Decision Notice & Finding of No Significant Impact
Middle Citico Vegetation Management

USDA Forest Service

Tellico Ranger District, Cherokee National Forest

Monroe County, Tennessee

Decision and Reasons for the Decision

Background

The Forest uses rapid assessments (RA) at the watershed scale to identify opportunities for management actions. As part of the RA for the Upper & Middle Citico watersheds, current conditions were compared to the goals and objectives in the Cherokee National Forest 2004 Revised Land and Resource Management Plan (RLRMP). The RA identified a need for an improved trail network designed for equestrian use that would also reduce sediment input to Citico Creek; this was addressed in a decision dated July 16, 2013. The RA also identified a need for vegetation treatments to improve wildlife habitats by changing skewed successional stages, primarily a lack of early age classes and successional habitats (see EA, pp. 3-5).

The Tellico District prepared an Environmental Assessment (EA) that documents the analysis of a no-action alternative and two action alternatives that would implement the Cherokee National Forest (CNF) RLRMP using the needs and opportunities identified in the RA. The EA documents eight alternatives, three of which were analyzed in detail.

The action alternatives analyzed in detail evaluated 1) developing a trail network to provide managed and sustainable equestrian opportunities, and 2) utilizing commercial and non-commercial means to improve wildlife habitat by diversifying the age class distribution and/or stand structure. Connected actions such as site preparation, prescribed burning, release of desired regeneration species from competition, maintaining system roads, system road construction, temporary road construction, road decommissioning, and other wildlife habitat improvements are also part of the analysis. More detailed descriptions of the action alternatives and the no action alternative are located in the EA (pp. 8-19). Maps of the locations of the proposed management actions are in Appendix A of the EA and are available at http://www.fs.usda.gov/projects/cherokee/landmanagement/projects.

The approximately 24,550 acre project area is located northeast of Tellico Plains, TN and southeast of Vonore, TN.

The EA was prepared by an interdisciplinary team and is available for public review at the Tellico Ranger Station, Tellico Plains, TN and on the Forest web site at http://www.fs.usda.gov/projects/cherokee/landmanagement/projects.

Decision

At this time I am making a decision about the vegetation management and associated actions that will address wildlife habitat and forest health needs. The equestrian trail network decision was made July 16, 2013.

Based upon the analysis and disclosure of effects contained in the EA, I have decided to select Alternative C as follows:

Maintain or restore natural oak and oak-pine communities and create early successional habitat through silvicultural treatments on approximately 52 acres of existing forested stands. These are mostly upland sites that would support "dry to mesic oak forest" or "dry and dry mesic oak-pine forests". Regeneration sources will be existing seedlings, coppice or stump sprouts, and supplemental planting of oaks. Activities will occur in the stands listed in Table 1.

Table 1. Oak and oak-pine maintenance/restoration

Comp/ Stand	Acres	Type of Harvest	Reforestation	Age	Dominant Tree Species	Management Type
14/23	25	Shelterwood w/reserves	Slashdown site preparation, plant white oak on 30' x 30' spacing, 2nd year chemical release of oak seedlings.	40-50	Conifer-Northern Hardwood white pine, oaks	Dry and Dry Mesic Oak-Pine
31/6	10	Shelterwood w/reserves	Natural regeneration	80-90	Conifer-Northern Hardwood white pine, oaks, red maple, and Virginia pine	Conifer Northern Hardwood
32/28	17	Shelterwood w/reserves	Slashdown site preparation, plant white oak on 30' x 30' spacing, 2nd year chemical release of oak seedlings.	80-90	Chestnut oak, hickory, and Virginia pine	Dry and Dry Mesic Oak-Pine

Maintain or restore shortleaf pine, pitch pine and associated pine-oak communities and create early successional habitat through silvicultural treatments on approximately 105 acres of existing forested stands. These are mostly ridge sites that would support "xeric pine and pine-oak forests" within which fire has historically played an important role in shaping species composition. These stands currently

support a high component of Virginia pine, white pine or both of these species. Opportunities exist to increase table mountain pine in one of these stands. Site preparation (by slashdown and then burning); planting (20' X 20') of pitch pine (stand 32/27) or shortleaf pine (stand 15/08), or planting (12' X 12') of shortleaf pine (stands 24/26 and 25/36), and a second year chemical (triclopyr) release will increase the survival and establishment of desired oak and pine. Activities will occur in the stands listed in Table 2.

The site preparation burning of these stands will include acreage outside of the harvested areas (totaling approximately 500 acres) to allow natural (streams) or existing man-made (roads and trails) features to be used as fire breaks. Approximately 1.7 miles of constructed fire line (dozer and hand) will also be needed. These same fire breaks could, in-turn, be used at a later date to help protect the young regeneration from fire that might be prescribed for fuel reduction burns of the surrounding area. Once the regeneration is mature enough to tolerate a prescribed fire, these harvested/planted areas could be incorporated into the larger prescribed burning units that surround them. The site preparation burns will be dormant season burns. The purpose of burning these stands is to reduce the debris from harvesting so that there will be a more even distribution of planted seedlings as well as an increase in area able to be planted.

