor would be used to move felled trees into position. This is proposed in sections of Perry Creek, Bogden Creek, Gizzard Branch, and an unnamed tributary to the Conasauga River.

Aquatic habitats benefit from large wood inputs provided by tree falls or debris positioned into place.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

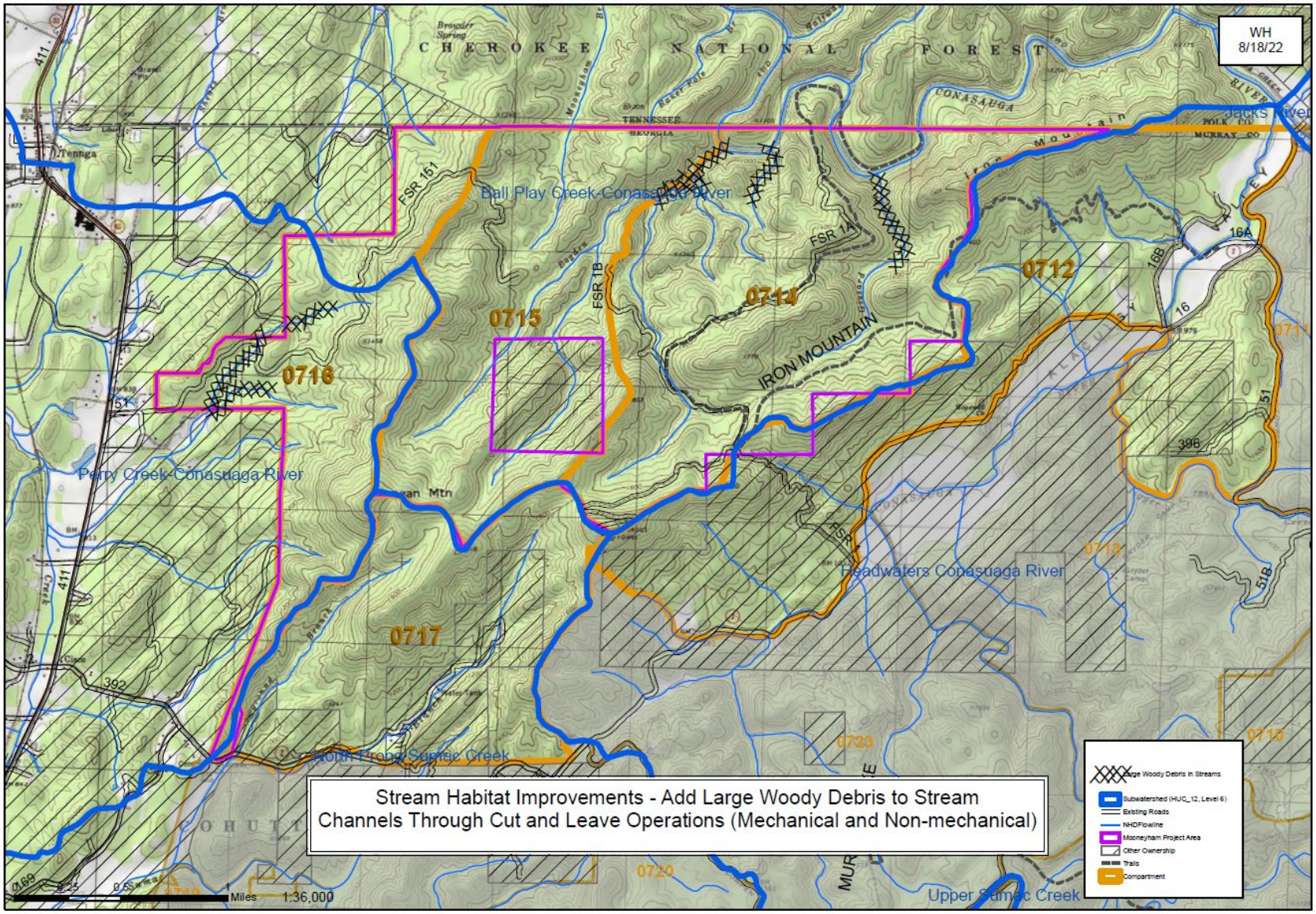
Perry Creek is in the Perry Creek – Conasauga River HUC - #031501010105. Bogden Creek, Gizzard Branch, and the unnamed tributary to the Conasauga River are in the Ballplay Creek – Conasauga River HUC - #031501010103. Both are Priority Watersheds.

MRx(s) where activity would occur: Perry Creek is in MRx 9.H. Management, Maintenance and Restoration of Plant Associations. Bogden, Gizzard, and the unnamed tributary to the Conasauga are in MRx 2.B.1 Recommended Wild River Segments and 7.E.2 Dispersed Recreation Areas with Vegetation Management.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Continuation of prescribed burning within existing burn blocks

Detailed Description:

Existing Condition (Need): There are 2 burn units in the Mooneyham IA. Both have each received multiple prescribed fire treatments within the past 10+/- years, moving them from FCC 3 to FCC2. There is a need to maintain this trend. The units still have a variety of fuel loadings ranging from heavy to moderate due to wildfires, prescribed burns, vegetation management activities and the continued need to restore native vegetative conditions. Due to their location these burn units have served as buffer zones to prevent fires from burning onto or off private lands. This has been proven to be an effective strategy as evidenced during the drought and severe fire season of 2016. Continued burning of these units will enhance the reduction of hazardous fuels and aid in the restoration of native communities. These units have several occurrences of fire-dependent species.

Desired Condition: Expand the role of fire to recover and sustain healthy, fire-adapted ecosystems as much as possible, as a natural process (Forest Plan Goal 61).

Known Conditions that Trigger Restoration Actions: Where prescribed burning is required or preferred to meet restoration silvicultural objectives and can be accomplished safely within existing burn blocks.

How to Implement Change: Prescribed fire plans would be prepared describing weather and fuel conditions needed to meet the desired site-specific objectives, fire intensities and ignition methods, and a risk evaluation to safely execute the prescribed fire while considering the effects of the fire on other resources, including smoke impacts. Firelines would be rehabilitated as appropriate including installing water bars, revegetation, and blocking of the 'take offs' on roads to prevent illegal motor-vehicle use.

There are two existing prescribed burn blocks in the Mooneyham IA. Both have established control lines and have been previously burned on a 3-to-5-year rotation to restore fire after many decades in which all fire had been suppressed:

- Turkeybeard is a 421-acre block, 404 acres in Georgia, the remainder in Tennessee. The Cherokee NF plans to make a NEPA decision to cover the Tennessee portion of this burn block and future burn blocks which also cross the state line (Iron Mountain and Halfway Branch). It has been burned on a 3-to-5-year basis since 2007 to benefit the district's only known population of eastern turkeybeard (*Xerophyllum asphodeloides*).
- Mooneyham is a 308-acre burn block that has been burned 2-3 times since 2012. A small portion of the unit (ridgetop south of FSR 151, Mooneyham Road) was fire-killed as a result of the 2012 burn and consequently the area south of the road (approximately 95 acres) has not been re-burned since that time. The ridgetop vegetation is being monitored by district personnel and that section would not be burned again until the area is stable and completely revegetated. NOTE: the Mooneyham burn block is proposed for expansion to the west to facilitate other vegetation management proposals. See the information page and maps associated with Proposed New Prescribed Burning.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

The western third of the Mooneyham burn is in the Perry Creek – Conasauga River HUC - #031501010105. The remainder of that block and all the Turkeybeard Rx burn is in the Ball Play – Conasauga River HUC #031501010103. Both are Priority Watersheds.

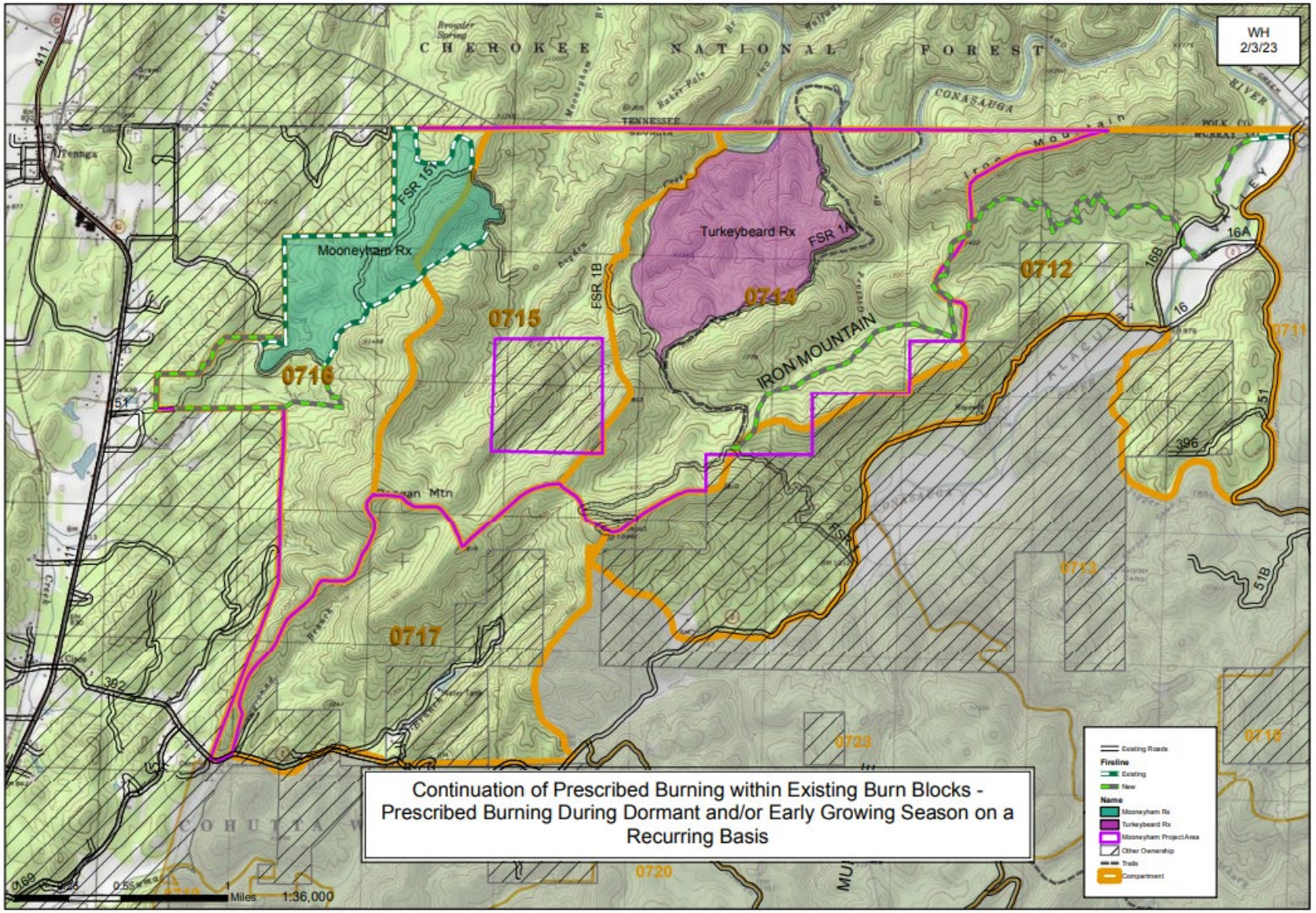
MRx(s) where activity would occur: The Mooneyham Rx burn block is in MRx 9.H Management, Maintenance and Restoration of Plant Associations. Turkeybeard Rx burn block is in MRx 7.E.2 Dispersed Recreation Areas with Vegetation Management and 2.B.1 Recommended Wild River Segments.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Forest Service firefighter Andy Baxter using a Pyroshot device during firing operations on the 2012 Turkeybeard prescribed burn.

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Decommissioning of maintenance level (ML) 2 and ML1 system roads

Detailed Description:
Existing Condition (Need): Road density on Forest Service lands is moderate to high (0.8 - >1.6 miles/mile^2) in over half of the landscape. The CONF currently does not receive enough funding or capacity to maintain these roads at their current management classifications**.** FSR 1 (Doogan Mountain) from MP 1.3 (at the National Forest boundary) to MP 2.6 (terminal end of the road at former fire tower site) is a maintenance level (ML) 2 road, closed year-round to the public and rarely used for administrative purposes.

Desired Condition: A transportation system which supplies the public, Forest Service, and other authorized users with safe, environmentally sustainable, equitable, financially sound, and operationally effective access to roaded portions of the project area. (LRMP Goal 47**)**

Known Conditions that Trigger Restoration Actions: Identified roads that are not necessary for management or sustainable to maintain in their current condition.

Detailed Description: FSR 1 (Doogan Mountain) from MP 1.3 (at the National Forest boundary) to MP 2.6 (terminal end of the road at former fire tower site) would be permanently closed to vehicular traffic. An earthen barrier would be constructed at the forest boundary. The roadbed would be re-shaped to drain water by utilizing heavy equipment to construct waterbars, fill ditches, and outslope the roadbed. Compacted soil would be loosened by scarifying the surface to the depth of up to 12 inches. Disturbed soils would be seeded with native or approved non-native seed. Slash would be scattered on the surface of the road.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

The section of FSR 1 planned for decommissioning is in the Ball Play Creek – Conasauga River HUC - #031501010103. It is a Priority Watershed.

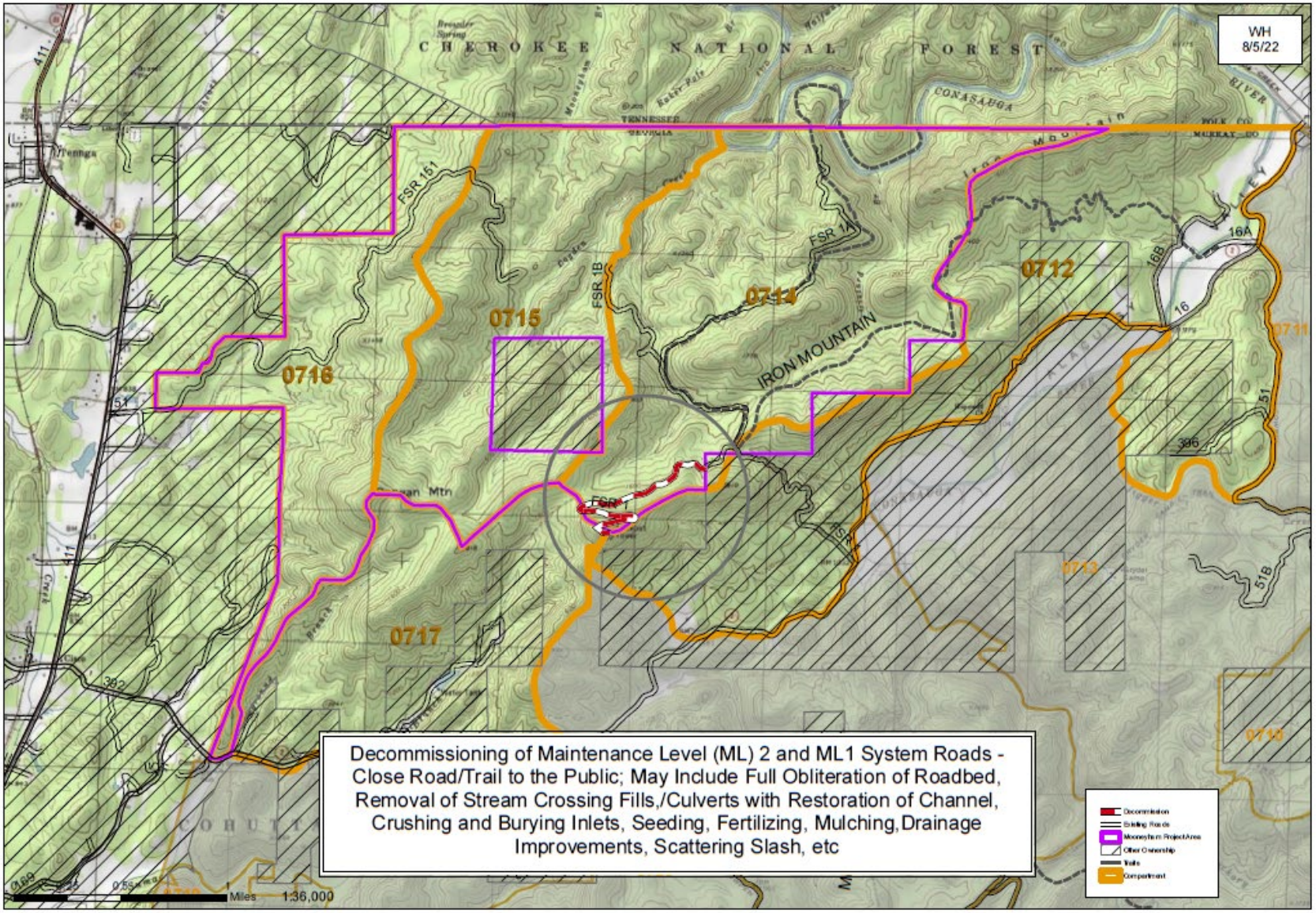
MRx(s) where activity would occur:
The section of FSR 1 planned for decommissioning is in MRx 7.E.2 Dispersed Recreation Areas with Vegetation Management.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

The Forest Service does not receive enough funding or have enough capacity to maintain all roads at their current management classification. Specific roads have been identified to decommission (remove from the road system).

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Implement changes to system road maintenance level (ML) and/or use restrictions

Detailed Description:
Existing Condition (Need): Road density on Forest Service lands is moderate to high (0.8 - >1.6 miles/mile^2) in over half of the landscape. The CONF currently does not receive enough funding or capacity to maintain these roads at their current management classifications**.** FSR 1 (Doogan Mountain) from MP 0.0 (gate on private property at county road Old Highway 2) to MP 1.2 (National Forest boundary) is a ML 3 road, closed year-round to public access and is used 1-2 times per year for administrative purposes.

Desired Condition: A transportation system which supplies the public, Forest Service, and other authorized users with safe, environmentally sustainable, equitable, financially sound, and operationally effective access to roaded portions of the project area. (LRMP Goal 47**).**

Known Conditions that Trigger Restoration Actions: Identified roads that are not sustainable to maintain in their current condition or at their current ML.

How to Implement Change: The reduction of ML from ML 3 to ML 2 is to reflect current condition and the appropriate objective for maintenance.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

The section of FSR 1 planned for reduction in ML is in the Ball Play Creek – Conasauga River HUC - #031501010103. It is a Priority Watershed.

