

*Cherokee National Forest*  
Travel Analysis  
Process (TAP) Report

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# *Cherokee National Forest*

## Forest-Wide Travel Analysis Process (TAP) Report

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## Executive Summary

### Objectives of Forest-Wide Travel Analysis Process (TAP)

The analysis followed the process outlined in the document “*Roads Analysis: Informing Decisions About Managing The National Forest Transportation System*,” (USFS, 1999a). [http://www.fs.fed.us/eng/road\\_mgt/01titlemain.pdf](http://www.fs.fed.us/eng/road_mgt/01titlemain.pdf).

This analysis is a six-step process. The steps are designed to be sequential with the understanding the process may require feedback among steps over time as an analysis matures. The amount of time and effort spent on each step differs by project, based on specific situations and available information. The process provides a set of possible issues and analysis questions for which the answers can inform choices about the transportation system management. Decision makers and analysts determine the relevance of each question, incorporating public participation as deemed necessary.

- Step 1. Setting up the Analysis
- Step 2. Describing the Situation
- Step 3. Identifying Issues
- Step 4. Assessing Benefits, Problems and Risks
- Step 5. Describing Opportunities and Setting Priorities
- Step 6. Reporting

The analysis is an integrated ecological, social, and economic approach to transportation planning, addressing both existing and future roads—including those planned in unroaded areas. This NFMA analysis defines the existing and desired conditions of the transportation system, and opportunities are identified to move towards the desired condition.

This analysis provides a framework to identify travel related concerns and management opportunities that can be incorporated into subsequent projects being evaluated through the NEPA process. This analysis will assist in the decisions involving transportation systems in on the Forest.

The product of the analysis is this report, for decision makers and the public, that documents the information and analyses used to identify opportunities and set priorities for future national forest transportation systems. This report will:

- Identify needed and unneeded roads, trails, and areas for motor vehicle use;
- Identify travel-associated environmental and public safety risks;
- Identify site-specific priorities and opportunities for travel-related improvements and decommissioning;
- Identify areas of special sensitivity or any unique resource values.

An optimum road system is a function of land stewardship needs and management objectives. The challenge is to develop a Forest Service analysis process that provides information that helps managers find a balance between the benefits of access and the road-associated effects on

naturalness; on other values and resources, such as clean water, fish, and wildlife; and on maintaining choices for future generations. The proper balance will result in a more efficient road system with less risk to the environment and public safety than currently exists.

The document *Roads Analysis: Informing Decisions About Managing The National Forest Transportation System*, provides questions that were used by the analysis participants in the analysis to assess benefits, problems, and risks in each watershed. The document states that “*benefits are the potential uses and socioeconomic gains provided by roads and related access. Problems are conditions for certain environmental, social, and economic attributes that managers deem to be unacceptable. Risks are likely future losses in environmental, social, and economic attributes if the road system remains unchanged.*”

The objectives of Forest-Wide TAP conducted over the past several years were to:

- identify key **issues** related to the Cherokee National Forest’s transportation system, in particular financial, social and environmental needs;
- identify **benefits, problems and risks** related to the Cherokee National Forest’s transportation system;
- identify **management opportunities** related to the existing transportation system to suggest for future consideration as National Environmental Policy Act (NEPA) decisions (examples included items such as road decommissioning within priority watersheds and needed aquatic passage improvement projects);
- create a map to **inform the identification of the future Minimum Road System (MRS)**;
- **indicate the location of roads not likely needed for future use and roads likely needed for future use (including possible new road needs).**

(Note: Forest Service regulations at 36 CFR 212.5(b)(1) require the Forest Service to identify the **minimum road system** needed for safe and efficient travel and for administration, utilization, and protection of National Forest System (NFS) lands. This report is the first step towards identifying the **minimum road system.**)

An interdisciplinary team assessed the benefits, problems, and risks of every system road and all known unauthorized roads and motorized trails (system and unauthorized) on the Forest and indicated the following:

- Roads likely needed for future use
  - No change in management (maintenance responsibility, maintenance level, open or closed to the public, amount of time open to the public, etc.) OR
  - A change in management
- Roads likely not needed for future use