Table 2. Pine maintenance/restoration

Comp/Stand	Acres	Type of Harvest	Age	Dominant Tree Species Type	Management Type
15/08	40	Seedtree w/reserves	60-70	Conifer-Northern Hardwood white pine, Virginia pine, oaks	Xeric Pine-Pine Oak
24/26	24	Clearcut w/reserves	80-90	Xeric Pine-Pine Oak Virginia pine	Xeric Pine-Pine Oak
25/36	5	Clearcut w/reserves	80-90	Xeric Pine-Pine Oak Virginia pine	Xeric Pine-Pine Oak
32/27	36	Seedtree w/reserves	80-90	Conifer-Northern Hardwood white pine, Virginia pine, pitch pine, and oaks	Xeric Pine-Pine Oak

Improve forest health and species composition and promote advanced oak regeneration using intermediate stand treatments on approximately 94 acres. These upland stands are primarily white pine. Activities will occur in the stands listed in Table 3.

Table 3. White pine removal

Comp/ Stand	Acres	Type of Harvest	Age	Dominant Tree Species	Management Type
15/13	28	Thinning	30-40	Conifer-Northern Hardwood white pine	Conifer-Northern Hardwood
15/14	18	Thinning	30-40	Conifer-Northern Hardwood white pine (Virginia pine and pole-sized oaks)	Dry and Dry Mesic Oak-Pine
15/15	33	Thinning	30-40	Conifer-Northern Hardwood white pine (pole-sized oaks and poplar)	Conifer-Northern Hardwood
31/18	15	White pine removal	80-90	Conifer-Northern Hardwood white pine, chestnut oak and other oaks (scattered table mountain pine)	Dry and Dry Mesic Oak-Pine

Create approximately 621 acres of open pine-oak woodlands on sites that would naturally support these communities. Pine-oak woodlands are open canopy, fire-dependent, less densely forested vegetative communities of the pine-oak dominated systems on the Forest. The defining characteristics of this community are canopy closure less than 60%, abundant herbaceous (grass/forb) groundcover, and a mix of pine and oak among the dominant canopy trees. The desired total residual basal area ranges between 50 and 70.

Treatments associated with creating woodland conditions may include dormant and/or growing season prescribed burning on a rotation suitable to reduce woody vegetation in the understory and encourage establishment of desired herbaceous vegetation. In order to achieve desired woodland conditions of a grass/forb understory and reduce the woody understory component, woodland areas may need to be initially prescribed burned (dormant or growing season) on a shorter rotation (every 1-2 years) than that proposed under the Prescribed Burning section. Therefore, woodland burn blocks have been proposed to achieve this goal (see Table 4). Once woodland areas are established in grass/forb understories and the woody understory is reduced, woodland areas would be placed on a longer burn rotation (every 3-5 years) to maintain this herbaceous understory.

Prescribed burns will be lit from ridge tops and allowed to back down slopes into riparian areas and more mesic forest stands. In order to minimize fireline construction, burn block boundaries extend to natural or man-made fire breaks, such as streams, roads, and trails. Approximately 2 miles of handline will be constructed.

In addition to prescribed burns, other vegetation management activities may include:

- Herbicide (triclopyr and/or glyphosate) application to reduce sprouting of woody vegetation;
- Thinning of overstory trees using hand tools and/or mechanical equipment; and
- Cutting of understory and midstory vegetation using hand tools and/or mechanical equipment to expose the forest floor to additional sunlight.

Thinning operations may include commercial timber sales, non-commercial methods (cut and leave), or a combination of both. The stands vary considerably from xeric pine and oak to more mesic coves. Treatment will occur in the more xeric portions of the stands listed in Table 4.

Table 4. Woodland creation

Comp/Stand	Acres	Treatment
Gold Cabin Branch		
15/18	19	Thin, herbicide
15/19	10	Thin, herbicide
15/20	27	Thin, herbicide
15/21	18	Thin, herbicide
15/23	24	Thin, herbicide
15/39	20	Thin, herbicide
23/4	15	Thin, herbicide
23/10	91	Thin, herbicide
Total	224	
Total Gold Cabin	2,271	Burn
Footes Creek		
31/8	14	Thin, herbicide
31/15	22	Thin, herbicide
Total	36	
Total Footes Creek	209	Burn
Bivens Branch		
16/8	31	Thin, herbicide
16/12	17	Thin, herbicide
405/9	76	Thin, herbicide

Table 4. Woodland creation

Comp/Stand	Acres	Treatment
406/7	89	Thin, herbicide
406/3	13	Thin, herbicide
406/2	52	Thin, herbicide
406/12	39	Thin, herbicide
406/6	44	Thin, herbicide
Total	361	
Total Bivens Branch	927	Burn

Maintain/rehabilitate approximately 66.5 acres of existing spot and linear wildlife openings. Maintenance/rehabilitation activities typically include, but are not limited to, herbicide application, mowing, fertilizing, sowing, disking, and burning. The spot openings are listed in Table 5 and linear openings in Table 6.