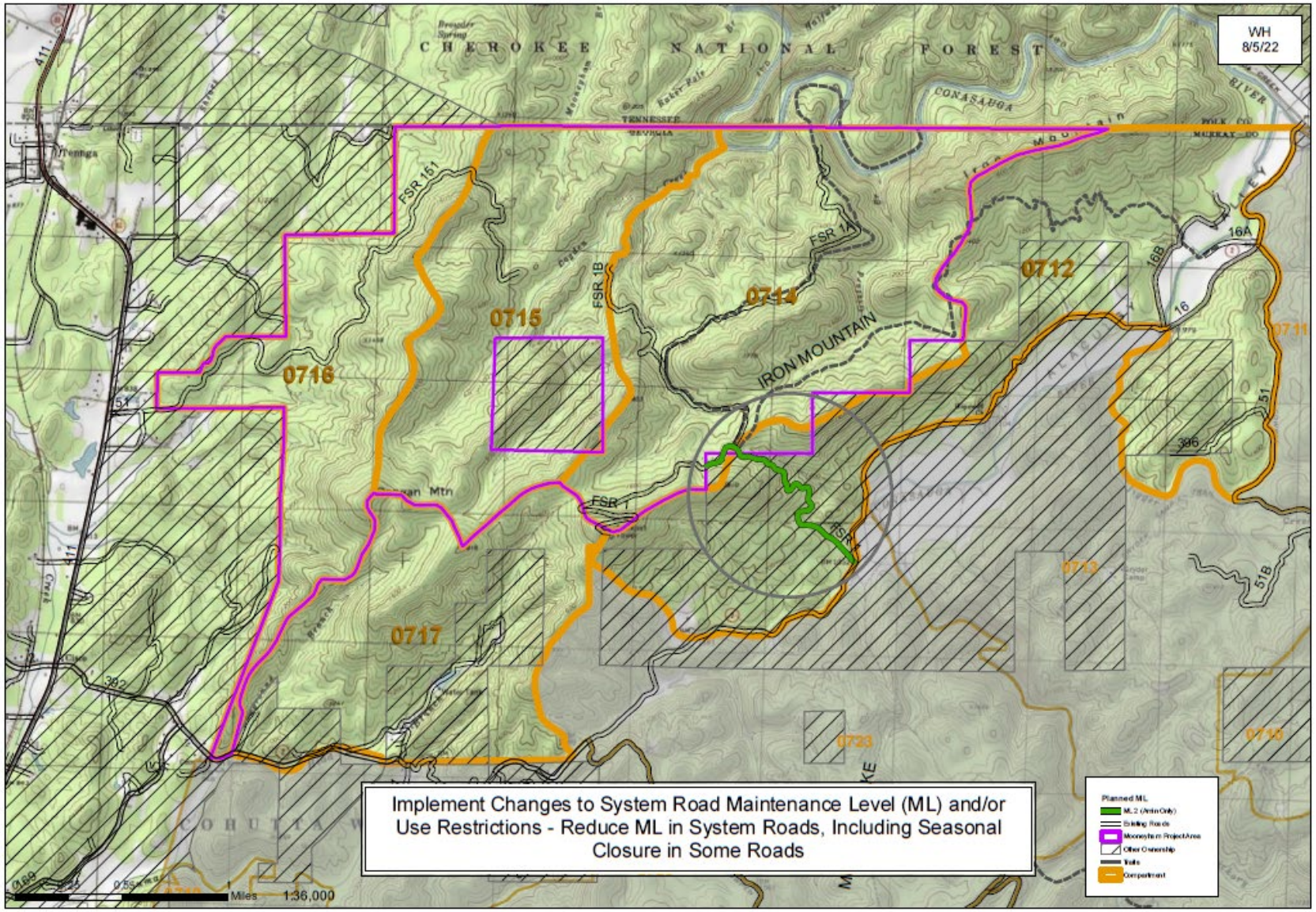
MRx(s) where activity would occur: The section of FSR 1 planned for this reduction in ML is on private property.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

The Forest Service does not receive enough funding or have enough capacity to maintain all roads at their current management classification. Specific roads have been identified for reduction in maintenance level (ML) to reflect current conditions.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Restoration of southern yellow pine forest on dry sites dominated by mid to late-successional Virginia or white pine – two-aged regeneration harvest

Detailed Description:

Existing Condition (Need): Nearly a century of fire suppression has resulted in the establishment of more than 21,000 acres Virginia and/or white pine on dry sites ecologically suitable for fire-dependent shortleaf pine.

Desired Condition: Fire-dependent shortleaf pines are restored to ecologically appropriate sites and to sites where they once likely occurred (Forest Plan Objective 3.1). These treatments would also result in the creation of young forest habitats, which are generally lacking in the project area.

Known Conditions that Trigger Restoration Actions: Dry sites dominated by mid to late successional Virginia pine.

How to Implement Change: Restoration of shortleaf pine would be implemented using artificial regeneration methods. A two-aged regeneration harvest would be implemented to initiate the restoration process. Under this harvest method, the majority of the overstory trees in restoration areas would be removed. This would create large, continuous openings for restoration planting for regeneration. A portion of the trees (minimum of 15 ft2 per acre) in restoration areas would be reserved from cutting to form the two-aged condition. These trees would be retained in a non-uniform and variable distribution and would remain on-site indefinitely. Long-lived species such as shortleaf pine, white oak, chestnut oak, or hickory would be selected as reserve trees to be retained. Virginia and white pines, and other less desirable hardwood species would be harvested from the sites.

Comp 715 Stand 13 - 55-year-old Virginia pine stand proposed for restoration of shortleaf pine

Following the harvest, restoration areas would be prepared for planting by (1) directed herbicide methods (cut-stump and foliar) to selectively treat non-desirable species persisting on the sites, and (2) a growing season site preparation prescribed burn. Once sites are prepared, restoration areas would be planted with shortleaf pine seedlings on a wide spacing (8 x 8, 10 x 10, or 12 x 12 foot spacing). One to three years following planting, planted seedlings would be released from woody competition (individual tree) using hand tools, mechanical mastication, or a directed herbicide application (directed foliar, cut surface, or basal bark methods) depending on the species and degree of competition. Once the canopy of the restoration areas approach crown closure (approximately 7 – 10 years post planting), a thinning using manual hand tools (chainsaws or brush cutters), or mechanical

mastication would be applied to reduce competition and maintain desired tree species composition. *(For more information about connected herbicide actions, see Table 41 in the 2021 Foothills Landscape Project Environmental Assessment, page B45. For more information about site prep burns, see Site Preparation and Maintenance, page B45.)*

Stands Proposed for Treatment:
Comp 714 Stand 11 – 29 ac Virginia pine stand, 45 years old
Comp 715 Stand 3 – 26 ac Virginia pine stand, 55 years old
Comp 715 Stand 13 – 31 ac Virginia pine stand, 55 years old

Comp 715 Stand 13 - 55-year-old Virginia pine stand proposed for restoration of shortleaf pine

Proposed temporary roads to access all proposed commercial timber treatments total 3 miles. Use of legacy road prisms would be favored over new temporary road construction when available. *(For more information about temporary roads, see Connected Road and Log Landing Related Actions, 2021 Foothills Landscape Project Environmental Assessment, page B42)*

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

These stands are in the Perry Creek-Conasauga River HUC - #031501010105 and the Ball Play Creek – Conasauga River HUC - #031501010103. Both are Priority Watersheds.

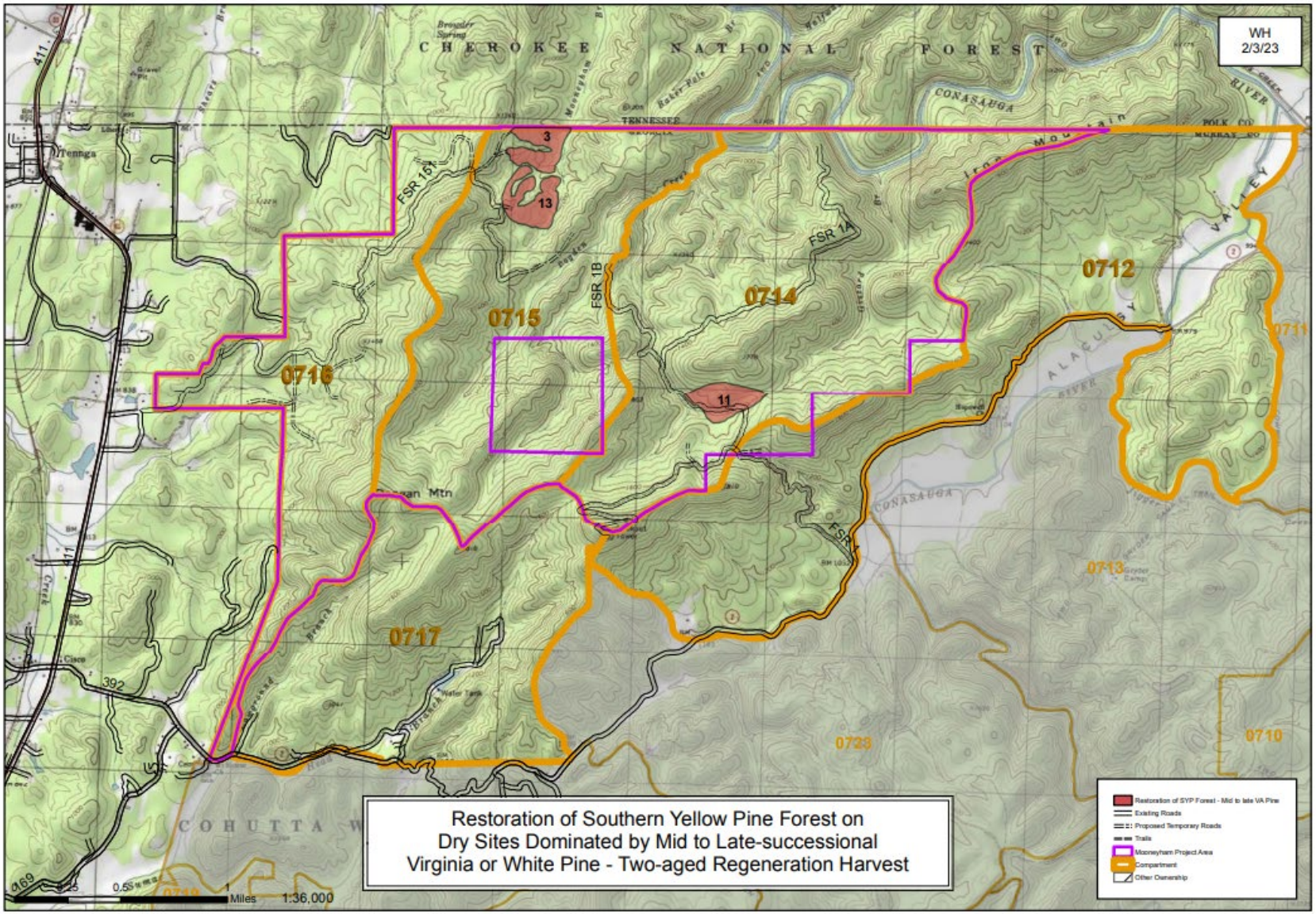
MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations and 7.E.2 Dispersed Recreation Areas with Vegetation Management

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

- Comp 715 Stand 3 has existing pockets of shortleaf pine near the southern stand boundary. These will be banded as leave trees when practical as part of the 15 ft^2 of reserve basal area.
- Comp 715 Stand 13 has potentially > 15 ft^2 BA of existing shortleaf pine. These will be banded as reserve trees where practical.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

N

Activity Name: Restoration of southern yellow pine forest or oak forest on sites currently occupied by off-site pine plantations or failed shortleaf or pitch pine plantations – two-aged regeneration harvest

Detailed Description:

Existing Condition (Need): Previous management in the Foothills Project area resulted in establishment of over 11,000 acres of off-site pine plantations of pole-sized white pine or loblolly where regeneration to suitable southern yellow pine is desired.

Desired Condition: Fire-dependent southern yellow pines (shortleaf, pitch, table mountain pines) are restored to ecologically appropriate sites and to sites where they once likely occurred (Forest Plan Objective 3.1 and 3.2, OBJ-9.F-03). Oak or oak-pine forest is restored to areas of the Foothills Landscape where it most likely existed or where it is ecologically appropriate (Forest Plan Objective 3.6)

Known Conditions that Trigger Restoration Actions: Off-site pine plantations of pole-sized white pine or loblolly where regeneration to suitable southern yellow pine is desired. Some of these plantations exist on sites more ecologically appropriate for oak or mixed oak-pine forest.

How to Implement Change: Restore off-site loblolly pine or white pine plantations to site-appropriate species through removal of the off-site planted species. Actions would be similar to that described in the *Restoration of southern yellow pine forest on dry sites dominated by mid to late-successional Virginia or white pine* section above (pages 46-47), including connected actions.

Opportunities to increase oak abundance through restoration also exists within the Foothills Landscape. Restoration of these sites to oak would be emphasized in off-site plantations with low desired pine stocking and where adequate pre-existing oak, either in the canopy of the plantations or in the understory, is available to successfully restore the sites to an oak-dominated composition. If oak is adequate in the overstory (canopy), the proposed treatment includes an intermediate thinning of off-site pine to a residual basal area of 40 – 70 ft2 /ac. The wide range of basal area would allow for the retention of all existing oaks and other desirable species, while removing most to all off-site pine species. This treatment would not result in the creation of young forest habitat, but simply a change in forest-typing (from pine dominated to oak dominated)

Comp 716 Stand 10, loblolly pine stand proposed for shortleaf pine restoration treatment

Stands Proposed for Treatment:

Restoration of southern yellow pine forest:
Comp 716 Stand 10 – 33 ac loblolly pine stand, 34 years old
Comp 716 Stand 22 – 16 ac loblolly pine stand, 84 years old
Comp 716 Stand 24 – 11 ac loblolly pine stand, 34 years old

Restoration of oak forest:
Comp 716 Stand 25 – 42 ac Virginia pine stand, 57 years old

716/10 falls in the Mooneyham burn.
716/22 and 24 fall in the Mooneyham Extension burn.
716/25 falls partially in the Mooneyham Extension burn.

Proposed temporary roads to access all proposed commercial timber treatments total 3 miles. Use of legacy road prisms would be favored over new temporary road construction when available. *(For more information about temporary roads, see Connected Road and Log Landing Related Actions, 2021 Foothills Landscape Project Environmental Assessment, page B42)*

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

These stands are in the Perry Creek-Conasauga River HUC - #031501010105 and the Ball Play Creek – Conasauga River HUC - #031501010103. Both are Priority Watersheds.

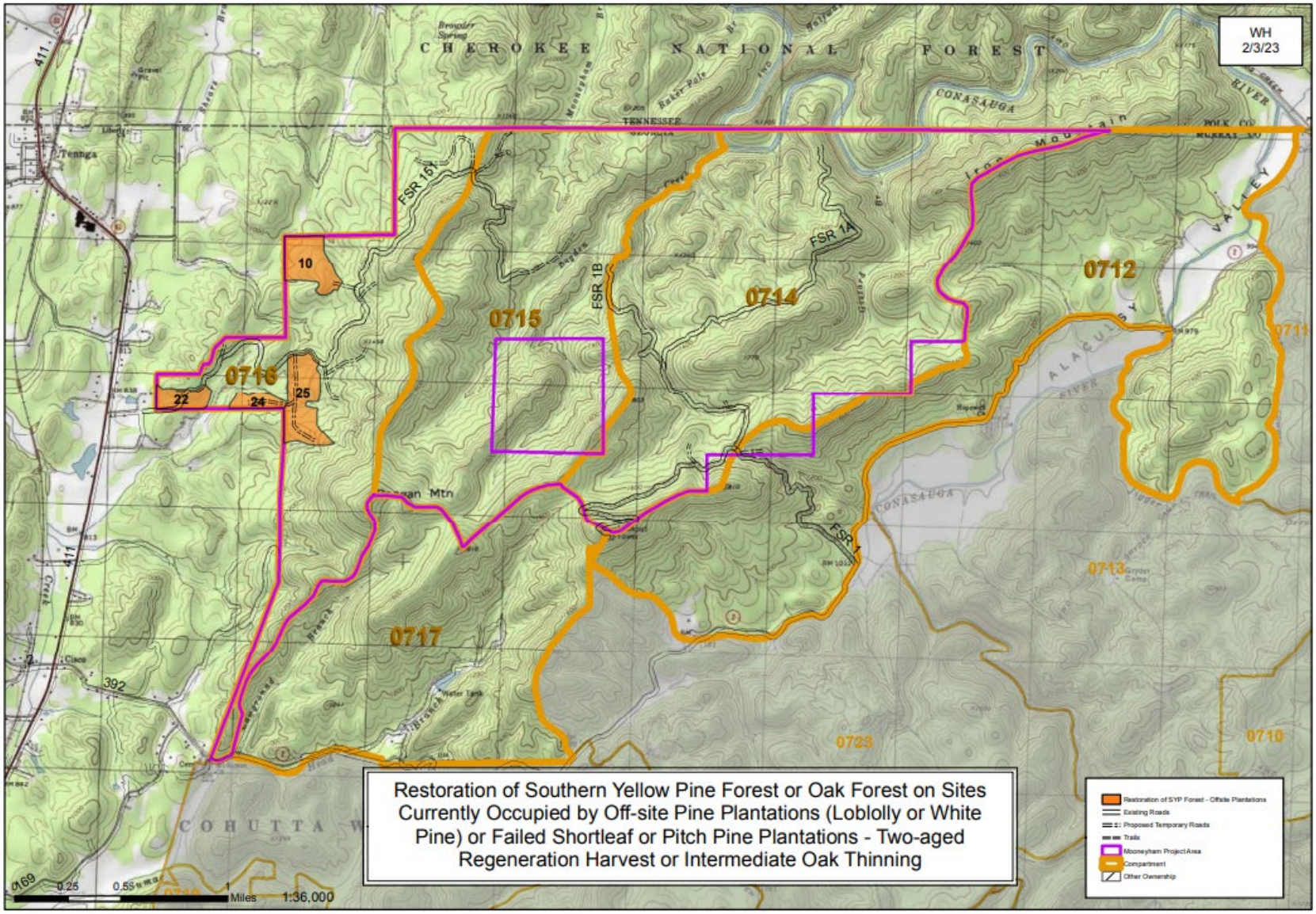
MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

Comp 716 Stand 22 – Per landscape architect guidance, the cutting unit should be laid out in a way that minimizes geometric shapes and straight-line unit boundaries, and instead uses undulating edges to make the disturbed area look more natural. Distribute the reserve trees in such a way that they reduce the visual impact and apparent size of the treatment area. For example, retain some trees near the western boundary next to the private landowner and others near FSR 151.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

N

Activity Name: Maintenance of oak forest – commercial thinning

Detailed Description:

Existing Condition (Need): Oak dominated forest types exist on more than 55,000 acres within the Foothills Project area. Over 90% of the oak forest is in late successional stage habitats. A general lack of disturbances in the oak forest community, including fire, has promoted the development of shade-tolerant, fire-sensitive species which are suppressing oak regeneration processes. This problem is most acute on the more productive oak sites but is evident in oak stands growing on lower productivity sites in many locations as well.