## Analysis Participants

The TAP was conducted by an interdisciplinary team with extensive internal participation, and limited participation by partners and the general public. The primary participants were:

- Team Lead – Janan Hay, Jeff Chynoweth, Gary Hubbard
- District Rangers - Keith Kelley, Mike Wright, Katherine Foster, Terry Bowerman, Don Palmer, Keith Lannom, Monte Williams, Andy Gaston, Leslie Morgan, Stephanie Steele
- Forest Staff Officers – Terry Pierce, Terry McDonald, Mark Healey, Keith Sandifer, Susan Shaw
- Soil and Water Specialists - Jason Jennings, Marcia Carter, Ali Reddington
- Recreation Program Specialists - Doug Byerly, Matt Fusco, Alice Cohen, Matt Henry, Cheryl Summers, Brandon Burke, Vern Maddux, Andy Gaston, Leslie Morgan
- Wildlife and Fisheries Specialists - Laura Morris, Joe McGuinness, Jim Herrig, Marcia Carter, Bill Woody, Steve Kyviakidis, Rusty Humbert, Bo Reynolds, Mary Miller
- Fire Specialists - Steve Carlson, Guy Street, Greg Salansky, Trent Girard, Rex Kelley, Yvonne Ledford
- Vegetation Management Specialists - Bob Lewis, Jim Setlich, Eric Taylor, Mike Keller
- Forest Botanist/Ecologist - Mark Pistrang
- Special Uses - Alex Faught, Frank Lege, Mathew Gilbert, Debbie Abel
- Law Enforcement - Russ Arthur, David Cadle
- Engineering - Gary Hubbard, Gary Watson, James Ehrlich, Lynn DiFiore
- South & North Zone Planning Team Leaders - Janan Hay, Jeff Chynoweth, Vern Maddux
- Forest Environmental Coordinator - Stephanie Medlin

## Overview of the Cherokee National Forest’s Road System

The Cherokee National Forest’s road system currently comprises some 1,569 miles, providing access to approximately 655,900 acres of national forest, as well as to interspersed private tracts and nearby local communities. The system supports both recreation and resource management. It is comprised of a combination of old “public” roads, roads constructed to access timber sales and subsequent silvicultural activities, roads constructed to access recreation areas, and a variety of other routes. These range from double lane paved roads to single lane

gravel or native surface roads that may be useable by passenger cars, to high clearance routes, to travel ways that are closed for periods of time greater than one year. Funding for the construction or reconstruction of all types was generally provided either by congressional appropriations, or authorized as a component of a timber sale. Maintenance funding is primarily by congressional appropriations, although timber sales generally funds any maintenance required during the life of a particular sale operation.

## Key Issues, Benefits, Problems and Risks, and Management Opportunities Identified

- **Current appropriations and supplemental revenue sources are not sufficient to adequately maintain the Cherokee National Forest's 1,569 mile road system as currently configured.** Without changes, the existing road system requires an annual expenditure of approximately \$2,380,084. Only about \$940,766 dollars are currently available, (FY14 road maintenance budget, 3 year average of CMLG allocation, & assumed FLTP allocation), resulting in a shortfall of about \$1,439,318 or 60% of the total funds needed.
- **There is some of the system mileage that primarily serves either as access to private inholdings, or as general access to adjacent communities** (approximately 105 miles, or 7% of the total). As opportunities allow, jurisdiction and maintenance costs should be considered for transfer to the most appropriate entity in order to allow the limited maintenance funding to be applied most effectively to the system roads of the Cherokee National Forest.
- **Certain roads, particularly those located relatively low in the watersheds, may be causing undue stress to water quality and associated aquatic organisms,** especially if they cannot be regularly and properly maintained. This is particularly the case in watersheds that are classified as "impaired" for one or more of the following causes:

**Table 1. IMPAIRED WATERSHEDS ON THE CHEROKEE NF WITH CAUSES OF IMPAIRMENT AND IMPAIRMENT SOURCES**

Cherokee National Forest							FS Road Mileage Likely Needed			
North Zone							System		Unauthorized	
Watershed	Stream Segment ID	Miles of Impaired Streams	Cause of Impairment (TMDL Priority)	Source	Acres	%FS Land	Y	N	Y	N
Beaverdam Creek	TN060101020231.0_2000	6.5	Physical Substrate Habitat Alteration (L), Escherichia coli (H)	Pasture Grazing Nonirrigated Crop Production	16,655	47	26		3.1	
Big Arm Branch	TN06010102012_0810	5.8	Alteration in stream side or littoral vegetative cover (NA) Loss of biological integrity due to siltation (NA)	Land Development	1,990	36	2.5	-	-	-
Corum Branch	TN060101020250_0700	2.0	Alteration in stream-side or littoral vegetative cover (L), Loss of biological integrity due to siltation (L)	Pasture Grazing	569	21	-	-	-	-
Dry Creek	TN06010108456_0200	3.3	Loss of biological integrity due to siltation (NA), Physical Substrate Habitat Alterations (NA)	Sand/Gravel/Rock Mining	5,494	81	2.1	0.42	0.059	-
Flatwood Branch	TN060101020250_0800	2.1	Alteration in stream-side or littoral vegetative cover (L) Loss of biological integrity due to siltation (L)	Pasture Grazing	599	14	-	-	-	-
Gap Creek	TN06010103008_0800	15.9	Nitrate+Nitrite (L), Loss of biological integrity due to siltation (NA), Alteration in stream-side or littoral vegetative cover (NA), Escherichia coli (H)	Discharges from MS4 area Streambank Modification Septic Tanks Pasture Grazing	4,354	46	4.2	-	-	-
Nolichucky River	TN06010108010_3000	22.6	Loss of biological integrity due to siltation (NA)	Pasture Grazing Source in Other State	56	65	-	-	-	-
Spring Branch	TN06010108010_1910	1.7	Other Anthropogenic Substrate Alterations (NA), Solids (L)	Discharges from MS4 area Aquaculture (permitted)	653	10	-	-	-	-
Waters Branch	TN060101020250_1300	1.8	Loss of biological integrity due to siltation (L)	Pasture Grazing	558	15	0.69	-	-	-
<b>Total Miles - North Zone</b>		<b>61.7</b>					<b>35.28</b>	<b>0.42</b>	<b>3.16</b>	<b>0.00</b>
South Zone							FS Road Mileage Likely Needed			
							System		Unauthorized	
Watershed	Stream Segment ID	Miles of Impaired Streams	Cause of Impairment (TMDL Priority)	Source	Acres	%FS Land	Y	N	Y	N
Coker Creek	TN06020002018_0950	11.6	Loss of biological integrity due to siltation (L)	Dredge Mining	12,862	41	16	0.35	-	-
Conasauga Creek	TN06020002081_1000	34.0	Loss of biological integrity due to siltation (NA)	Municipal Urbanized Area Pasture Grazing	38,984	13	15	9.3	0.16	-
Grassy Creek	TN06020003013.7T_0300	5.3	Loss of biological integrity due to siltation (L), Escherichia coli (M)	Forestry Activities Pasture Grazing	2,741	7	0.25			
Spring Creek	TN06020002018_0550	7.0	Loss of biological integrity due to siltation (L)	Pasture Grazing	4,035	53	1.6	0.70	-	-
<b>Y - Yes</b>	<b>Total Miles - South Zone</b>		<b>57.8</b>				<b>32.47</b>	<b>10.38</b>	<b>0.16</b>	<b>0.00</b>
<b>N - No</b>	<b>Total Miles</b>		<b>119.5</b>				<b>67.75</b>	<b>10.80</b>	<b>3.32</b>	<b>0.00</b>

- There are 82 miles of forest roads located in impaired watersheds on the Cherokee National Forest. In some cases there appear to be opportunities to decrease the total system maintenance costs, while at the same time better protecting water quality by decommissioning those roads with the highest risk and least benefit. A total of 10.8 miles in the impaired watersheds have been identified by the TAP to be considered for decommissioning.
- **There are a number of roads that will most likely be needed at some time in the future, but that do not appear to be needed for actions currently being proposed.** Storage of these roads (closure for at least a year, with only custodial maintenance provided) should be strongly considered. The TAP analysis suggests that about 24