Table 5. Spot wildlife openings for maintenance

Opening number	Acres	Opening number	Acres
13-1	0.5	31-3	0.5
13-2	2.0	32-2	2.5
13-3	1.5	32-3	1.5
14-1	3.5	40-1	1.5
14-2	2.0	40-2	2.0
14-3	2.5	40-3	2.5
14-4	2.5	42-1	2.5
15-1	3.5	42-2	1.0
24-1	1.5	51-1	1.0
25-1	1.0	403-1	0.5
31-1	0.5	403-2	1.0
31-2	0.5		

Table 6. Linear wildlife openings for maintenance

NFSR	Acres	Miles	NFSR	Acres	Miles
40321	3.0	1.5	5022B	3.0	1.5
404201	2.0	1.0	2604	6.0	3.0
40401	1.0	0.5	2051A	3.5	1.75
403101	2.0	1.0	44241	3.0	1.5
5022	3.0	1.5	44242	2.0	1.0

Install ephemeral pools using heavy equipment in temporary roads, old logging roads, skid trails, gated roads, and log landings within the project area previously covered by biological surveys (approximately 10-30 pools up to 0.1 acre each).

Daylight linear wildlife openings by removing trees up to 25 feet from either side of NFSR 36 Tavern Branch (0.75 miles), NFSR 40321 East Miller Ridge (1.25 miles), and NFSR 2604 Gold Cabin Branch (2 miles). Trees will be removed to allow sunlight to reach the road. Not all trees will be removed. The effect would resemble heavy thinning of trees that are merchantable. In some areas, no trees will be cut. Daylighting will promote a flush of herbaceous vegetation along the road edge, beneficial to wildlife for habitat and food. This management technique will also allow more sunlight to reach areas of shaded road. Shaded areas inhibit the growth of seed planted for wildlife forage.

Plant native hard or soft mast producing trees and/or shrubs in log landings, temporary roads, or other open areas created by project activities to increase the amount and quality of mast producing plants in the project area (approximately 10 acres within project area).

Install nest boxes in openings or forested stands to provide nesting/roosting structures for birds and small mammals where natural cavities are limited (approximately 100 nest boxes in the project area).

Prescribe burn the following units totaling approximately 18,600 acres: T05 Okra Top, T04 Bivens Branch, T07 Blue Mountain, T09 Cow Camp, T08 Jake Best, T06 Bark Camp, T10 Miller Ridge, T11 Flatts Foot Branch, and T15 Flats Mountain. Streams, roads, trails and handline will be used as fire lines. Approximately 1.3 miles of ground disturbance is also needed for fire lines. Ignition through aerial and/or hand torching will occur along ridgelines with fire allowed to back on to lower slopes. Not all units will be burned in the same year.

Reconstruct approximately 10.1 miles of existing NFSRs to bring them up to haul standards. Work primarily consists; of widening curves, placing spot gravel, brushing, minor re-shaping, cleaning and constructing dips and other drainage structures to improve overall drainage, upgrading culverts, and replacing gates. (See Transportation Analysis in project record for details by road.)

Decommission 284F (0.3 mi) to reduce sediment runoff. Decommissioning involves; repairing ruts/erosion, constructing waterbars on grades that drain towards creek crossings, seeding the roadbed in areas where no vegetation exists and blocking the road with an earth berm.

Perform maintenance on NFSRs needed for timber haul.

Add existing roads to the system: NFSR 2659A (0.1 mile) and 40321 (0.3 mile). NFSR 2659A accesses an existing spot wildlife opening and is also included in routine maintenance figure above. NFSR 40321 is an extension of the existing road to access a stand and is also included in the 10.1 miles of reconstruction listed above.

Some NFSRs that are part of the equestrian trail network (see July 16, 2013 Decision Notice) will be used for vegetation management, such as prescribed burning or commercial timber harvest; these uses will not be incompatible with their inclusion in the trail network.

The actions in this decision may be accomplished by any combination of stewardship contracts, timber sale contracts, service contracts, and/or in-house force account work.

Design Criteria, Best Practices, and Best Management Practices (BMP) associated with this decision

The RLRMP contains Forest Wide (FW) and Management Prescription (MP) specific standards that mitigate adverse effects to all resources. These standards are part of this decision.