Desired Condition: Conditions within oak stands allow for and perpetuate natural oak regeneration processes to resume so that oak maintain dominance in the future (Forest Plan Objective 3.7)

Known Conditions that Trigger Restoration Actions: Mid to late successional oak exists on low to moderate productivity sites,

How to Implement Change: On lower to moderate productivity oak sites, commercial thinning in combination with midstory reduction treatments would be implemented on mid-late successional oak stands to increase oak regeneration potential. This treatment option would be implemented where conditions indicate that current oak regeneration potential is low (i.e., oak seedlings are small, infrequent, and/or are being outcompeted by shade-tolerant competitors in the understory). In areas selected for intermediate thinning, the thinning would reduce overstory trees to 40 – 60 ft2/ac, favoring oaks, hickories, or shortleaf pine. Following the commercial thinning, the areas would be evaluated for subsequent needs for midstory reduction treatments designed to reduce oak seedling competitors.

Comp 716 Stand 4, proposed commercial thin to maintain oak

Treatment of the midstory/understory would be employed using a combination of direct herbicide treatments and/or prescribed burning. If unwanted vegetation persists on the sites after the thinning, then initial understory treatments would likely include herbicide applications to control this competition. Herbicide treatments could include directed foliar, cut stem or basal bark/streamline methods. The composition, size, origin, and density of understory competitors would dictate the herbicide method selected. Once herbicide treatments have been applied, prescribed burning treatments, where feasible, would be used to further reduce competition and to maintain the desired understory

environment. Initial prescribed burning would be conducted during the dormant season. Subsequent burn treatments would be applied during the growing season until the desired conditions have been achieved (development of oak reproduction). Periodic burn treatments would be applied using a combination of dormant and growing season treatments and frequency would be altered to allow oak seedling to gain height and prepare for canopy recruitment.

Stands Proposed for Treatment:
Comp 716 Stand 3 – 18 ac white oak-black oak-yellow pine stand, 104 years old
Comp 716 Stand 4 – 31 ac chestnut oak-scarlet oak-yellow pine stand, 109 years old

These stands would be commercially thinned and then re-evaluated for follow up midstory treatment needs to encourage the development of advanced oak regeneration. Both stands fall in the Mooneyham prescribed burn.

Proposed temporary roads to access all proposed commercial timber treatments total 3 miles. Use of legacy road prisms would be favored over new temporary road construction when available. *(For more information about temporary roads, see Connected Road and Log Landing Related Actions, 2021 Foothills Landscape Project Environmental Assessment, page B42)*

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

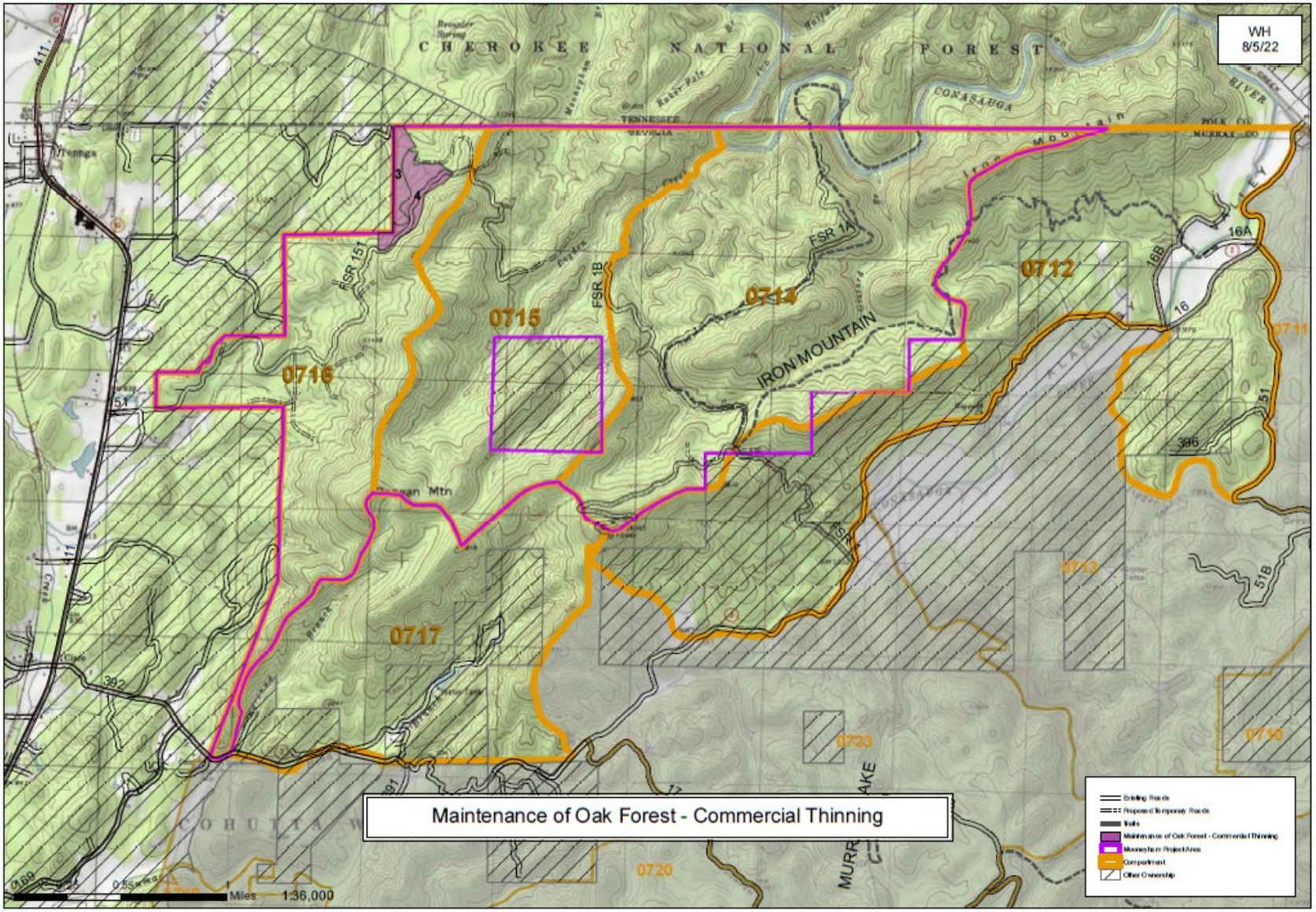
These stands fall in the Ball Play Creek – Conasauga River HUC - #031501010103 watershed. It is designated a priority watershed.

MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Commercial and non-commercial thinning of pine plantations to improve forest health – commercial thinning

Detailed Description:

Existing Condition (Need): Within the Foothills Project area, there are nearly 25,000 acres of immature pine plantations highly vulnerable to pine bark beetle infestations due to overstocked stand conditions (Basal Areas > 120 ft2/acre).

Desired Condition: Stocking/density in pine plantations are reduced to levels that make them more resilient to pine bark beetle infestations (Forest Plan Objective 40.1)

Known Conditions that Trigger Restoration Actions: Young, overstocked, even-aged pine stands susceptible to forest pest outbreaks (i.e., ips, bark beetle). WUI (within ¼ mile of USFS boundary at High or Moderate Risk level) would be prioritized when applicable.

How to Implement Change: The project would improve forest health in overstocked pine stands, and would focus on young, overstocked, even-aged pine stands that were established during the last half-century. These pine plantations are proposed for commercial thinning to reduce the risk for bark beetle infestations. Thinning would reduce the basal area to less than 80 ft2/ac. Using prescribed fire (previously discussed) in coordination with thinning treatments would be applied in these areas to best meet restoration objectives.

Comp 716 Stand 20, a 34-year-old loblolly stand proposed for commercial thinning to improve forest health

Stands Proposed for Treatment:

Comp 712 Stand 20 – 28 ac Virginia pine stand, 42 years old
Comp 715 Stand 17 – 23 ac Virginia pine stand, 34 years old
Comp 715 Stand 18 – 33 ac Virginia pine stand, 33 years old
Comp 716 Stand 1 – 26 ac loblolly pine stand, 32 years old
Comp 716 Stand 13 – 27 ac Virginia pine stand, 32 years old
Comp 716 Stand 20 – 16 ac loblolly pine stand, 32 years old

716/20 is a former loblolly pine progeny test. All of the Virginia pine stands are failed shortleaf stands that have been out-competed by Virginia pine due to lack of prescribed fire and the unavailability of

high-quality containerized shortleaf pine planting stock at the time of planting. Shortleaf that remains a component of these stand will be favored when choosing trees to retain.

712/20 is a Virginia pine stand. Vegetation surveys completed in 2022 have identified a population of small spreading pogonia - *Cleistes bifaria (*synonym *Cleistesbiopsis bifaria)*, a Regional Forester's sensitive species (RFSS). This stand falls outside the boundary of the proposed Iron Mountain prescribed burn. *Cleistes bifaria* is a fire-adapted species that inhabits mountain habitats with dry, acidic soil. It benefits from disturbance that creates and maintains open canopy stand conditions. When the vegetation survey is complete and information about location and quantity of *Cleistes bifaria* in the stand is available, a plan to protect the plant will be developed that will include either buffering known plant locations or adjusting stand boundaries to exclude those areas.

Proposed temporary roads to access all proposed commercial timber treatments total 3 miles. Use of legacy road prisms would be favored over new temporary road construction when available. *(For more information about temporary roads, see Connected Road and Log Landing Related Actions, 2021 Foothills Landscape Project Environmental Assessment, page B42)*

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

These stands are in the Perry Creek-Conasauga River HUC - #031501010105 and the Ball Play Creek – Conasauga River HUC - #031501010103. Both are Priority Watersheds.

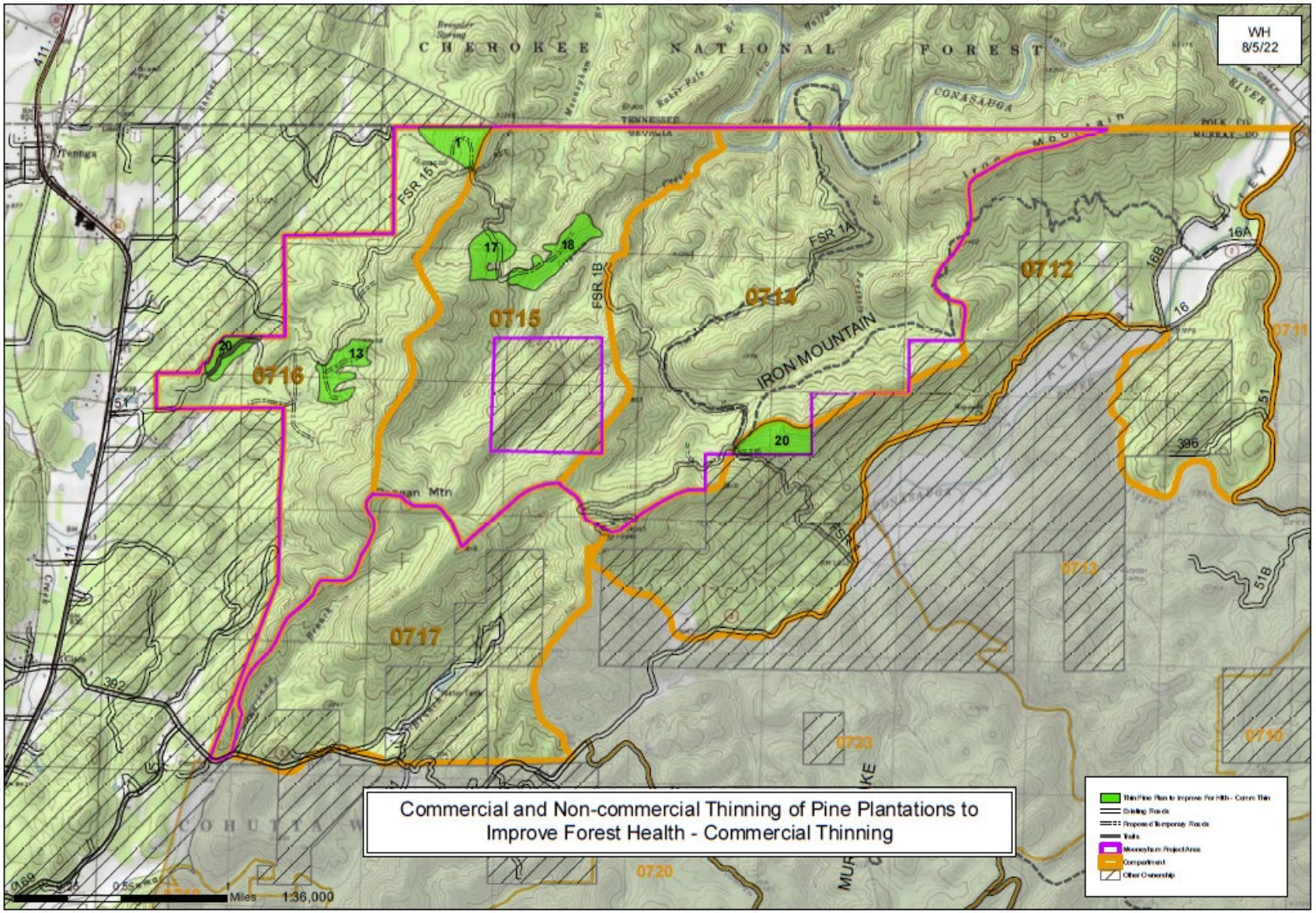
MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations and 7.E.2 Dispersed Recreation Areas with Vegetation Management

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

- Comp 716 Stand 1 includes a five-acre area east of the fire line/road template that is not a pine plantation but is made up of primarily hardwoods. This area will be excluded from the cutting unit boundary except as needed to access the western pine plantation portion of the stand. This stand also contains American climbing fern on the south side of FSR 151. This area should be protected from herbicide, manual and mechanical disturbance where practical.
- Comp 716 Stand 13 contains shortleaf pine. These will be left where practical as part of the residual stand.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Create young forest by daylighting roads and permanent openings

Detailed Description:
Existing Condition (Need): Mid-late successional forest dominates the Foothills Landscape (99%) while valuable young forest habitat which is a benefit to wildlife is extremely limited (less than 1%).

Desired Condition: Improved successional stage diversity and distribution of young forest habitats across the landscape on a variety of slopes, elevations, aspects, and forest types. A diversity of habitat will be provided for the full range of native and other desired species (Forest Plan Goal 2).

Known Conditions that Trigger Restoration Actions: This type of treatment would occur in areas, such as the boundaries of permanent openings (wildlife openings, utility corridors, and selected road segments), where opportunities for other young forest treatments are limited, but where the slopes are gentle enough to complete the work.

How to Implement Change: There is an opportunity to create young forest and improve habitat for wildlife by "daylighting" a road in the project area. Daylighting is the practice of removing the overstory tree canopy within a certain distance from a road or other permanent opening to create young forest and improve road conditions by allowing sunlight to reach the road surface. This type of habitat benefits pollinators as well as many songbirds and other wildlife.

This project would include commercial timber harvest of trees within an average of 25-feet of FSR 151, in segments where the commercial operation is feasible. A follow-up treatment to slash down non-commercial stems would be completed if needed. Approximately 1.5 miles (8 acres) of FSR 151 would be treated. Maintenance of the daylighted roadsides would occur as funding and workforce capacity permits.

☒ **Map(s) Attached Watershed(s) (6th-level HUC) where activity is planned**:

The section of FSR 151 suitable for daylighting is in the Perry Creek – Conasauga River HUC - #031501010105. It is a Priority Watershed.

MRx(s) where activity would occur: This project location is in MRx 9.H Management, Maintenance and Restoration of Plant Associations.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

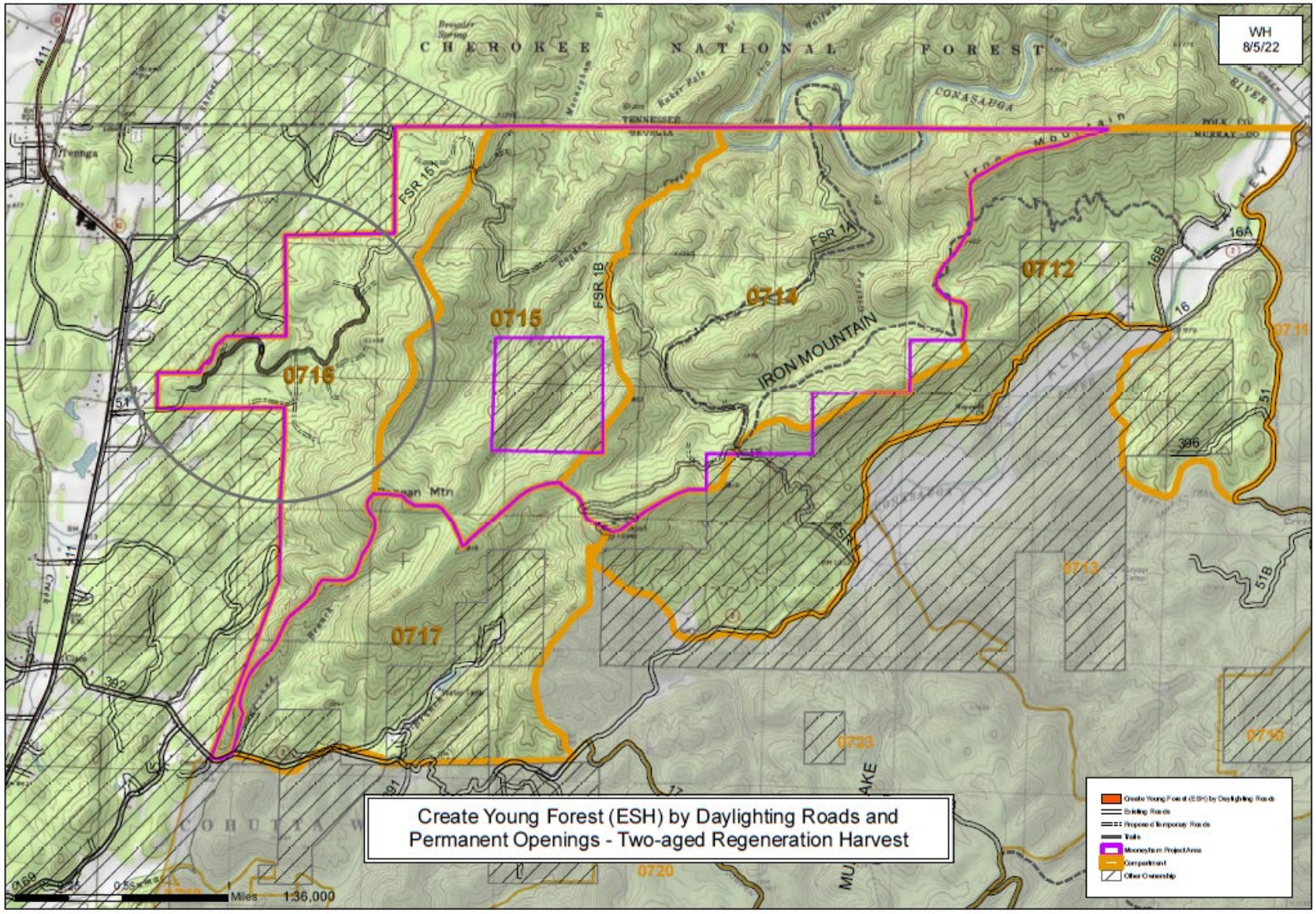
☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

.