- miles should be considered for conversion to storage and custodial maintenance only until needed.
- **In order to meet budgetary limitations some roads currently opened year round will need to be identified to be considered for seasonal closure (206 miles); and some roads currently maintained for passenger car use will need to be identified to be considered for conversion to high clearance use only (16 miles).**
  - Relatively high road densities may be impacting some sensitive wildlife species in a few specific areas of the forest. Overall, however, road densities do not exceed those allowed by the forest plan. As configured the overall road density, exclusive of non-FS jurisdiction roads, is 1.62 miles/square mile, and the open road density is 0.46 miles per square mile.
  - **Several roads or portions of roads may have to be closed due to insufficient bridge replacement funding.** There are 70 bridges on the Forest located on open roads, of which 2 are load restricted.
  - **Opportunities should be sought to increase road maintenance revenues** where possible through the use of stewardship contracts and partnerships, including volunteer groups, such as hunters, equestrian organizations, ATV user groups and others.

## Comparison of Existing System to Minimum Road System as Proposed by the TAP

Refer to Appendix F for a summary of proposed changes to the existing road system suggested by the TAP, as information available to frame future NEPA analysis and decisions.

## Next Steps

- TAP recommendations will be used to inform NEPA decisions, many of which will eventually be implemented in conjunction with various restoration projects on the Forest.
- Prior to implementing these recommendations, NEPA determinations will be conducted at the appropriate scale, using the TAP to inform issues, particularly cumulative effects and affordability.
- The road system should be revisited with an updated forest-wide TAP, probably on about a 10 year cycle, with the next one due by perhaps the year 2025.

## Context

### Alignment with National and Regional Objectives

Sub-Part “A” Travel Analysis is required by the 2005 Travel Management Rule (36 CFR 212.5). Forest Service Manual 7712 and Forest Service Handbook 7709.55-Chapter 20 provide

specific direction, including the requirement to use a six step interdisciplinary, science-based process to ensure that future decisions are based on an adequate consideration of environmental, social and economic impacts of roads. A letter from the Chief of the Forest Service dated March 29, 2012 was issued to replace a November 10, 2010 letter previously issued on the same topic. It reaffirms agency commitment to completing travel analysis reports for Subpart A of the travel management rule by 2015, and also provides additional national direction related to this work, addressing process, timing and leadership expectations. The letter requires documentation of the analysis by a travel analysis report that includes a map displaying the existing road system and possible likely not needed roads. It is intended **to inform future proposed actions** related to identifying the minimum road system. The TAP process is designed to work in conjunction with other frameworks and processes, the results that collectively inform and frame future decisions executed under NEPA. This letter, including a diagram that further illustrates the relationship between NEPA and TAP is included in Appendix F.

The document entitled “Sub-Part “A” Travel Analysis (TAP), Southern Region Expectations, Revised to align with 2012 Chief’s Letter” and attached in Appendix G, supplements the national direction for Forest Scale TAPs developed for the Southern Region.

## Coordination with Forest Plan

The current Forest Plan for the Cherokee National Forest was adopted in 2004. It provides specific direction for overall management of the Cherokee National Forest, and can be found at [https://fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5269436.pdf](https://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5269436.pdf). The purpose of the plan is that it is used to decide and establish the following:

1. Forest-wide multiple-use goals, objectives, and standards for the CNF, including estimates of the goods and services expected.
2. Multiple-use management prescriptions and management areas containing desired conditions, objectives and standards.
3. Land that is suitable for timber production.
4. The allowable sale quantity for timber and the associated sale schedule.
5. Recommendations for wilderness areas.
6. Recommendations for wild and scenic river status.
7. Monitoring and evaluation requirements.
8. The lands that are administratively available for mineral development (including oil and gas).