In addition to the RLRMP standards, *The Guide to Forestry Best Management Practices in Tennessee*, available at http://www.tn.gov/agriculture/publications/forestry/BMPs.pdf, is a source for design criteria, guidelines, and best practices.

To comply with FW Standard 28 ("Protect individuals and locations of other species needed to maintain their viability within the planning area site specific analysis of proposed management actions will identify any protective measures".), the following protective measures will be followed:

- Three sites of *Eupatoreum steelei* (Appalachian Joe-Pye weed) occur in stands proposed for silvicultural treatments (15/8, 15/15, and 24/26), one site along a road with a proposed "daylighting" treatment, and one site along a proposed trail segment. All five sites have been marked in the field and will be avoided by project activities where feasible.
- One new site of *Lygodium palmatum* (American climbing fern) was found along the cut-slope of an existing road that has proposed "daylighting" treatments. This site has been marked in the field and can be avoided by designation of a "no-skid zone" during harvest activities.
- Numerous new sites for *Stewartia ovata* (mountain camellia) were found within stands proposed for timber harvest activities. All sites have been marked in the field and should be avoided where possible through directional felling and designation of no skid zones.

The design criteria necessary to achieve the Scenic Integrity Objectives prescribed in the RLRMP for each inventoried Scenic Class and Management Prescription are in the project file and are part of this decision.

The USDI Fish and Wildlife Service (FWS) issued a Biological Opinion (BO) in July 2013 for this project. The BO Reasonable and Prudent Measures and the Terms and Conditions are in Appendix G of the EA. The following terms and conditions (T&C) are design criteria for this decision:

- The CNF will ensure that the proposed action is consistent with the goals, objectives and standards included in the CNF's RLRMP (U.S. Department of Agriculture 2004) for protection and recovery of the Indiana bat (T&C 2, see BO, p 48).
- If possible, timber sale project decisions will require that harvest area boundaries be irregular in configuration, with clumps of trees left in the harvest area and irregular strips of trees extending into the harvest area to maintain forested travel corridors between the harvest areas and surrounding areas (T&C 6, see BO, p 49).

Monitoring associated with this decision

The Forest currently monitors the populations of smoky madtoms, yellowfin madtoms and Citico darters in Citico Creek in cooperation with Conservation Fisheries, Inc. (CFI). Several day and night (madtoms are nocturnal) surveys are conducted each year. The surveys are timed and yield a number (expressed as Observations per Unit of Effort) that is used to compare the relative abundance of each T&E species with previous years. In addition to the observations of the T&E species, CFI also records all species of fish observed and the relative abundance of each. This monitoring will continue.

Implementation monitoring will be accomplished through harvest and contract inspections conducted by certified timber sale administrators and contract inspectors. This type of implementation monitoring occurs throughout the operating period and is intended to ensure the appropriate practices are implemented to protect soil productivity, water quality, and other resources, and that problems are identified and corrected.

As part of the National Best Management Practices Program, the Forest Service developed monitoring protocols that include both implementation and effectiveness monitoring. BMP implementation monitoring focuses on whether BMPs were used as specified in applicable guidance documents[1]; effectiveness monitoring focuses on whether the practices met management objectives and protected water quality. Monitoring protocols and forms are available for a variety of activities including fire, road, and vegetation management and chemical uses. The protocols and forms are available at http://fsweb.wo.fs.fed.us/wfw/watershed/national-bmps.html. The protocols provide for initial

[1] *Guidance documents include:*

Tennessee Department of Agriculture, Division of Forestry. 2003. Guide to Forestry Best Management Practices. 50 pages.

USDA Forest Service, Volume 1: National Core BMP Technical Guide, April 2012 (http://www.fs.fed.us/biology/resources/pubs/watershed/FS_National_Core_BMPs_April2012.pdf)

USDA Forest Service. 2004. Revised Land and Resource Management Plan for the Cherokee National Forest. Cherokee National Forest, Cleveland, TN. 463 pp.

reviews of implementation and effectiveness, and for follow-ups to one or both. Follow-up monitoring generally will be performed when deficiencies with implementation or effectiveness are observed and corrective actions are prescribed by the monitoring team. BMPs are monitored at the activity site. Beginning with the year the first activity is implemented under this decision, BMP monitoring will be done on a minimum of one activity per year for the shorter of five years or the implementation period. The selection of the activity, location within the project area, and timeframe for monitoring will be determined by the Forest Hydrologist.

Monitoring of prescribed burning is done at the Forest- and zone-wide level with emphasis on fire tolerant community types. The communities sampled and the location of plots is determined by zone. The south zone includes the Ocoee-Hiwassee and Tellico Districts. Due to the emphasis placed on community types and random sampling, not every prescribed burn block is monitored. Monitoring data is collected following the direction set forth in FSM 5142.3 and the Region 8 Fire Monitoring Guidebook.