Daylighted roads benefit wildlife by creating young forest habitat and improve road conditions by allowing sunlight to reach the road surface.

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

Click or tap here to enter text.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Restoring open woodland habitats on appropriate sites

Detailed Description:

Existing Condition (Need): Open woodland habitats provide habitat for fire-adapted rare plants such as eastern turkeybeard (*Xerophyllum asphodeloides*). Prescribed fire has been applied to an area containing the largest of the turkeybeard populations in Mooneyham IA on a 3–5-year basis since the mid 2000's. Although essential for maintenance of the species, repeated prescribed fire has killed a large component of the fire-intolerant Virginia pine overstory. The open canopy has benefited eastern turkeybeard and other woodland associates but has also resulted in the sprouting of multi-stemmed red maple and other hardwoods which are encroaching on the rare plants.

A second population of eastern turkeybeard is within a closed canopy pine stand (stand 42). The plants are of low vigor, not flowering, and in deep duff. They are outside of an existing burn unit but within the proposed Iron Mountain burn unit.

Desired Condition: A thin canopy with 20 – 60% canopy cover consisting of fire dependent hardwoods and yellow pine with a well-developed and diverse herbaceous ground cover. (Forest Plan Objective 3.4)

Known Conditions that Trigger Restoration Actions: Where woodland species persist (long-lived canopy trees serve as indicators for relic woodland) and combined with desired aspect, elevation, and ability to use prescribed fire.

How to Implement Change: The stands containing eastern turkeybeard are proposed for the following actions based on their condition:

- In the larger turkeybeard population (within stands 14 and 19), within approximately 100 meters of the existing plants, undesirable woody sprouts and saplings would be treated with a streamline/basal bark application of triclopyr ester (20% fraction in vegetable oil) during the dormant season. The turkeybeard plants themselves would be protected by a 10-foot buffer. Within the buffer, a cut-surface treatment of triclopyr amine (50% fraction in water) would be applied to the cut surface of stems directly encroaching on the turkeybeard plants. The cut portions of the trees and shrubs and any other debris (limbs, pinecones) would be removed from the areas within the buffer to prevent fuel buildup.
- In the recently documented population of turkeybeard near the Tennessee state line (in stand 42), prescribed fire (Iron Mountain burn unit) would be applied first, and potentially again in 3-5 years in order to assess the effects of restoring fire to the canopy trees in the vicinity of the turkeybeard plants. Mortality is expected in the fire-suppressed Virginia pine canopy. If needed to control woody sprouting which may result from the canopy opening, the herbicide treatment described above would be implemented.

These treatments would be monitored by Forest Service personnel during implementation and for effectiveness in the subsequent 1-3 years.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

The woodland site is in the Ball Play Creek – Conasauga River HUC - #031501010103. It is a Priority Watershed.

Eastern turkeybeard plant flowering 4 months after a prescribed burn.

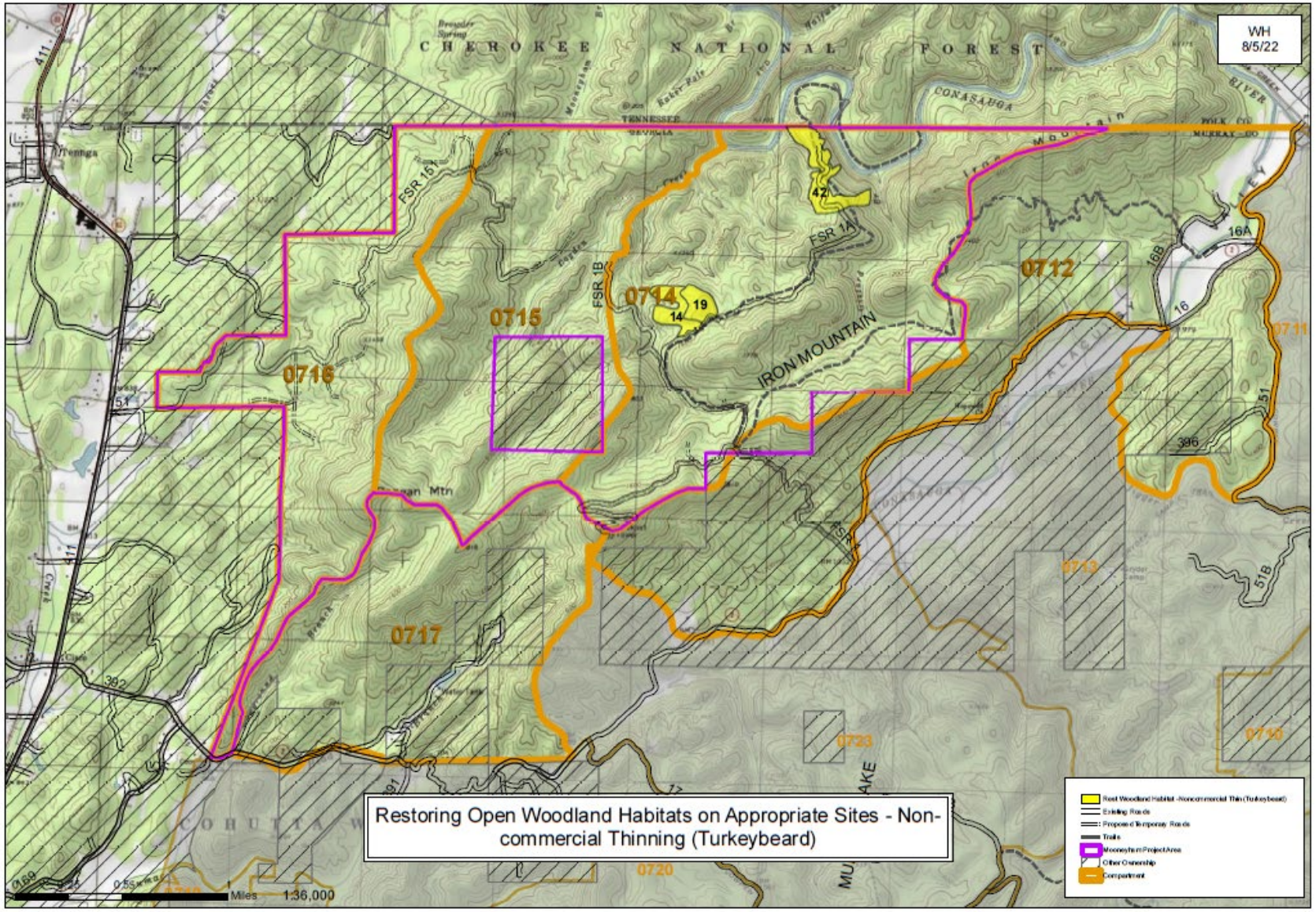
MRx(s) where activity would occur: Two of the stands to be treated are in MRx 7.E.2 Dispersed Recreation Areas with Vegetation Management. The other stand is in MRx 2.B.1 Recommended Wild River Segments.

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

- Known turkeybeard plants in proposed Iron Mountain burn will be monitored for 1-3 years as needed to determine response to treatments. See Attachment C for monitoring plan.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Maintenance of oak forest – midstory reduction

Detailed Description:

Existing Condition (Need): Oak dominated forest types exist on more than 55,000 acres within the Foothills Project area. Over 90% of the oak forest is in late successional stage habitats. There are 0 acres of young oak (less than 10 yrs. within the landscape). A general lack of disturbances in the oak forest community, including fire, has promoted the development of shade-tolerant, fire-sensitive species which are suppressing oak regeneration processes. This problem is most acute on the more productive oak sites but is evident in oaks stands growing on lower productivity sites in many locations as well.

Desired Condition: Conditions within oak stands allow for and perpetuate natural oak regeneration processes to resume so that oak maintain dominance in the future (Forest Plan Objective 3.7)

Known Conditions that Trigger Restoration Actions: There are two conditions that would trigger restoration actions:

- Where mid to late successional oak exists on low to moderate productivity sites
- Where mid to late successional oak exists on moderate to high productivity sites

How to Implement Change: To increase/restore oak regeneration potential within existing oak stands, several treatment options are proposed (see below). These treatments are designed to alter the light environment on the forest floor to stimulate growth of oak seedlings while controlling oak competitors in the understory. Treatments would result in development of larger and include more competitive oak seedlings, increasing the regeneration potential in existing mature oak stands. Stands with higher regeneration potential can maintain species dominance because adequate/competitive seedlings are available to replace parent overstory trees.

Comp 716 Stand 8 Proposed for oak midstory treatment to culture advanced oak regeneration

Increasing Oak Regeneration Potential with Midstory Reduction on Moderate to High Site Productivity, Mid-Late Successional Oak Sites:
On moderate to highly productive oak sites within the landscape, midstory reduction treatments would be implemented on existing mature oak stands to increase oak regeneration potential and meet maintenance objectives. These treatments would be carried out by mechanical mastication and/or targeted herbicide treatments applied to trees below the main

canopy. Herbicide application methods would include directed tree injection and/or basal bark treatments. Oak and hickory species would not be treated with herbicides or during mastication treatments. Treatments would be tailored to the site based on site productivity, with the level or intensity of the midstory reduction decreasing as site productivity increases. This treatment would enhance the light environment in the understory, allowing small oak seedlings to slowly develop into more competitive size classes. Because the treatment is applied to trees below the main canopy, large gaps in canopy are not created, preventing the rapid establishment of shade-intolerant species like yellow poplar from invading and dominating the understory.

Stands Proposed for Treatment:
Comp 714 Stand 4 – 36 ac white oak, northern red oak, hickory stand, 136 years old – site index 77
Comp 714 Stand 10 – 34 ac white oak, northern red oak, hickory stand, 136 years old – site index 71
Comp 716 Stand 9 – 15 ac white oak, northern red oak, hickory stand, 109 years old – site index 71

Proposed treatment includes herbicide application to midstory vegetation ≤ 8" DBH. Roads and existing/proposed fire line locations will be buffered so as not to be affected by this treatment.

Increasing Oak Regeneration Potential with Intermediate Thinning and Midstory Reduction on Moderate to Lower Productivity Mid-Late Successional Oak Sites
Treatment of the midstory/understory would be employed using a combination of direct herbicide treatments and/or prescribed burning. Initial understory treatments would likely include herbicide applications to control this competition. Herbicide treatments could include directed foliar, cut stem or basal bark/streamline methods. The composition, size, origin, and density of understory competitors would dictate the herbicide method selected. Once herbicide treatments have been applied, prescribed burning treatments, where feasible, would be used to further reduce competition and to maintain the desired understory environment. Initial prescribed burning would be conducted during the dormant season. Subsequent burn treatments would be applied during the growing season until the desired conditions have been achieved (development of oak reproduction). Periodic burns would be applied using a combination of dormant and growing season treatments and frequency would be altered to allow oak seedling to gain height and prepare for canopy recruitment.

Stands Proposed for Treatment:
Comp 714 Stand 13 – 31 ac white oak-northern red oak-hickory stand, 136 years old – site index 66
Comp 714 Stand 21 – 36 ac white oak-northern red oak-hickory stand, 135 years old – site index 62
Comp 716 Stand 8 – 28 ac chestnut oak-scarlet oak-yellow pine stand, 109 years old – site index 58

714/13 and 21 fall in the proposed Iron Mountain burn. 716/8 falls in the Mooneyham burn. Proposed treatment includes herbicide application to midstory vegetation ≤ 8" DBH. Roads and existing/proposed fire line locations will be buffered so as not to be affected by this treatment.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

These stands are in the Perry Creek-Conasauga River HUC - #031501010105 and the Ball Play Creek – Conasauga River HUC - #031501010103. Both are Priority Watersheds.

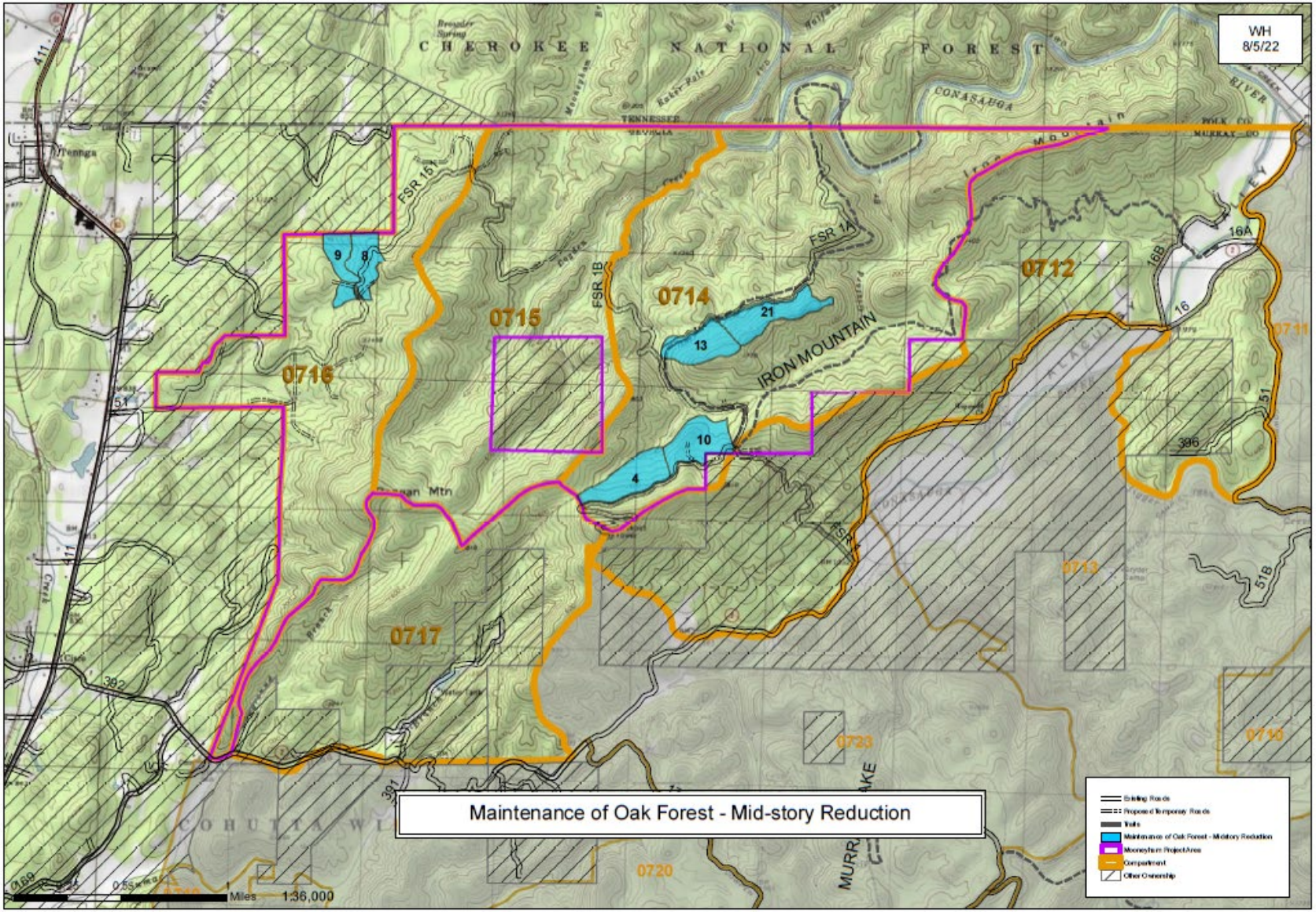
MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations and 7.E.2 Dispersed Recreation Areas with Vegetation Management

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

Click or tap here to enter text.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Commercial and non-commercial thinning of pine plantations to improve forest health – non-commercial thinning

Detailed Description:

Existing Condition (Need): Within the Foothills Project area, there are nearly 25,000 acres of immature pine plantations highly vulnerable to pine bark beetle infestations due to overstocked stand conditions (Basal Areas > 120 ft2/acre).

Desired Condition: Stocking/density in pine plantations are reduced to levels that make them more resilient to pine bark beetle infestations (Forest Plan Objective 40.1)

Known Conditions that Trigger Restoration Actions: Young, overstocked, even-aged pine stands susceptible to forest pest (i.e., ips, bark beetle) outbreaks. WUI (within ¼ mile of USFS boundary at High or Moderate Risk level) would be prioritized when applicable.

How to Implement Change: The project would improve forest health in overstocked pine stands, and would focus on young, overstocked, even-aged pine stands that were established during the last half-century. Pre-commercial thinning reduces stocking, improves site resources and the health and vigor of residual trees.

Stands Proposed for Treatment:

Comp 716 Stand 19 – 39 ac loblolly pine stand – the portion of this stand that falls south of the road experienced a beetle infestation that caused overstory mortality. The edges of the stand have 84-year-old loblolly and shortleaf pine, but the center of the stand is in regeneration, with very tightly clustered pine and hardwood regrowth. The northern portion of the stand falls in the Mooneyham prescribed burn. It is trending towards a woodland condition. A non-commercial thin is proposed to reduce competition and increase growing space for remaining pine and oak saplings in regenerating portions of the stand. This is an opportunity to determine stand composition and ensure there is an oak component to the future stand as well as selecting existing shortleaf over loblolly whenever possible, creating a more fire-tolerant, resilient forest. The non-commercial thinning treatment would be a manual slash down treatment using chains saws to release around selected leave-trees.