Plot data is collected pre-burn, post-burn, and in years 1, 2 and 5. All plot data is collected after green-up has occurred. A plot may be monitored beyond 5 years if there is an observed need or if a second prescribed fire cycle has occurred.

The following data are collected in each plot cycle:

- Plot identification and location, including direction to area, description of area, size, photo points, plot ID, burn unit name, date and recorders.
- Overstory trees (>6" Diameter Breast Height (DBH)) are measured and tagged throughout the 60' x 150' plot. The plot is divided into 4 quadrants.
- Pole-sized trees (>2" to <6" DBH) within quadrant 1 (Q1), a 30' x 75' area, are measured, mapped and numbered on the data collection sheets.
- Seedling/Saplings are tallied by species in a 15' x 30' area within Q1.
- Understory cover plots (3' x 3') frames are taken at 5 locations along both 150' sides of the plot (a total of 10 frames). Herbaceous plants, shrubs and vines are counted in the frames by life form groups or species.
- Shrub cover is recorded in all four quadrants of the plot by species or species group in percent cover.
- Data from three random fuels transects, 50' in length are collected. Fuels data includes 1hr, 10hr, 100hr and 1,000hr fuel tallies. The depth of the litter and duff layer is measured 10 times along each transect.
- Severity is measured by scorch height in the post-burn measurement cycle.

There is one plot established in the Middle Citico project area. For this decision, monitoring will begin again on this plot and two additional plots will be established, one of which will be in a woodland treatment area that will burned during the growing season.

There are monitoring requirements in the FWS BO as follows:

- The CNF will monitor implementation of activities proposed under the action to ensure that the standards within the RLRMP are appropriately implemented and must provide the Service with an annual report of its monitoring activities by January 31 of each year over the 10-year period of the action or until the activities included under this action have been completed. The report will include the total number of acres that have been subjected to project implementation activities and the number of acres exposed to implementation activities during the Indiana bat's annual occurrence period, April 1 to September 30 (T&C 3 and 5, see BO, pp. 48-49).
- The CNF will monitor proposed habitat improvements that are anticipated to benefit the Indiana bat to determine their effectiveness (i.e., increased Indiana bat utilization). The CNF will coordinate with the Service's TFO [Tennessee Field Office] to develop post-implementation monitoring protocols to determine project effectiveness and habitat utilization by the Indiana bat. This information will be included in the annual reports for the sixth through tenth years of the 10-year reporting period (T&C 7, see BO, p 49).

Decision Rationale

During the development and analysis for the Middle Citico EA, the ID team identified four issues (concerns) that are relevant to this decision. They are: a concern about the spread of white and Virginia pine into other pine communities, a concern that the acreage of open woodlands early successional habitats, and native warm season grass fields is less than RLRMP desired conditions and objectives, a concern about sediment production and its effect on aquatic habitat, and a concern about the effect of road management changes on access. When compared to the other alternatives, I believe Alternative C best addresses these concerns.

Concern about the spread of white and Virginia pine into other pine communities

Alternative C will create 157 acres of early successional habitat through silvicultural treatments. An additional 94 acres of intermediate treatments of thinning and white pine removal will increase species diversity, stand age, stand structure, and stand resiliency.

The management activities prescribed in Alternative C will limit the amount of Virginia pine and white pine present in the treated stands through harvest and/or thinning followed by site preparation burning and prescribed fire. Regeneration of white pine and Virginia pine will be further decreased by purposely planting more fire resistant shortleaf pine and pitch pine and conducting a second year release to favor planted shortleaf pine and pitch pine or naturally occurring table mountain pine or oak species (see EA, pp. 27-29).

These treatments will also decrease the risk of Southern Pine Beetle outbreaks and gypsy moth infestations by promoting vigorous stands and diversifying age class.

These actions contribute to RLRMP objectives to restore oak or oak pine forest (17.02), restore shortleaf pine (17.03), contribute to the reduction of Virginia pine and restoration of fire adapted pine or oak communities (17.05), and promote the health of susceptible forest communities by maintaining a site-specific basal area that promotes tree vigor (18.02).

Concern that the acreage of open woodlands, early successional habitats, and native warm-season grass fields is less than RLRMP desired conditions and objectives

Alternative C will create 621 acres of pine-oak woodlands. Woodlands provide an open forest structure important to bats and other species of concern. Growing season burns are essential to successful establishment of woodlands. Growing season burns delay the regeneration of trees, result in a more open forest canopy, and allow a grass/forb understory to become established. These actions contribute to the RLRMP goal to maintain and restore natural communities and RLRMP objectives to restore and maintain woodlands (17.06 and 21.03) and to contribute to recovery of TES species (14.03).

Alternative C will regenerate 157 acres of forest land in this project entry. Alternative C falls short of RLRMP objectives for early successional forest habitat, but does increase the acreage of this habitat relative to the existing condition. Alternative C will establish

- approximately 1.5% of the forested acres of MP 8.A.1 in the 0-10 age class, doubling the existing acreage but still not meeting the 8.A.1 objective of 4-10%.
- approximately 2.9% of the forested acres of MP 8.B in the 0-10 age class, falling short of meeting the 8.B objective of 10-17%.
- approximately 1% of the forested acres of MP 8.C in the 0-10 age class, increasing the existing acreage by 2 ½ times, but falling short of the 8.C objective of 4-8%.

Alternative C will provide 66 acres of grass fields through the maintenance and enhancement of linear and spot wildlife openings. These actions contribute to achieving RLRMP desired conditions for MP 8.A.1, 8.B, and 8.C. Alternative C will also enhance wildlife habitat through the installation of ephemeral pools, the planting of hard or soft mast producing trees and/or shrubs, and the installation of nest boxes for birds and small mammals. These actions contribute to RLRMP objectives to provide upland water sources (14.02) and to achieving desired conditions for MP 8.A.1, 8.B, and 8.C

Concern about sediment production and its effect on aquatic habitat

Field assessment of current conditions in Citico Creek indicate that fine sediments (sands and finer) are well within the acceptable range (see EA, p 71). The possible sediment production associated with Alternative C was evaluated qualitatively through field assessments and quantitatively through a model. Forest-wide standards and BMPs are effective in minimizing sediment from harvest operations and prescribed burning. Road reconstruction and maintenance will reduce sediment production from some roads (see EA, pp. 76-121). The modeling included all actions in Alternative C; Alternative C is in the low risk category (see EA, p 110). Implementation monitoring will ensure that appropriate practices are implemented to protect soil productivity, water quality, and other resources, and that problems are identified and corrected.

Concern about the effect of road management changes on access

NFSR 284F will be decommissioned and will not be available for motorized vehicle use; it will be available for hiking, bicycling, and equestrian use but will not be maintained as a trail.

Several roads in the Miller Ridge area will be reconstructed; they will continue to be open seasonally for motorized use and available for equestrian use year-round.

The actions included in this decision may cause temporary inconveniences for equestrian and other recreational users. Recreational access on NFSRs needed during implementation may be restricted or limited for short periods of time. Visitors wanting to access the affected areas during these times may have to make other plans (see EA, p 54).

Two short road segments will be added to the road system. NFSR 2659A accesses an existing spot wildlife opening. The extension of NFSR 40321 accesses a stand to be harvested. These will not be available for motorized vehicle use.

Prescribed fire will be used as a silvicultural tool and for fuels management. These actions contribute to RLRMP objectives to reduce hazardous fuels (24.01) and to use prescribed fire to maintain and restore fire dependent and associated communities, including shortleaf pine forests (21.01), oak and oak-pine forests (21.02), woodlands (21.03), and pine-oak forest (21.04).

Alternative C will improve habitat for the endangered Indiana bat. Open areas resulting from regeneration harvests and woodland creation will increase sunlight on the forest floor, increasing herbaceous growth for bats' insect prey. Bats may also benefit from reduced clutter in the canopy and more open flight space. Construction of ephemeral pools and installation of artificial roosts will enhance habitat for the bats. The actions in Alternative C will not jeopardize any endangered or threatened species or adversely modify critical habitats (see BO, EA, pp. 139-150).

As required by 36 CFR 219, I have considered the best available science in making this decision. The project record demonstrates a thorough review of relevant scientific information, consideration of responsible opposing views, and where appropriate, the acknowledgement of incomplete or unavailable information, scientific uncertainty, and risk.

Other Alternatives Considered

In addition to the selected alternative, I considered two other alternatives in detail. A comparison of these alternatives can be found in the EA on pages 21-22.

Alternative A - No Action

Under the No Action alternative, routine activities such as road/trail maintenance and wildlife opening maintenance would continue to occur as would activities authorized through other decisions.

I did not select Alternative A because it does not contribute to achieving RLRMP goals and objectives for early successional forest and habitats, does not achieve the purpose or need for action, and does not address several of the issues. Alternative A does not address the continued spread of white and Virginia pine into sites that should support oak and oak-pine communities (see EA, p 26). The RLRMP objective for woodland creation and early successional forests would not be achieved.

Alternative B

Alternative B, the alternative originally proposed by the District, includes actions similar to Alternative C except for the use of growing season prescribed burning and harvesting of four stands.

While Alternative C will result in fewer acres of early successional forest through regeneration harvest compared to Alternative B, the use of growing season prescribed burning will create and maintain patches of early successional forest throughout the approximately 3,400 acres treatment areas (see EA, pp. 30-34). Growing season prescribed burns will maintain oak and pine forest communities by ensuring shade tolerant species are less abundant, promote fire dependent pine and pine-oak forest stands, and create and maintain an open understory (see EA, pp. 129 and 133).