Comp 716 Stand 19 proposed for non-commercial thin

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

These stands are in the Perry Creek-Conasauga River HUC - #031501010105 which is a priority watershed.

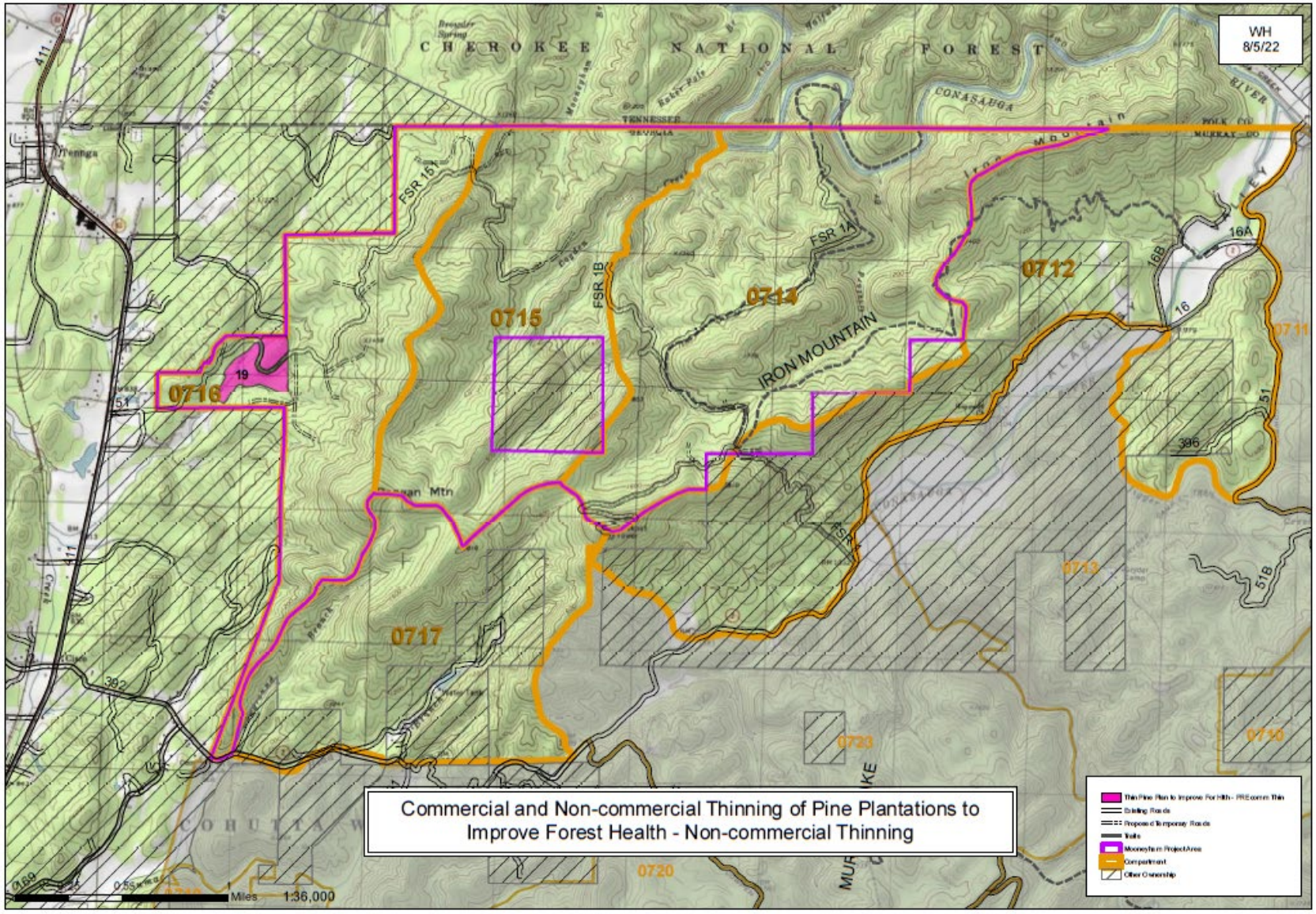
MRx(s) where activity would occur: 9.H Management, Maintenance and Restoration of Plant Associations

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*

- Compartment 716 Stand 19 is split by FSR 151. The northern portion of the stand is in the Mooneyham Rx burn and will be left untreated during the non-commercial thinning prescribed for the stand. The southern portion of the stand below FSR 151 will be treated.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Replacement of culverts, fords, or bridges to increase aquatic organism passage and function

Existing Condition (Need): Culvert assessments were completed on 2 culverts on Bogden Creek and 3 on Perry Creek and all are significant or severe barriers to aquatic organism passage (AOP). Both Bogden and Perry Creek are Conasauga River tributaries with important endemic fish fauna.

Desired Condition: Increase aquatic connectivity in cold and warm water streams (Forest Plan Objective 26.3) by decreased number of barriers to AOP.

Known Conditions that Trigger Restoration Actions: High priority culvert locations with AOP barriers.

How to Implement Change: The replacement of culverts which are barriers to aquatic organism passage (AOP) with appropriate structures (bottomless culverts, bridges, or low-water fords) in conjunction with other treatments, i.e., stream habitat and road improvement projects is proposed on up to 3 locations. These projects require extensive and expensive engineering design and construction costs, therefore they would be repaired as funding permits on a priority basis. NOTE: there are severe barriers on Perry Creek and an unnamed tributary on private property off Douthitt Circle, just outside the National Forest boundary.

AOP candidate on Perry Creek @ FS Road 151. This culvert is a significant barrier to aquatic organism passage.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

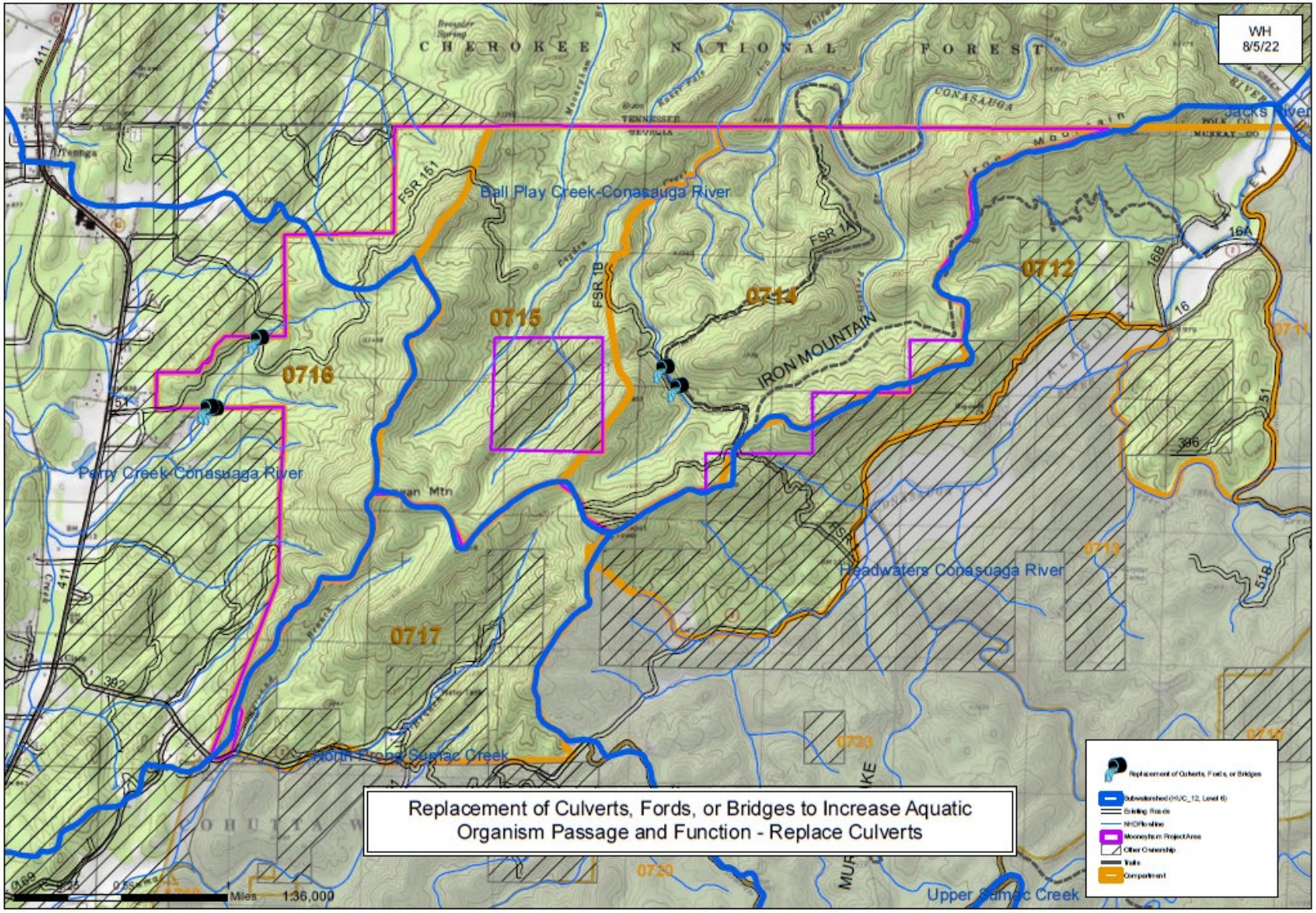
The Perry Creek culverts are in the Perry Creek-Conasauga River HUC - #031501010105. The Bogden Creek culverts are in the Ball Play Creek – Conasauga River HUC - #031501010103. Both of these are Priority Watersheds.

MRx(s) where activity would occur: The culverts on Perry Creek are in MRx 9.H Management, Maintenance and Restoration of Plant Associations, those on Bogden Creek are in 7.E.2 Dispersed Recreation Areas with Vegetation Management

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.*



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Activity Name: Prescribed fire in new burn blocks to facilitate restoration or maintenance of fire-adapted ecosystems or to reduce hazardous fuels

Detailed Description:
Existing Condition (Need): Approximately 84% of lands within the Foothills Project currently fall under FCC3 and are characterized by fire regimes that are significantly altered from their historical range. These lands are at a high risk of losing key ecosystem components. A large majority of this area are not covered by existing burn units.

Desired Condition: Expand the role of fire to recover and sustain healthy, fire-adapted ecosystems as much as possible, as a natural process (Forest Plan Goal 61).

Known Conditions that Trigger Restoration Actions: Where prescribed burning is required or preferred to meet restoration silvicultural objectives and can be accomplished safely outside of existing burn blocks

How to Implement Change: Prescribed fire would be used on the Foothills Landscape (in conjunction with silvicultural treatments when appropriate) to trend vegetation toward FCC2 or 1 and increase resiliency of forests and reduce susceptibility to insect & disease and/or stand-replacing wildfires. All actions would be similar to using prescribed fire within existing burn blocks. New prescribed fire burn units may be incorporated into the Foothills Landscape based on proposed vegetation management activities. Burning in mesic stands as is not considered part of this action. The proposed action does not include burning, either as a primary action or a connected action, for mesic stands (See Table 17). While a mesic stand could be included within a burn block, the burn plan objectives, and the parameters set within that plan, decrease the risk that these mesic forest types would burn inadvertently.

Three new prescribed burns are proposed in the project area (958 acres):

- Iron Mountain burn – 860 acres
- Mooneyham Extension burn – 126 acres
- Halfway Branch burn – 56 acres

The Mooneyham IA has a history of summertime natural fire ignitions. These summertime wildfires show a resistance to control and can result in mortality of the overstory. The IA contains many examples of fire-adapted vegetation, including populations of the rare eastern turkeybeard.

The Iron Mountain burn unit is bounded by the Conasauga River to the North, East, and Southeast. This unit will require new fire line construction east of FSR 16B in addition to using the Iron Mountain trail as new fire line. East of FSR 16B, the line will follow what appears to be an old roadbed/ railroad bed. This will need to cleared and scraped to be utilized as a fire break. Directly at the state line where this feature ties into the Conasauga River there appears to be the foundation of a bridge. All new line construction has been submitted to the Forest Archeologist for heritage survey.

The planning of the Iron Mountain RX unit requires Cooperation with the Cherokee National Forest as a portion of the unit extends north into Tennessee across the Forest Boundary. This occurs because the northern boundary of the unit is the natural barrier of the Conasauga River, reducing the amount of dozer line necessary for the burn. The Cherokee National Forest also has a burn unit that extends south

into Georgia due to utilization of the Conasauga River as its southern boundary. The Cherokee National Forest will complete NEPA for the portion of the Iron Mountain Prescribed fire unit extending into Tennessee.

In July of 2022, the 89-acre Iron Mountain wildfire was started at the summit of Iron Mountain in the Iron Mountain Rx burn block, presumably by lightning strike.

A portion of the population of Eastern turkeybeard falls into the proposed Iron Mountain burn block. It is expected to benefit from potential canopy gaps created by Virginia pine mortality that may occur during repeated prescribed burns.

The Mooneyham Extension burn will require new dozer line to be constructed along the northwest boundary, western boundary, and southern boundary. The fire line on the eastern side of the burn will use the temporary access created for the commercial timber treatments planned for these stands. This expansion of the existing Mooneyham burn will reduce fuel loads next to the forest boundary that borders homes and private property. It will include two proposed shortleaf restoration stands that will benefit from prescribed fire in order to restore native shortleaf forests as well as partially include an oak restoration stand.

Kevin Vasalinda, engineering technician and firefighter, cuts fire line around the 2022 Iron Mountain wildfire

The Halfway Branch Rx includes only portions of the Cherokee National Forest's Halfway Branch burn that cross the state line into Georgia and onto the Chattahoochee National Forest. Like the portion of the Iron Mountain burn that crosses into Tennessee, the Halfway Branch burn uses the Conasauga River as its boundary.

Connected actions for all new and existing prescribed burns include maintaining approximately 3.7 miles of existing fire line as well as 6 miles of new fire line construction. Of the new fire line construction, 3.8 miles is concurrent with the existing Iron Mountain trail.

New and existing fire lines would be bladed with a dozer to create a fuel break or leaf litter would be blown with a blower. In riparian areas, line construction is limited to hand tools and blowers. Fire lines may be improved using a masticator immediately adjacent to the line location to reduce fuel build up next to the line.

☒ **Map(s) Attached**

Watershed(s) (6th-level HUC) where activity is planned:

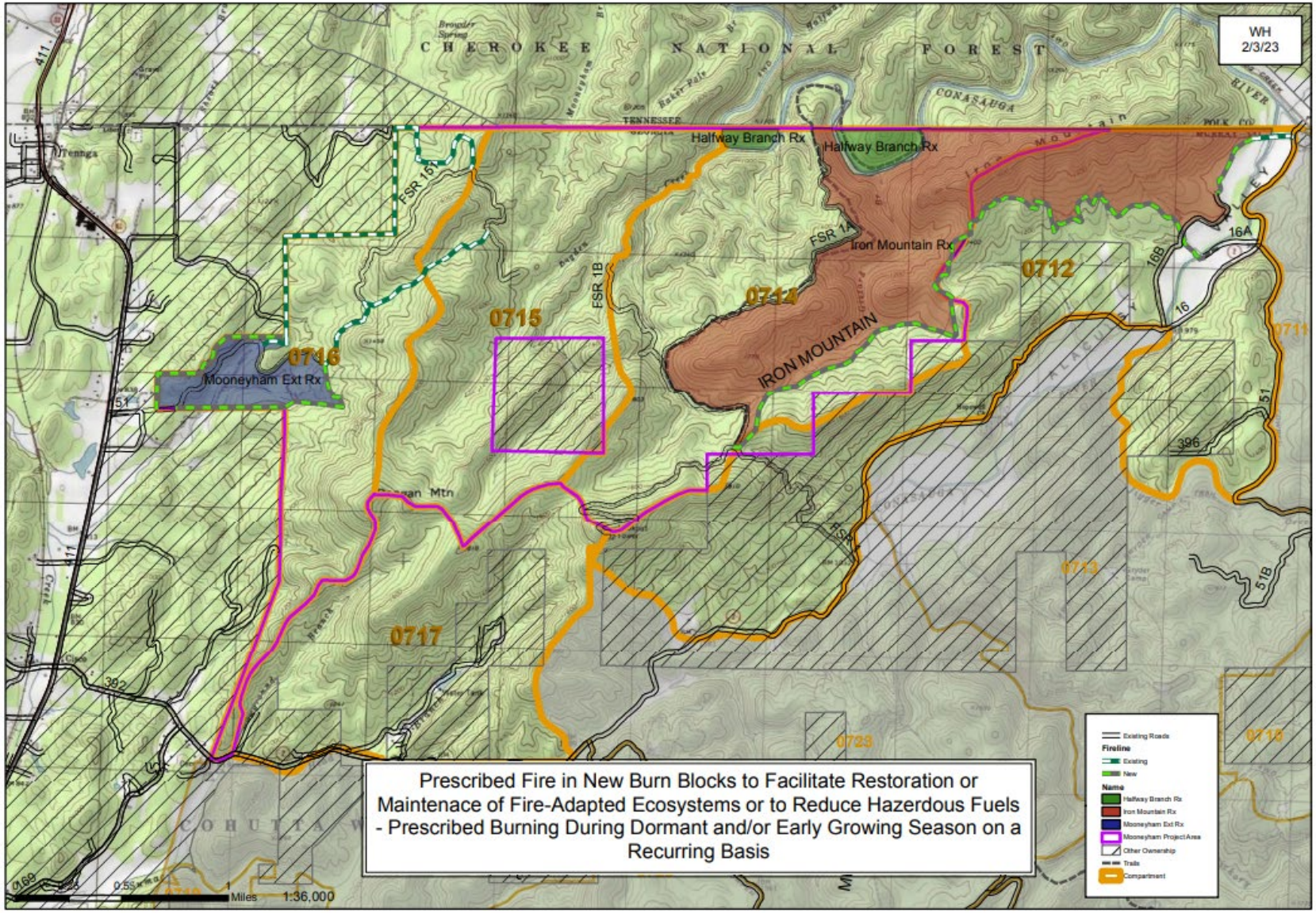
The Iron Mountain and Halfway Branch burns are in the Ball Play – Conasauga River HUC #031501010103. The Mooneyham Extension burn is in the Perry Creek – Conasauga River HUC - #031501010105. Both are Priority Watersheds.