I did not select Alternative B because it does not include the use of growing season prescribed burning. Growing season burns are essential to successful establishment of woodlands (see EA, p 142).

Public Involvement

As described in the background and the EA, the need for this action comes from a rapid assessment based on a watershed scale. Scoping to solicit the issues and concerns related to the proposed action, Alternative B, started on January 12, 2009. Letters were mailed to approximately 92 interested or potentially affected agencies, organizations, tribes, individuals and adjacent landowners (EA, p 6). The proposal has also been listed in the CNF Schedule of Proposed Actions from October 2008 through the present. A 30-day comment period was initiated on December 8, 2010. A second 30-day comment period was initiated on January 9, 2011. Based on the comments received during scoping, both comment periods, and thereafter, the proposed action was modified and Alternative C was developed. A third 30-day comment period was initiated on January 17, 2013 (see the EA, Appendix F for a more detailed explanation of the public involvement and response to comments).

Using the comments from the public and other agencies, the interdisciplinary team identified several issues regarding the effects of the proposed action (see EA, p 7). The issues relevant to this decision included:

- concerns that white and Virginia pine, fire-intolerant species, are now found reproducing generally throughout the forest and are replacing shortleaf, pitch, table mountain pine, and other pine or pine-oak communities on the landscape;
- concerns that the acreage of habitats including open woodlands, savannahs, and grasslands; native warm-season grass fields; and early successional forests is less than that described in the RLRMP desired conditions;
- concerns about sediment production from existing and proposed activities and its effects on aquatic habitats; and
- concerns that the proposed changes in road management would affect recreational access and general driving access.

To address these concerns, the Forest Service created the alternatives described above.

In addition to the formal comment periods mentioned above, I and/or the interdisciplinary team had numerous discussions, between January 2009 and the present, with stakeholders representing environmental and other interest groups. Stakeholders included members of Southern Appalachian Backcountry Horsemen, the Southern Environmental Law Center, Conservation Fisheries Inc., the Wilderness Society, Cherokee Forest Voices, the Benton MacKaye Trail Association, Heartwood/Sierra Club, Southern Appalachian Forest Coalition (now disbanded), US Fish and Wildlife Service, and individuals. Formal meetings occurred in June and November 2011, October 2012, and May 2013 to discuss concerns, to develop and improve alternatives, and to discuss the analyses in the EA. Further information about the meetings, participants, and areas of discussion is in the project file, which is available at the Tellico Ranger District office.

Finding of No Significant Impact

After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment considering the context and intensity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

1. My finding of no significant environmental effects is not biased by the beneficial effects of the action. All practical means to avoid or minimize environmental harm have been adopted.
2. There will be no significant effects on public health and safety. Best practices will be followed for all herbicide applications.
3. There will be no significant effects on unique characteristics of the area. There are no park lands, prime farmlands, or wild and scenic rivers in the project area. Wetlands will be avoided by project activities. Critical habitat for threatened or endangered species is addressed in #9, below.
4. The effects on the quality of the human environment are not likely to be highly controversial. Construction, harvest, and prescribed burning methods are based on past experience and established guidelines; BMP's and other best practices are based on experience, scientific literature and/or research. All have been implemented in the past with expected results. No experimental or untried methods are prescribed.
5. We have considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain, and do not involve unique or unknown risk (see EA, pp. 23-161).
6. The action is not likely to establish a precedent for future actions with significant effects.
7. The cumulative impacts are not significant. Cumulative impacts from sediment on aquatic habitats overall and the critical habitat for threatened or endangered fish species were thoroughly assessed. The primary factors leading to the determination that sediment cumulative effects are within the acceptable range are:
    - Population trends for the three federal listed fish species are stable and/or upward (see EA, pp. 71, 121 and 144 - Figure 32)

- Stream pebble counts were done in 2012 in Citico Creek and several tributary streams. The sample locations allowed for evaluation of both the sediment contribution of each tributary, and the capacity of Citico Creek to assimilate that sediment contribution. Percent sand and fines ranged from 0% to 4% at the locations surveyed and were less than the 13% minimum-effect level for sediment-sensitive aquatic vertebrates. This indicates that current levels of fine sediment in the Citico Creek watershed are well within the acceptable range (see EA, p 71).
- Field verification of BMP/Forest Standard efficacy in protecting soil and water resources on previous timber sales in the same watershed, and on similar soils and terrain (see EA, pp. 68 and 114-115).
- Review of published literature documenting the efficacy of BMPs and Forest Standards. There is a large body of literature about BMPs; research done at the Coweeta Hydrologic Laboratory, NC provides the most relevant findings for this decision. The Laboratory is in the Southern Appalachian mountains and has similar topography, soils, and climate.
- Sediment was modeled at the watershed scale. The model combines several methods to estimate annual sediment yield and to interpret the modeled yield with sediment risk categories. Alternative C is in the low risk category (see EA, pp. 109-110, Figure 19).