MRx(s) where activity would occur: Mooneyham Exp - 9.H Management, Maintenance and Restoration of Plant Associations, Iron Mountain - 7.E.2 Dispersed Recreation Areas with Vegetation Management and 2.B.1 Recommended Wild River Segments, Halfway Branch – 2.B.1 Recommended Wild River Segments

Resource Project Design Features: Do project activities follow all listed resource-specific PDFs in Step 2?

☒ **Yes** ☐ **No** (If no, document if additional analysis per NEPA is triggered and if so, analysis is referenced and/or attached prior to finalization.)

Additional Project Design Features: *Add any additional Project Design Features necessary to avoid significant impacts. Use list at end of this plan in Attachment A to guide selection of all that apply. List PDF numbers.* Click or tap here to enter text.



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Attachment A: Additional Project Design Features

PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
PDF 1: All Restoration Actions that Use Herbicides	No herbicide is ground applied within 100 feet of lakes, wetlands, streams, except for aquatic-labeled herbicides to prevent significant environmental damage	Forest Plan Standard FW-022
	Herbicide mixing, loading, or cleaning areas in the field are not located in sensitive areas as identified in the project decision document, or within 200 feet of private land, open water, or wells (or ephemeral streams FW-024)	Forest Plan Standard FW-023
	No soil active herbicide with a half-life longer than three months is broadcast within 25 feet of ephemeral streams. Selective treatments with aquatic-labeled herbicides are allowed. Such areas are clearly marked before treatment so that applicators can easily see and avoid them.	Forest Plan Standard FW-025
	Site-specific analysis of proposed management actions will identify any protective measures needed in addition to Forest Plan standards, including increasing the width of protective buffers where needed.	Forest Plan Standard FW-029
	Milkweed species would be avoided during herbicide spraying.	FLP Specific
	Pesticide Use – See Appendix B, Attachment 1 of the Vegetation Specialist Report	FLP Specific
PDF 2: Old growth stands, at the time of implementation, that meet minimum age criteria for old-growth based on Old-Growth Type	Non-conserved “possible old-growth”, defined as stands meeting the minimum age criteria for their respective Old-Growth Type that are not currently conserved by Management Prescription or through small block allocations associated with this alternative, would be assessed prior to implementation of project activities within these areas to determine if they meet the other defining criteria for old-growth conservation. If so, these areas would be conserved for old- growth. Management actions that conflict with old-growth characteristics, as described by the Forest Plan, would not be permitted in areas conserved. The exception would be for Old-Growth Types 22 and 24.	Forest Plan Standard (FWS – 046 FWS – 054)
PDF 3: All vegetation management actions in all conditions	During all vegetation management activities, dogwoods and other soft-mast producers would be reserved from treatment, where practicable and to the extent compatible with meeting treatment objectives	Forest Plan Standard (FWS – 008) and FLP Specific
PDF 4: All vegetation treatments that include Oak regeneration (2,000 acres) or mesic hardwood regeneration (500 acres) treatments	Oak-dominated forest types on mesic sites would not be converted to pine-dominated cover types, but could be managed as mixed oak-pine forest types	Forest Plan Standard (FWS – 004)
	For areas proposed for mesic hardwood regeneration to create young forest habitats, regeneration treatments would be limited to yellow poplar-dominated stands or stands dominated by other non-oak cover hardwood associates. This would include Forest Types 50, 56, 58 and/or 41.	FLP Specific
PDF 5: All vegetation treatments that include regeneration harvests (yellow pine restoration, oak restoration, oak regeneration, mesic hardwood regeneration)	When regeneration treatments are applied, sites would be regenerated to native tree species that commonly occur or historically occurred naturally on ecologically comparable sites within the same ecological section.	Forest Plan Standard (FWS – 001)
	Stands dominated by Eastern hemlock would not be subject to regeneration treatments.	Forest Plan Standard (FWS – 002)
	Even-aged or two-aged regeneration areas in or adjacent to deciduous or mixed forests must include a 50-foot zone along mature forest edges in which intensity of silvicultural treatment decreases, resulting in a feathered edge.	Forest Plan Standard (FWS – 007)

PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
	The maximum size of an opening created by even-aged or two-aged regeneration treatments is 40 acres. For yellow pine, 80 acres is permitted if restoration requires larger openings.	Forest Plan Standard (FWS – 086)
	Openings created by even-aged regeneration or two-aged regenerations harvest units shall be separated from each other by a minimum of 330 feet (5 chains). However, such openings may be clustered closer than 330 feet as long as their combined acreage does not exceed the maximum opening size (40 acres). An opening created by regeneration harvest would no longer be considered an opening when the re-established stand reaches five years in age.	Forest Plan Standard (FWS – 087)
	Regenerated stands shall meet the minimum stocking standards for the intended/desired forest type within five years after final harvest cut, as listed in the Forest Plan Table 2-5.	Forest Plan Standard (FWS – 089)
	In even-aged and two-aged regeneration, retain all snags unless they are an immediate hazard. Sales would be designed to avoid snag removal if possible (skid trails, landings). Retain (or create) five snags per acre: near the forest edge if possible. In even-aged and two-aged regeneration stands larger than 10 acres, maintain a minimum of 15 sq. feet of basal area. These could be arranged in clumps, corridors, or feathered edges. In stands over 10 acres treated as seed tree or shelterwood, maintain a minimum of 20 sq. feet of basal area. Retain all trees within 20 feet of five snags per acre for windthrow protection and snag recruitment	Forest Plan Standard (FWS 091).
PDF 6: All Prescribed Fire in all Conditions	When necessary, to include mesic deciduous forests within prescribed burning blocks as part of burning other adjacent fire-dependent forest types, only low intensity fires are permitted, except when prescribed burns are designed to encourage oak regeneration in mesic oak forests. Exclude such mesic areas lacking a significant oak component from burn units, unless by doing so, it would result in: (1) failure to meet other prescribed fire objectives, or (2) more than 30% increase in plowed or bladed fire-line construction per burn unit.	Forest Plan Standard (FWS – 191 and FSW – 0190)
PDF 7: All mechanical vegetation management	Skidding would not occur within riparian corridors, except for at designated crossings.	GA BMP
	No heavy equipment, other than mechanical fellers, would be allowed to operate within the riparian corridors during harvest activities. The exception to this would be at designated crossings.	GA BMP
	Once the temporary roads, log landings, and skid trails are no longer needed, they would be closed to normal vehicle traffic so that illegal use is discouraged. The closures may include installation of an earthen barrier, re-contouring, decompaction, placement of logging debris along the road surface, seeding or placement of boulders.	FLP Specific
	Log landings and skid trail locations would be evaluated and approved by the Forest Service prior to harvesting in order to ensure that they are placed in locations with adequate drainage and away from sensitive soils or riparian areas as per the Georgia State BMP recommendations.	FLP Specific
	Skidding and decking would be limited to designated and approved routes along ridges and gentle slopes to protect sensitive soils. Skidding would not be allowed on sustained slopes over 35%. Coordination will be completed when skid trails and decking coincide with system trails.	FLP Specific

PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
	No tree removal may occur within 0.25 mile of a known NLEB hibernaculum at any time of the year (NLEB 4d rule) unless agreed to during consultation with U.S. Fish & Wildlife Service	FLP Specific (ESA Consultation)
	No tree removal may occur within a 150-foot radius of known, occupied NLEB roost trees during June or July each year (NLEB 4d rule) unless agreed to during consultation with U.S. Fish & Wildlife Service	FLP Specific (ESA Consultation)
	Protect known Indiana bat or other endangered bat roosts from cutting or modification until they are no longer suitable as roost trees.	Forest Plan Standard FW-233
	Snags are not intentionally felled from April 1 through August 31 (exceptions may be made for safety, insects, and disease).	Forest Plan Standard FW-235
	Non-silvicultural projects removing trees or snags (fireline construction, rec projects, hazard tree removal) should be completed during September 1-March 31. This applies to the parts of the forest that provides “suitable” habitat for Indiana bat roosting (GIS analysis).	Forest Plan Standard FW-236
	In all silvicultural treatments, retention priority is given to the largest available trees with favorable characteristics as bat roost trees (yellow pines and oaks with crevices, cracks, or hollows).	Forest Plan Standard FW-237
	Compliance with standards FW-90, 91, 233-237 will be monitored and report submitted annually to USFWS. Report will include acres of timber harvest and prescribed burning; time of year accomplished.	Forest Plan Standard FW-238
	Mature forest cover is maintained within 100 feet from the top of cliffs and 200 feet from the base of cliffs.	Forest Plan Management Prescription 9.F-017
	Vegetation management activities would not utilize existing trails as access routes without a review by recreation staff. Trails used would be restored to the original trail width and characteristics if determined appropriate per sustainable recreation objectives. Blaze trees that define the trail corridor would not be cut unless to mitigate safety concerns.	FLP Specific
	Layout of regeneration areas would incorporate a no-harvest zone between unit boundaries and open Forest system roads that have a HIGH scenic integrity objective.	FLP Specific
	Layout of regeneration areas by design would leave areas un-harvested along prominent ridgelines and/or sites of higher elevation that have a HIGH or MODERATE scenic integrity objectives to reduce “sky-lighting” effects and to obscure areas of lower elevation in regeneration.	FLP Specific
	Logging equipment must be inspected and found to be clean (free of vegetative debris) seed, soils, etc. upon arrival to timber sale areas.	FLP Specific
	Known NNIS infestations must be shown on timber sale area maps. Ensure that equipment washing clauses are included in all ground-disturbing contracts and sales documents, and that clauses are discussed in pre-work conferences.	FLP Specific
	When possible, significant infestations of NNIS along planned access routes would be pre-treated systematically within timber sale areas in order to prevent the spread of NNIS into new areas.	FLP Specific
	Skidding through known populations of NNIS should be avoided to reduce the potential for spread.	FLP Specific
PDF 8: All mechanical vegetation and prescribed fire treatments	Coordinate with district recreation staff to post advance notices when trails or recreation sites are to be closed during harvest operations and prescribed burning.	FLP Specific
	Trails treads, roads, or facilities would be rehabilitated to pre-existing condition if damaged during project operations, in coordination with district recreation staff.	FLP Specific

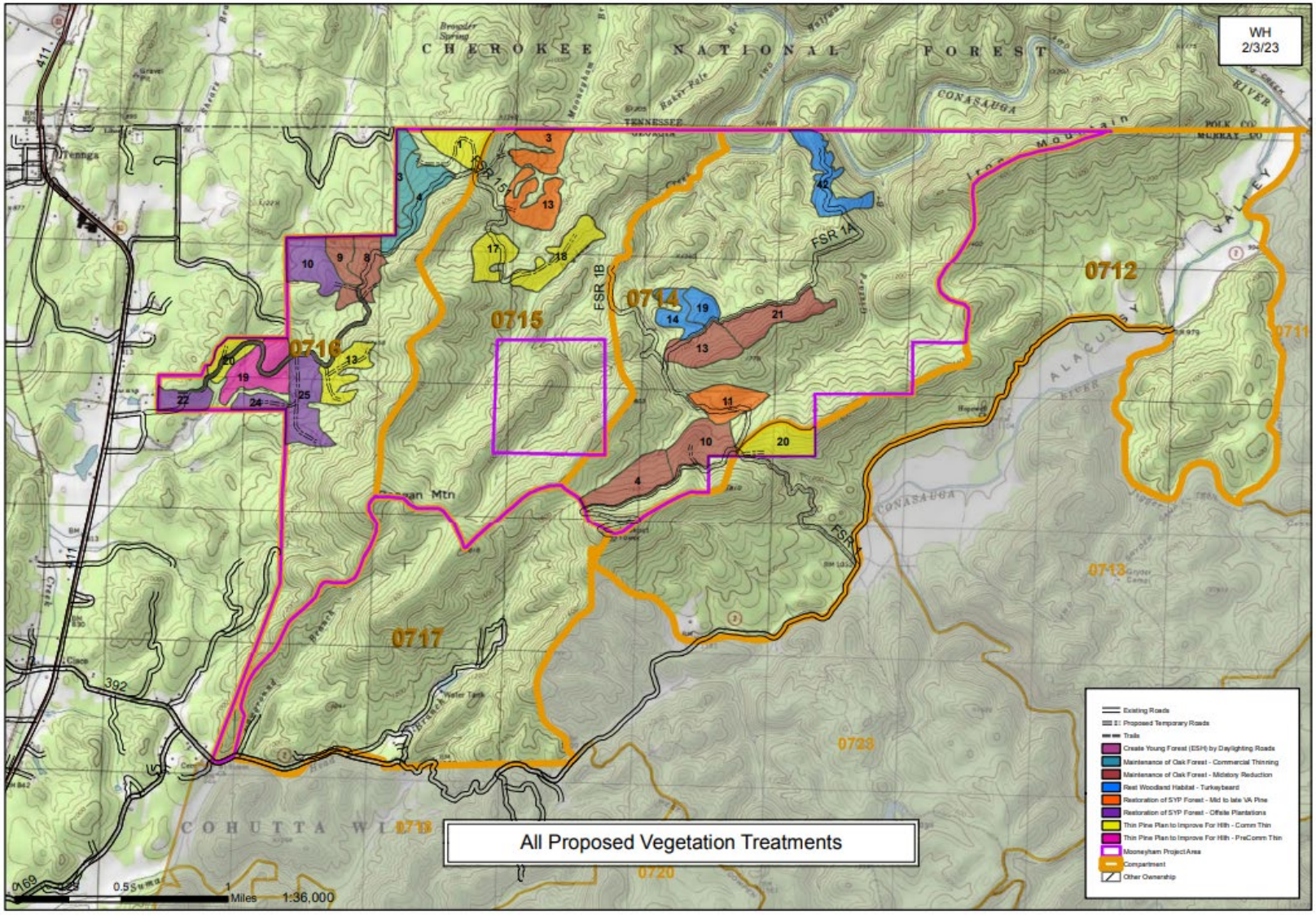
PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
	Vegetation treatments that occur within or adjacent to developed sites, dispersed sites, or trails would be coordinated with local recreation /facility staff to protect facility and lessen impacts to visitors to the extent possible. Project activities that occur within or adjacent to developed sites, dispersed sites, or trails would be conducted outside the major use season whenever possible, with the understanding that most facilities are open year-round. Developed sites will be temporarily closed for visitor protection during active operations. Portions of sites and trails may be temporarily closed for visitor protection or possible restrictions placed on silvicultural activities during times of high use.	FLP Specific
	Where possible, while implementing proposed treatments, make improvements within recreation sites and along system trails. Examples include cleaning up logs and debris from past projects, removing hazard trees surrounding developed sites, and/or cutting existing stumps to less than six inches.	FLP Specific
	Harvest facilities such as temporary roads and landings, and fireline construction will be assessed for continued use to meet other resource needs (i.e., additional trailhead parking, loop trails, wildlife openings, etc.)	FLP Specific
PDF 9: Prescribed Fire Treatments in all Conditions	Minimize the amount and concentration of smoke entering populated areas; prevent/ minimize public health and safety hazards, including impacts to sensitive sites (schools, hospitals, etc.), visual impacts on highways, airports, etc. (both day and night); avoid exceedances of the National Ambient Air Quality Standards (NAAQS); and protect visibility in Class 1 areas	USDA Forest Service Southern Region's Smoke Management Guidelines
	All activities will meet the requirements of applicable regulations established in pursuit of state or federal air quality goals. While the Forest Service cannot unilaterally guarantee the quality of air (generally, or at a specific point) within an airshed, it does ensure that its management activities would be conducted with full adherence to pollution control methodologies and technologies prescribed by air quality regulatory agencies.	Forest Plan Standard FW-230
	In leases and other agreements that permit other parties to use Forest land or resources, the Forest Service will require the permittee to meet the requirements of all applicable regulations established in pursuit of state or federal air quality goals.	Forest Plan Standard FW-231
	The Forest Service will assess relevant aspects of air quality within the Forest, either through its own efforts, in cooperation with other agencies, or by review of the results of other agency monitoring in/near the Forest.	Forest Plan Standard FW-232
	Adhere to Forest Service Manual 5100 Wildland Fire Management, Chapter 5140 Hazardous Fuel Management and Prescribed Fire, Chattahoochee-Oconee Supplement, as amended, regarding parameters to consider when developing a prescribed fire burn plan. Parameters include, but are not limited to: fuel moisture, relative humidity, wind speeds, Keetch-Byram Drought Index (KBDI), days since rain, temperatures, and probability of ignition.	Forest Service Manual 5100 Wildland Fire Management, Chapter 5140 Hazardous Fuel Management and Prescribed Fire, Chattahoochee-Oconee Supplement R8-5100-2009-1
	Basic mesic forests are excluded from prescribed burning blocks where this can be accomplished without large increases in fireline construction. When necessary, to include mesic deciduous forests within burning blocks, direct firing will not be done within these communities unless necessary to secure control lines. In these cases, only low intensity fires are allowed.	Forest Plan Management Prescription 9.F-016
	Locate and construct firelines to minimize mineral soil exposure by utilizing natural barriers, installing firebreaks along the contour, installing proper water diversions, and using gradual grades as outlined in the Forest Plan and Georgia's BMP Handbook. Establish a vegetative	GA BMP

PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
	cover as soon as possible to reduce erosion and sedimentation.	
	Prescribed burn plans written for areas near caves or mines that contain bats identify these sites as smoke sensitive targets and plan to avoid smoke entering cave or mine openings when bats are present.	Forest Plan Standard FW-034
PDF 10: All activities within Ephemeral Zones (the area within 25 feet on either side of ephemeral streams)	Implement current Georgia Rules and Regulations for Water Quality Control (Chapter 391-3-6) for all projects as a minimum to meet water quality objectives. GA BMPs for Forestry would be met or exceeded to meet water quality objectives for all activities. Consistent with GA BMP (2019 p. 21), silvicultural activities should: • Minimize soil disturbance, litter layer removal, and avoid high-intensity fire within ephemeral areas. These activities can increase the possibility of introducing pollutants to intermittent or perennial streams. • Cover inadvertently exposed soils with logging debris, grass, or mulch. • Minimize equipment trafficking within and around ephemeral areas. Should trafficking be justifiable due to site constraints, take precautions to minimize soil disturbance and litter layer removal. Placement of logging debris or logging mats in traffic areas may be appropriate. Debris, mats, and other soil protecting structures should not interfere with the natural flow of water. • Avoid direct tie-in of turnouts and outfall of water bars/breaks to ephemeral areas. Extra care should be taken where a skid trail crosses an ephemeral area.	Forest Plan Standard FW-070, GA BMPs
	Motorized vehicle use in ephemeral stream zones is restricted to designated crossings. Motorized vehicles are allowed outside designated crossings on a case-by case basis when vehicle entry would create less ground disturbance than cable winching.	Forest Plan Standard FW-077
	Partial suspension is required when yarding logs over ephemeral streams, unless an improved crossing is used, e.g., culvert or bridge.	Forest Plan Standard FW-079
	Temporary culverts or bridges will be used to cross ephemeral streams where needed to protect channel stability or minimize erosion or scouring. Culverts will be removed when activities are completed, and the ephemeral stream zone will be restored to a natural condition. Stabilize disturbed soils at crossings.	Forest Plan Standard FW-082
	Recreation trails, campsites, and other permanent recreational developments are located, designed, and constructed outside the ephemeral stream zone (25 feet on each side). Those causing unacceptable resource damage will be closed and/or rehabilitated.	Forest Plan Standard FW-083
	Use fuel-break construction and/or mitigation methods that: (a) leave the root mat intact; (b) do not leave bare mineral soil exposed, and © do not create landforms that will drain directly into ephemeral streams for 25 feet on either side of ephemeral streams. Such methods include wet lines or use of existing constructed or natural barriers. If fuel-break construction results in breaking the root mat and thus exposure of bare mineral soil and connection to an ephemeral stream, restore the fire break for 25 feet on each side of the stream with re-shaping the soil surface and placing a soil cover in a timely manner to minimize erosion.	Forest Plan Standard FW-084
PDF 11: All heavy mechanical equipment use in parking lot activities	Operators should drive, operate, and store heavy equipment only within the proposed development footprint or the disturbed corridors of the surrounding roads and parking areas, so as to limit soil compaction and vegetation cover loss in the surrounding area. Additionally, bulldozer debris and excavated material from grading and digging operations should not be pushed into the surrounding natural forest areas. Construction should be designed and completed with no additional impacts to the riparian area.	FLP Specific
PDF 12: All heavy mechanical	Soil rutting should be kept to a minimum.	Regional soil standard

PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
equipment uses	Compaction in an activity area should not exceed a 15% increase in bulk density in the upper 8 inches of the soil.	Regional soil standard
PDF 13: Mastication activities	The operator should try to move in a straight direction. Pivot turns should be kept to a minimum and turns should be conducted in a broad arc as the surrounding terrain and timber would allow in order to minimize soil disturbance. Care should be taken to avoid moving over the same piece of ground more than three times or use areas that have already been compacted through other activities.	FLP Specific
PDF 14: Temporary road construction	Temporary roads would follow the general contour as practical and would generally not exceed sustained grades over 10%.	GA BMP
	The travel way of temporary roads would generally not exceed 14-16 feet except at turnouts and landings.	GA BMP
	Drainage structures, such as out sloping and water bars, would be installed along temporary roads when the use of the road is no longer needed.	GA BMP
	Temporary roads would be constructed on previous existing routes (old woods roads, skid trails, system trails) where possible to minimize the need for new temporary road construction.	FLP Specific
PDF 15: Timber harvest activities within the riparian corridor	Establish Streamside Management Zones (SMZ) on both sides of designated trout streams and tributaries according to the following options: Option A: For perennial trout streams and tributaries, a minimum 100-feet SMZ that includes a no-harvest zone within the first 25-feet of primary or secondary trout streams. Timber harvests within the remaining 75-feet of the SMZ should leave an average of 50 square ft of basal area per acre or at least 50% canopy cover. Option B: For perennial trout streams and tributaries within the 100-ft. SMZ, leave an average of 50 square feet of basal area per acre evenly distributed throughout the zone to provide shade. Option B may be selected if a qualified professional is consulted. Option C does not apply to CONF. The minimum CONF riparian corridor is 100 feet.	GA BMP
PDF 16: All activities within Riparian Corridor	Major actions that create long-term impacts are prohibited in the riparian corridor. Examples are roads or trails (excluding designated crossings), recreation sites and facilities, log landings, and permanent wildlife openings. Existing examples of the above are permitted if not causing environmental damage.	Forest Plan Standard 11-001
	Minor actions that create short-term impacts are permitted in the riparian corridor with appropriate mitigation and monitoring of impacts. Examples of minor actions include silvicultural activities needed to meet resource objectives for riparian-associated species, bank stabilization, temporary road construction and stream crossings associated with these activities.	Forest Plan Standard 11-002
	For all projects, additional protection, such as wider riparian corridor distances, higher residual canopy cover, restrictions on activities, etc. will be identified through site-specific inventories and surveys, site-specific biological evaluations, and site-specific mitigations identified in project NEPA documents.	Forest Plan Standard 11-003
	Silvicultural activities conducted within the riparian corridor will be conducted to meet or exceed compliance with the current edition of GA BMPs for Forestry	Forest Plan Standard 11-022
	Tree removals may only take place (in the riparian corridor) if needed to enhance the recovery of the, rehabilitate disturbances, provide habitat for T&E, RFSS, or riparian-associated species, reduce fuel buildup, provide for visitor safety, or for approved facility	Forest Plan Standard 11-024

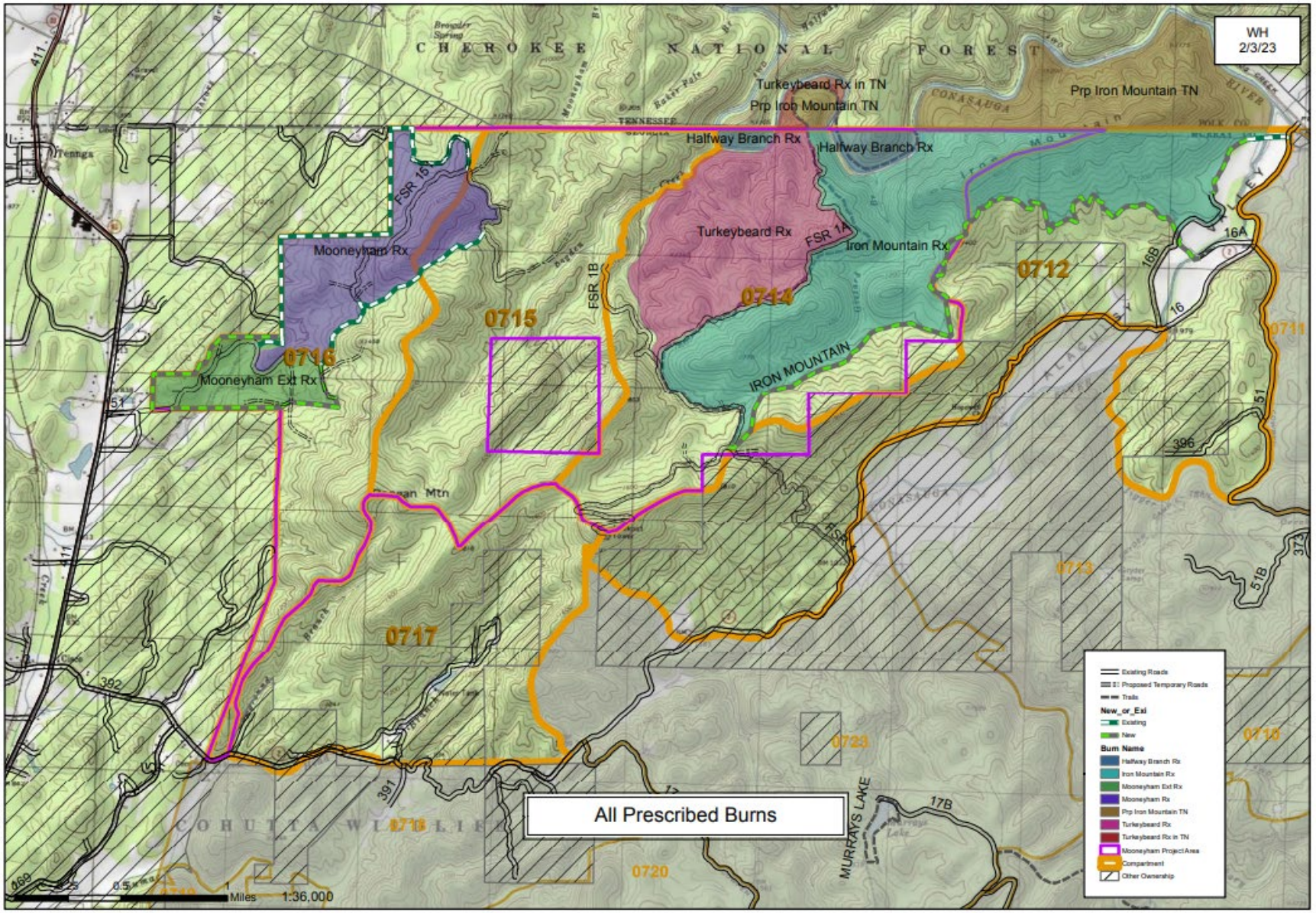
PDF Number: Location or Condition	Project Design Features, Best Management Practices, and Standards	Origin
	construction/renovation	
PDF 17: Culvert and/or bridge maintenance, removal, or modification	Culverts and bridges (and any other man-made structure) would be surveyed for roosting bats before they are removed or modified, and if significant bat roosting is found, the structure would be maintained, or alternative roosts made available prior to removal or destruction	Forest Plan Standard FW-035
	Culverts that are barriers to stream biota passage in waters of aquatic Threatened, Endangered, and Sensitive species have priority for replacement over culverts in waters without Threatened, Endangered, and Sensitive Species.	Forest Plan Standard FW-042
PDF 18: Timber sales	In salvage timber sales, all live den trees and an average of 5 of the largest suitable snags (snags with exfoliating bark) per acre will be retained. Snags in early stages of decay should be favored over older snags for retention. Snags should be clumped if possible.	Forest Plan Standard FW-090
	In even aged and two aged regeneration, retain all snags unless they are an immediate hazard. Sales will be designed to avoid snag removal if possible (skid trails, landings). Retain (or create) 5 snags per acre, near the forest edge if possible. In even-aged and two-aged regeneration stands larger than 10 acres, maintain a minimum of 15 sq. feet of basal area. These can be arranged in clumps, corridors, or feathered edges. In stands over 10 acres treated as seedtree or shelterwood, maintain a minimum of 20 sq. feet of basal area. Retain all trees within 20 feet of 5 snags per acre for windthrow protection and snag recruitment.	Forest Plan Standard FW-091
PDF 19: Activities around caves and/or mines	For caves and mines suitable of supporting cave-dependent species, a minimum buffer of 200 feet is maintained around portals. Prohibited activities within this buffer include use of wheeled or tractor vehicles (except on existing roads or for cave protection and maintenance), mechanical site prep, vegetation cutting, rec site construction, tractor-constructed firelines, herbicide application, and new road construction, skid trails, and log landings.	Forest Plan Management Prescription 9.F-021
PDF 20: All vegetation treatments that create young forest habitats (10,100 acres)	Within individual project areas to be implemented within the Foothills Landscape area, an assessment of existing acres of young forest habitats (stands less than 11 years old) would be made prior to implementation to determine the maximum amount of young forest that could be created. Such assessments would be tiered to the applicable Management Prescription allowances contained within each individual project IA. Young Forest habitats would not be created in excess of the maximum amounts allowed by each Management Prescription singly or combined.	FLP Specific (MRx compliance)
PDF 21: Any ground-disturbing activities	Botanical surveys would be completed in accordance with Forest risk assessments in suitable habitats for T&E and Sensitive species prior to any ground disturbing activities.	FLP Specific

Attachment B: Additional Maps



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest



Mooneyham Implentation Area - Foothills Landscape Project

Conasauga Ranger District, Chattahoochee-Oconee National Forest

Attachment C: Monitoring Plan for Mooneyham Implementation Area

Resource Assessed	Monitoring Question/Objective	Frequency	Field Method/Data Collection	Documentation Format	Primary Responsibility
Soil Productivity & Water Quality	Are Best Management Practices (BMPs) being implemented through timber sale contract provisions, and according to Forest Plan standards?	During operational periods (timber sales, site prep, road construction and maintenance)	Evaluate implementation of BMPs and timber sale contract provisions. All timber sale units are evaluated for implementation.	Timber sale inspection forms, filed in timber sale contracts, reviewed by FSR	District Timber Sale Administrator, Harvest Inspector, Forest Service Representative (FSR)
Soil Productivity & Water Quality	Are the Best Management Practices and applicable Forest Plan standards effective in meeting soil productivity and water quality standards?	During operational periods and within one year after operations end	Field evaluation of the effectiveness of BMPs to meet Forest Plan standards. Random sample of harvest units using line transects & point samples	Field inspection forms, filed in S.O.	Interdisciplinary Team (Forest personnel in hydrology, soils, timber)
Best Management Practices Implementation – Audit by GFC	Were Best Management Practices implemented per Georgia's Forestry BMP Handbook and effective in protecting water quality?	During operational periods and within one year after operations end	Field evaluation of randomly selected harvest units and prescribed burns by Georgia Forestry Commission water quality personnel. This occurs across the state on federal land as well as state and private ownership.	Completion of GFC Best Management Practice Audit Form, filed in state database	Georgia Forestry Commission Water Quality personnel

Resource Assessed	Monitoring Question/Objective	Frequency	Field Method/Data Collection	Documentation Format	Primary Responsibility
Revegetation of Disturbed Areas	Were the prescribed revegetation efforts on disturbed sites such as skid trails, landings, skid trails, and fire lines implemented and effective in establishing ground cover and erosion protection?	Within one growing season of revegetation operations	Visual evaluation of disturbed areas that have been revegetated to assess that sites have been seeded and rehabilitated to ensure revegetation is successful.	Field visual inspection of random sample of revegetated areas, documented on timber sale inspection reports	Timber Sale Administrator
Non-Native Invasive Plants	Are NNIS populations present within planned harvest/activity areas prior to treatment?	During project preparation/layout	Field inventory and mapping of NNIS populations	Inventoried populations will be mapped and treatment planned. Populations identified though risk assessment process prior to implementation may be added to Sale Area Map as required by Foothills NNIS Risk Assessment	District Silviculturist, District Timber Management Assistant (TMA), Presale Forester, District Wildlife Biologist
Non-Native Invasive Plants	Identify NNIS in treated areas as required by Foothills NNIS Risk Assessment and treat new infestations	Up to five field seasons after harvest activities have been completed as required by Foothills NNIS Risk Assessment	Field inspections to identify establishment or spread of NNIS as required by Foothills NNIS Risk Assessment	Inventoried populations will be mapped and treatment planned.	District Silviculturist, District TMA, District Wildlife Biologist
Rare Plants	Are rare plant protections adequate to protect populations?	During timber sale layout and operational periods	Field inspection of known rare plant populations.	Timber sale inspection reports	Timber Sale Administrator, District Wildlife Biologist

Resource Assessed	Monitoring Question/Objective	Frequency	Field Method/Data Collection	Documentation Format	Primary Responsibility
Timber	Are timber harvest activities adhering to applicable Forest Plan standards?	Throughout the life of the timber sale contract	Field inspections through all phases of harvesting to ensure contract provisions are being met and implemented in compliance with the Forest Plan.	Timber sale inspection reports	Harvest Inspector, Timber Sale Administrator, Forest Service Representative, District Wildlife Biologist, District Timber Management Assistant
Reforestation	Are harvested stands regenerated and restocked within five years of harvest?	One and three years after planting trees, and at 5 years or later after site preparation has been completed with natural regeneration	Field evaluation of sample plots and/or field inspection will be used to determine stocking, composition and condition of regeneration.	Report documented in FACTS database	District Silviculturist
Heritage	Are Forest Plan standards effective in protecting cultural and heritage resources?	During and immediately after harvest activities	Field inspections of sites to ensure the protection or avoidance of heritage resources.	Timber sale inspection reports	Timber Sale Administrator, Archeologist
Turkeybeard	Are existing Turkeybeard populations responding to management (Rx fire/non-commercial woodland treatment)?	During and after woodland treatment and first Rx burn, for 1-3 years	Field inspection of plants to determine health and vigor.	Field notes, contract daily diaries if applicable	Wildlife Biologist

Attachment D: Mooneyham Project Feedback/Response

Turkeybeard

"[T]urkeybeard is one of the few known definitively fire-adapted montane forest understory herbs in the eastern United States."[32] Yet turkeybeard's precise relationship with fire is unresolved. More fire does not necessarily promote turkeybeard. In Georgia, turkeybeard is typically not associated with the most fire-prone parts of the landscape where it is found. Populations have been found adjacent to the Conasauga, Etowah, and Tallulah Rivers, all of which represent barriers to the spread of fire and reduce fire frequency. Populations in both Georgia and Virginia are often associated with north-facing slopes.[33] [34] In other states, turkeybeard occurs at sites with low fire frequencies, such as at Grandfather Mountain, North Carolina where it grows in association with red spruce, a fire avoider. (See Ex. 2, Figure 1).

Rather than frequency, turkeybeard may be associated with canopy-replacement fire. Turkeybeard reproduction has been found to be enhanced by not only fire but also canopy opening (the canopy opening data is actually more rigorous).35 Georgia populations typically grow on steep slopes, which make intense fires far more likely. In other states, turkeybeard populations are also associated with sites prone to stand-replacement fires, such as Linville Gorge.[36] [37] Finally, in Georgia and other states, turkeybeard grows in association with Table Mountain Pine, a species whose serotinous cones are an adaptation to high-intensity fire but not low intensity fire.[38]

The avoidance of the highest fire frequency landscape positions and occurrence in areas with long fire return intervals indicate turkeybeard is not a reliable woodland indicator because woodlands are associated with high fire frequency. When turkeybeard populations are exposed to high light levels, they exhibit mass flowering two to three years later, but then revert to very low flowering levels for at least the next several years.39 That pulsed reproduction is much easier to explain for a species adapted to periodic high light from stand replacement fires than one adapted to the constant high light levels of woodlands.

One possible consequence may be that turkeybeard is not adapted to compete with dense forb and grass competition, which would be common in woodlands. For this project, that possibility suggests caution is warranted in raking around plants. Removal of duff facilitates establishment by grasses and many forbs and could lead to increased competition with turkeybeard.

Even when mass flowering has occurred, recruitment of turkeybeard has sometimes been limited and patchy.[40] A possible explanation is duff may limit seedling establishment. If that is the case, raking around mature plants could increase recruitment.