Other cumulative impacts are not significant. The cumulative impacts of the proposed actions have been analyzed with consideration of other similar activities on adjacent lands, in past actions, and in foreseeable future actions (see EA, pp. 23-161).

8. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, because such sites will be avoided during project implementation. Should additional sites or resource be discovered, project work will be halted until an evaluation can be completed (see EA, p 176).
9. The action will not jeopardize any endangered or threatened species or adversely modify habitats that have been determined to be critical under the Endangered Species act of 1973. In December 2012, a Biological Assessment (BA) was prepared for a modified Alternative C that did not include several trail segments but does include the actions in this decision; in the BA this modified Alternative C is termed the preferred alternative.
    - The determination of effect for the endangered Indiana bat is *may affect, likely to adversely affect* (see BA, pp. 12-14). Formal consultation with the FWS was initiated on January 14, 2013; a Biological Opinion (BO) was received from FWS on July 3, 2013. The BO provides for incidental take and identifies reasonable and prudent measures, terms and conditions, and conservation recommendations (see BO, pp. 45-50). The FWS determined that the expected take described in the BO is "*not likely to result in jeopardy to the species and would not result in destruction or adverse modification of critical habitat*" (BO, p 47).

- The determination of effect for the threatened small whorled pogonia is *may affect, not likely to adversely affect* (see BA, pp. 14-16). The FWS concurred with this determination in a letter dated July 11, 2013.
- The determination of effect for the endangered Citico darter, the endangered smoky madtom, the threatened yellowfin madtom, and the threatened snail darter is *may affect not likely to adversely* affect (see BA, pp. 16-26). The determination of effect for smoky madtom critical habitat is *may affect, not likely to adversely affect* (see BA, pp. 16-26). The FWS concurred with this determination in the cover letter for the BO dated July 3, 2013.

10. The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA (see EA, pp. 23-182). The action is consistent with the Cherokee National Forest Revised Land and Resource Management Plan.

Findings Required by Other Laws and Regulations

This decision to improve wildlife habitat and forest health, and enhance the transportation system is consistent with the intent of the RLRMP long term goals and objectives. The project was designed in conformance with land and resource management plan standards and incorporates additional design criteria identified in the EA and standards identified in the BA and BO.

Forest Service Manual (FSM) 7712 states; "Use travel analysis (FSH 7709.55, ch. 20) to inform decisions related to identification of the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of NFS lands per 36 CFR 212.5(b)(1) and to inform decisions related to the designation of roads, trails, and areas for motor vehicle use per 36 CFR 212.51,…." FSM 7712 further states: "A roads analysis conducted at the scale of an administrative unit that was completed in accordance with Publication FS-643, "Roads Analysis: Informing Decisions About Managing the National Forest Transportation System," satisfies the requirement to use travel analysis relative to roads." A Forest-wide RAP and watershed level RAP were completed in accordance with Publication FS-643.

Some of the recommended changes to the transportation system are incorporated in this decision. Other recommendations from the watershed level RAP may be included in future analyses or decisions.

It is my finding that the actions of this decision comply with the requirements of the National Forest Management Act (NFMA) of 1976, 16 U.S.C. 1604 (g)(3)(E), by following the Forest-wide goals, objectives and standards as well as the standards for MP 8.A, 8.B, and 8.C.

Implementation Date

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR 215.11. Appeals must meet content requirements of 36 CFR 215.14. A written appeal, including attachments, must be postmarked or received within 45 days after the date this notice is published in the *Monroe Advocate and Democrat*, Sweetwater, TN. The appeal shall be sent to Cherokee National Forest, ATTN: Appeals, 2800 N. Ocoee Street, Cleveland, TN 37312. Appeals may be faxed to (423) 476-9791. Hand delivered appeals must be received at 2800 N. Ocoee Street, Cleveland, TN within normal business hours of 8:00 am to 4:30 pm. Appeals may also be mailed electronically in a common digital format to appeals-southern-cherokee@fs.fed.us.

All time periods are computed using calendar days, including Saturdays, Sundays, and Federal holidays. However, when the time period expires on a Saturday, Sunday, or Federal holiday, the time is extended to the end of the next Federal working day (11:59 pm). The day after publication of the legal notice of the decision in the newspaper of record (36 CFR 215.7) is the first day of the appeal filing period. The publication date of the legal notice of the decision in the newspaper of record is the exclusive means for calculating the time to file an appeal. Appellants should not rely on date or time from information provided by any other source.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Katherine Foster, District Ranger, Tellico Ranger District, 250 Ranger Station Road, Tellico Plains, TN 37354 or 423-253-8400.

Katherine Foster

KATHERINE FOSTER
District Ranger
Tellico Ranger District

September 12, 2013

Date