Since raking around mature plants could plausibly increase mortality of mature plants, increase recruitment, or both, we suggest the Forest Service rake around some but not all plants

in both populations. Monitoring for several years would also likely be necessary to understand the impacts of the treatment. We also support efforts to control woody competition around mature plants.

We agree that there are risks associated with raking existing turkeybeard plants prior to the initial prescribed burn that include additional competition created by removal of the duff layer. Raking also adds an additional burden to already comprehensive prescribed fire preparations. Thus, we will not pursue raking around turkeybeard plants as a pre-burn treatment. Turkeybeard populations in the established Turkeybeard prescribed burn block have been burned three times without raking after a prolonged fire-free period and experienced no noticeable mortality from fire. If the Collaborative has an interest in developing and implementing a monitoring plan for turkeybeard response to fire, the district will support that effort.

Prescribed fire

Both turkeybeard and shortleaf pine display specific adaptations to fire—fire-stimulated flowering and basal sprouting, respectively[41]. Their presence in the project area is strong evidence that fire is an integral part of forests on dry sites in the implementation area. Since allowing lighting fires to burn unimpeded is not practical, prescribed fire is needed in the project area.

However, conditions influencing fire regimes are not consistent across the implementation area, which suggests prescriptions for controlled burns should not be the same across the project area either. Gentle slopes are far more common along the western edge of the area than in the rest of the area. The north side of the area is bounded by the Conasauga River, a barrier to fire, while the west side is adjacent to the Great Valley, a potential source of fire due to both its flat topography and long history of higher human populations.

The size of fire compartments ("an element of the landscape with continuous fuel and no natural firebreaks, such that an ignition in one part would be likely to bum the whole") is one of the "most valuable" predictors of fire frequency[42]. Large compartments are associated with higher fire frequency. The Mooneyham burn unit is part of a relatively large fire compartment adjacent to the Great Valley. These factors suggest it should have relatively high fire frequency. Conversely, the Turkeybeard unit is a relatively small fire compartment and isolated from other fire compartment by streams and mesic, sheltered areas. These factors suggest it should have relatively infrequent fires. The proposed Iron Mountain unit is intermediate.

Landscape-scale modeling of fire regimes provide a basis for prescribing fire in this area. Frost, using a combination of topography, historical, and vegetation information to estimate "the higher fire-return intervals to be found in each landscape unit," predicted the Georgia Ridge and Valley would have a fire return interval of 7-12 years and the Georgia Blue Ridge would have a fire interval of 13-25 years.43 Independently and largely using climatic variables, Guyette and others estimated the Georgia Ridge and Valley would have fire frequencies of roughly 6-10 years and the Georgia Blue Ridge roughly 12 to 30 years.[44] We recommend using the Ridge and

Valley frequencies for the Mooneyham unit given the strong influence of the Great Valley on that area and using the Blue Ridge frequencies for the Turkeybeard unit.

At least four landslides have occurred in the Mooneyham burn unit and appear to have been caused in part by the burning (See Ex. 2, Figures 2 and 3). The initiation points of the landslides are not associated with active roads, historic roads, or other historic ground disturbance, but all started in areas with partial or complete overstory mortality. Landslides in this area are concerning due not only to the direct soil impacts, but also their potential impacts on downstream aquatic communities in this diverse watershed.

The soil series where the landslides occurred—Jefferson gravelly sandy loam, Junaluska loam, and Junaluska-Tsali complex—occupy roughly 25% of the project area. Those areas include parts of the proposed Iron Mountain burn unit with steep slopes with Virginia pine canopy, the conditions where most of the landslides occurred in the Mooneyham Unit. Steep slopes within the proposed Iron Mountain Burn Unit also are directly above the Conasauga River.

The risk of landslides was not analyzed in the Final Programmatic EA either for prescribed burning or for other activities. Vegetation within the proposed Iron Mountain Rx unit could benefit from fire, but before the area is burned landslide risks and their potential impacts need to be evaluated and accounted for.

All soils within the Mooneyham IA have been analyzed for “potential damage by fire” as categorized by the Natural Resource Conservation Service (NRCS) (see page 72 of the Custom Soil Resource Report for Mooneyham IA located in the project record and pages 30 and 31 of the Soil Specialist Report). The ratings involve an evaluation of the potential impact for prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer. The ratings are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. All soils within current or proposed burn units have a low or moderate rating. The soils referenced in the comment and therefore the soils with the current slides all have a rating of low. This indicates that the soil properties listed previously were not the main factor for the slide occurrence.

In reference to the portion of the comment suggesting risk of landslides was not analyzed in the Final Programmatic EA, it may not have been a direct indicator or measure, but it was considered in the affected environment section and overall watershed condition (see Hydrology Specialist Report pages 5-6). The Watershed Condition Framework Indicator 6.4 Mass Wasting addresses this and was updated in 2021 for the overall watershed condition as stated in the Hydrology Report.

Road daylighting

While we note that much of the forest planned for this treatment is mature and relatively healthy, we recognize the need for early successional habitat in the project area. We support road daylighting as means of meeting early successional harvest objectives. Road daylighting requires

less ground disturbance than other harvest layouts. One risk with road daylighting is habitat fragmentation. The road segment indicated in the Draft Plan minimizes that drawback because the road is not adjacent to large blocks of unfragmented forest but is instead in an area that is already relatively fragmented.

Thank you for this feedback.

Climbing fern

American climbing fern (*Lygodium palmatum*) is present on the south side of FSR 151 at roughly 34.98514 -84.70278 (the gap at the south end of stand 716-001). This locally rare species should be protected from road reconstruction, other mechanical disturbance, and herbicide.

American climbing fern is not currently listed on the Regional Forester's sensitive species list but is locally rare. The district will confirm its presence in the project area, which is likely the result of continued disturbance from right of way maintenance since the species is shade intolerant. Existing plants that are discovered will be documented and protected from herbicide and mechanical treatments where practical.

Culvert replacement

We support all of the culvert replacements proposed in the Draft Plan. Culvert replacements help reconnect populations of aquatic organisms, thereby helping to maintain genetic diversity in populations and allowing populations to recolonize reaches after major disturbances. This project area is also an appropriate place to invest limited resources for culvert replacement due to the exceptional biodiversity of the Conasauga River and the imperiled status of several species that call it home.

Thank you for this feedback.

Compartment 714, Stand 42

As discussed in the turkeybeard section, turkeybeard is not consistently associated with woodlands and there are some indications it is specifically not adapted to woodlands. The landscape position of this stand also suggests it would not have historically been a woodland. The Conasauga River and deep ravine of Gizzard Branch represent substantial barriers to the spread of fire. The unnamed ravine/cove to the west and the north facing slope to the south would also inhibit the spread of fire to a lesser degree. That topographic isolation suggests this stand would not have had frequent enough fire to maintain open canopy conditions.

Turkeybeard clearly benefits from occasional canopy opening, and the stand is an artificially dense and pure pine stand. Those factors imply active management is appropriate for the stand, possibly a thinning.

Woodland may also be appropriate for other parts of the implementation area. We

observed post oak and blackjack oak, two species that require high light and do not disperse readily to new sites, in the western part of the project area, which suggests there may have been woodland in that area.

Thank you for this feedback. The proposed Mooneyham Extension burn and the existing Mooneyham burn illustrate the district's commitment to reintroducing an appropriate fire regime to the western portion of the project area.

Compartment 715, Stand 3

The current dense cover of Virginia pine and loblolly pine is unnatural for the site and presents an elevated risk of southern pine beetle. Consequently, we support active management and restoration of this stand.

Aerial photographs from 1955 show that this stand was historically a mix of conifers and hardwoods—most likely shortleaf pine and oaks—with the hardwoods making up 50% or more of the canopy. A similar mix of species is an appropriate restoration target. We understand that there is little advanced oak regeneration in the stand, but we encourage the Forest Service to promote oak to the extent possible. We also noted some patches of several shortleaf pines near the lower edge of the stand. If possible, we suggest excluding these areas from harvests because they are already dominated by the species targeted in the restoration.

Oak will be maintained, both in the canopy as banded reserve trees when available, and in the understory as stump sprouts and advanced regeneration where it exists. Oak is not the target of site prep herbicide treatments that are intended to reduce undesirable Virginia pine and mesic competition.

Cutting unit boundaries are dictated not only by overstory composition but also stand access, location of streamside management zones, operability, and other factors. Overstory shortleaf pine will be left where practical, either by excluding it from the cutting unit boundary or by banding the shortleaf with paint as reserve trees and excluding them from the timber contract.

Compartment 715, Stand 13

Similar to Stand 3, the current dense canopy is unnatural and warrants active restoration. It also appeared as an oak-pine stand on 1955 aerial photographs. Unlike Stand 3, this stand contains shortleaf pine distributed throughout that appeared to average more than 15 ft2/acre basal area. Since the Draft Plan calls for reserving a "minimum of 15 ft2 per acre," we encourage the Forest Service to retain all of the Shortleaf pine current in this stand, as well as the few oaks present.

The district intends to leave existing shortleaf pine and oak as reserve trees in the stand whenever practical, with the understanding that shade-intolerant species such as planted shortleaf pine need significant light in order to successfully compete with more shade-tolerant volunteers.

Compartment 715, Stand 17
We support thinning this stand to improve forest health because the current dense mix of young pines is highly departed from natural conditions for the site and the stand is at an elevated risk of southern pine beetle attack.

Thank you for this feedback.

Compartment 716, Stand1
The area identified as part of this stand in the Draft Plan contains two distinct areas of forest. The portion of the stand above (east of) the road template that passes through the stand is dominated by mature chestnut oaks. Below the road, young pines dominate with pockets of oak and shortleaf pine seed trees retained from a former harvest.

We support the planned thinning for forest health for the portion of the stand below the road. The portion above the road is already dominated by site-appropriate species with an active fire regime, so we do not support overstory management in that part of the stand.

The five-acre piece of this stand that is east of the fireline/road template will be generally excluded from commercial thinning except where trees must be removed to facilitate access to the stand.

Compartment 716, Stands 3 & 4
These stands are heavily oak dominated but currently have little oak regeneration. We agree with the Forest Service that the lack of oak regeneration is an issue. We also agree with the Forest Service that a lack of light is the most likely constraint on oak regeneration and an appropriate target for maintenance. The question then is how to increase the amount of light in these stands.

Option 1: Thinning the overstory as described in the Draft Plan. This option would quickly produce a substantial increase in light levels, potentially increasing advanced oak regeneration within a few to several years. As described, this option would also decrease overstory diversity and remove healthy, mature oaks. The stands are currently nearly pure oak such that targeting other species for removal would likely completely eliminate them—the stand exam for Stand 4 recorded an 8" dbh sourwood as the only tree that was not an oak or shortleaf pine. Commercial thinning would also require the construction of "temporary" roads and use of heavy equipment. While permitted by the forest plan, the result would be soil damage and altered water drainage that would persist for at least a century.

Option 2: Reducing the midstory as described in the Final Programmatic EA. This option would also immediately increase light levels, though not to the same degree. Advance oak regeneration would likely initially occur in only small patches associated with canopy gaps and gradually increase over subsequent decades as canopy gaps accumulate and allow increased light to the forest floor. No ground disturbance would occur.

Thinning would allow for faster development of advanced oak regeneration while midstory reduction would avoid long-lasting soil disturbance. Both options would require continued use of prescribed fire. Both options would result in advanced oak regeneration, but are the faster results of thinning is worth the ground disturbance impacts?

A key question seems to be how resilient to disturbance would stands be from roughly 5 to 40 years from now, the time period when thinning could provide significantly more advanced oak regeneration than midstory reduction. The most likely disturbances during that period are canopy gaps caused by the death of one or a few trees. Such canopy gaps are the dominant form of disturbance in oak forests throughout the region. In thinning stands, such disturbances would likely release existing oak regeneration. In midstory reduction stands, they would increase the amount of advanced oak regeneration by increasing light levels.

Less likely are more intense disturbances such as intense fires, invasive pests and diseases, and tornados. These disturbances would likely release any existing oak regeneration. However, invasive pests could also kill all oaks and result in conversion to a different forest type. In the midstory reduction scenario it is difficult to make generalities about what would happen. Despite oak regeneration not being abundant in advance, wildfire canopy mortality on the CONF has often led to significant oak recruitment, such as in Compartment 715 Stand 15 (See Ex. 2, Figure 4). Some pests preferentially attack mature trees, such as boring insects, but other pests attack all life phases, such as some soil pathogens. Tornados are infrequent in the region,45 and while they are capable of canopy replacement disturbance that could result in conversion to a different forest type, "[t]ornado damage severity was extremely variable and frequency of gap sizes drastically decreased with size, with many small gaps and few very large gaps, consistent with other types of wind damage," suggesting most tornado damage is likely to facilitate the development of advanced oak regeneration.46

While it is possible that an intense disturbance that would not promote oak regeneration could impact these stands during the roughly 35-year window when oak regeneration would not be abundant, the chances appear quite low. Even if such an event did occur, it would likely impact only part of the stand. Resiliency of these stands is primarily a function of prescribed fire limiting regeneration opportunities for fire intolerant species. Given the unlikely advantage of thinning and its certain downside, we believe midstory reduction is a better option for these stands. While prescribed fire is planned for substantial parts of the implementation area, only two other oak stands are scheduled for midstory reduction.

The Foothills Programmatic EA includes options for commercial and non-commercial treatments to maintain oak (Forest Plan Objective 3.7) by increasing advanced oak regeneration present in the stand. The Mooneyham proposed action includes 181 acres in six stands of proposed "Maintenance of oak forest - noncommercial midstory reduction". The proposed action also includes 49 acres of "Maintenance of oak forest – commercial thinning" in Compartment 716, stands 3 and 4. This represents approximately 21% of the total acres of

proposed treatments to maintain oak (and will likely be reduced further after layout of timber sale boundaries and streamside management zones.)

By commercially treating 1/5 of the proposed oak maintenance acres, revenue will be created in the form of timber receipts that will be used to fund the non-commercial midstory treatments as well as restoration in other stands like planting shortleaf pine and prescribed burning. Proposing operable acres as commercial thinning vs noncommercial midstory increases the scale of oak maintenance treatments that the district can fund.

As described in the feedback above, the two treatment options will likely produce different results and create oak regeneration at different times, probably with varying levels of success. Implementing both commercial and noncommercial oak maintenance treatments will provide more opportunities to be successful producing advanced oak regeneration than a single type of treatment.

Effects to soils for actions proposed under the chosen Alternative 3 are disclosed on page 103 of the Foothills EA and were determined to not be significant: some long-term negative effects, but only for a cumulatively small portion of the Foothills Landscape (4.1%).

Compartment 716, Stands 8 & 9
These stands have a generally healthy oak overstory with relatively little advanced oak regeneration. We support midstory reduction treatments to increase light and foster oak regeneration.

Thank you for this feedback.

Compartment 716, Stand 10
This stand is dominated by planted loblolly pine, which would not naturally occur on the site. We support restoring this stand to native vegetation.

Thank you for this feedback.

Compartment 716, Stand 13
We support thinning this stand to improve forest health because the current dense mix of young pines is highly departed from natural conditions for the site and the stand is at an elevated risk of southern pine beetle attack. This stand contains some shortleaf pine, which would be the best trees for retention.

Thank you for this feedback. The district intends to leave existing shortleaf pine and oak as reserve trees whenever practical.

Compartment 716, Stand 19
This stand includes different sections with distinct structure, composition, and

disturbance history. In the portion of the stand below FSR 151, we support mechanical treatments to release oaks. The portion of the above the road supports an open canopy dominated by shortleaf pine, oak regeneration in canopy gaps, and areas with well-developed herbaceous layers. All these conditions are appropriate for the site suggesting continued prescribed fire is all the area needs.

The proposed manual precommercial thinning treatments in stand 19 will be restricted to the area south of FSR 151.

Compartment 716, Stand 20

This is an extremely low diversity and highly artificial stand. Given the potential for nonnative genetics to spread to native loblolly populations, we would support restoration of this stand. The next best option would be a preparatory treatment for future restoration efforts.

Thank you for this feedback. The proposed commercial thinning and Mooneyham Extension burn will prepare this stand for future restoration, likely during the next entry to this project area.

Compartment 716, Stand 25

Aerial photographs from 1938 show a mixed conifer-hardwood forest at the site of this stand, most likely shortleaf pine and oaks. That composition is an appropriate restoration target for the stand, and it appears the current structure and composition of the stand would allow restoration to that mix. While Virginia pine dominates the stand, oaks are relatively common and shortleaf pine is scattered through most of the stand. The oaks and shortleaf pines combined make up roughly 40 ft2/acre basal area. Where oaks are not present in the overstory of this stand, they are often present as advance regeneration.

To both retain as much of the site-appropriate species as possible and best match the reference condition, we suggest this stand be restored using a thinning that targets Virginia pine and loblolly pine for removal. While not in a prescribed burn unit, a single burn would help control regeneration of fire-sensitive species and promote oak regeneration.

Thank you for providing feedback regarding the management and desired condition of compartment 716, stand 25. Both the proposed desired condition, whereby fire-dependent southern yellow pines are restored to ecologically appropriate sites and to sites where they once likely occurred (Forest Plan Objective 3.1 and 3.2, OBJ-9.F-03) and recommended desired condition, where conditions within off-site plantations allow for restoration to oak dominated forest types to maintain existing oak and pine-oak forests (Forest Plan Objective 3.7) are reasonable outcomes for this stand. Likewise, the proposed activities (two aged regeneration harvest) and the activities suggested in this letter (intermediate thinning to favor existing overstory oak) are ecologically sound, fulfill the purpose and need of the Foothills Landscape Project Environmental Assessment, and have been fully analyzed within the programmatic EA (PEA). Thus, both suites of activities fall within the scope and scale of the PEA and Final Decision Notice.

To continue with the FLP's commitment to stakeholder engagement and transparency, Forest Service staff will consult with the FCG regarding the two proposed action opportunities determining the management of stand 25, and the recommendations brought forth by the public.

The Mooneyham Interdisciplinary Team (IDT) recognizes the need for prescribed burning within this stand but is also constrained by operational limitations such as existing fire control features, steep slopes, and workforce capacity. The IDT proposes to amend the Mooneyham Extension Rx burn area to include the southern portion compartment 716, stand 25, using the planned timber sale temporary road template as an eastern and southern boundary to the burn. This change is proposed independently of the proposed silviculture actions in stand 25 and would benefit either outcome, as well as stands 24 and 19.