The plan states that “public involvement is a key part of the planning process” and that “public comments were used to identify what direction management of CNF should take in the future, including what goods and services would be provided, and what the environmental conditions should be”. As a result of comments from the public on the Forest Plan, the following issues were developed:

1. Terrestrial Plants and Animals and Their Associated Habitats: How should the national forest retain and restore a diverse mix of terrestrial plant and animal habitat conditions while meeting public demands for a variety of wildlife values and uses?
2. Threatened, Endangered, and Sensitive/Locally Rare Species: What levels of management are needed to protect and recover the populations of federally listed threatened, endangered, and proposed species? What level of management is needed for Forest Service sensitive and locally rare species?
3. Old Growth: The issue surrounding old growth has several facets, including: (1) how much old growth is desired, (2) where should old growth occur, and (3) how should old growth be managed?
4. Riparian Area Management, Water Quality, and Aquatic Habitats: What are the desired riparian ecosystem conditions within national forests, and how will they be identified, maintained, and/or restored? What management direction is needed to help ensure that the hydrologic conditions needed for the beneficial uses of water yielded by and flowing through NFS lands are attained? What management is needed for the maintenance, enhancement, or restoration of aquatic habitats?
5. Wood Products: The issue surrounding the sustained yield production of wood products from national forest has several facets, including: what are the appropriate objectives for wood product management? Where should removal of products occur, given that this production is part of a set of multiple-use objectives and considering cost effectiveness? What should be the level of outputs of wood products? What management activities associated with the production of wood products are appropriate?
6. Aesthetic/Scenery Management: The issue surrounding the management of visual quality has two facets. One is, what are the appropriate landscape character goals for the national forests? The other is, what should be the scenic integrity objectives (SIOs) for the national forests?
7. Recreation Opportunities/Experiences: How should the increasing demand for recreational opportunities and experiences be addressed on the national forests while protecting forest resources? This includes considering a full range of opportunities for developed and dispersed recreation activities (including such things as nature study, hunting and fishing activities, and trail uses).
8. Roadless Areas/Wilderness Management: Should any of the roadless areas on NFS lands be recommended for wilderness designation? For any roadless areas not recommended for wilderness, how should they be managed? How should areas recommended for wilderness designation be managed? How should the patterns and intensity of use, fire, and insects and diseases be managed in the existing wilderness areas?
9. Forest Health: What conditions are needed to maintain the ability of CNF to function in a sustainable manner as expected or desired? Of concern are the impacts of native or non-native species and the presence of ecological conditions with a higher level of insect and disease susceptibility.

10. Special Areas and Rare Communities: What special areas should be designated, and how should they be managed? How should rare communities, such as those identified in the Southern Appalachian Assessment (SAA), be managed?
11. Wild and Scenic Rivers: Which rivers are suitable for designation into the National Wild and Scenic River System, and how should rivers that are eligible, but not suitable, be managed?
12. Access/Road Management: How do we balance the rights of citizens to access their national forests with our responsibilities to protect and manage the soil and water resources, wildlife populations and habitat, aesthetics, forest health, and desired vegetative conditions?

The plan also states that:

- Each resource includes broad goal statements, which describe desired conditions we want to maintain, restore or achieve in the future. Objectives express measurable steps we will take over the next ten years on the pathway to achieve our goals. Not all goals require quantifiable objectives.
- Projects are evaluated to determine if they are consistent with the management direction in the revised LMP. This evaluation is documented in the project-level environmental document with a finding of consistency incorporated into the decision document.
- The LMP is a strategic document providing land allocations, goals, desired conditions, and standards that must be met.

The interdisciplinary team applied this guidance from the Forest Plan as they conducted the TAP. The Forest-wide TAP tiers to the Cherokee National Forest's Forest Plan by informing future NEPA actions that implement the Forest Plan and have transportation components. The TAP has been informed by the Watershed Condition Framework, and likewise, the TAP is intended to inform future forest restoration activities, including watershed restoration.

## Budget and Political Realities

“The Forest Service is committed to using whatever funds are available to accomplish the purposes of the travel management rule in a targeted, efficient manner. The Agency makes appropriate use of all other sources of available funding and has many successful cooperative relationships. Volunteer agreements with user groups and others have proven successful in extending agency resources for trail construction, maintenance, monitoring, and mitigation. Regardless of the level of funding available, the Forest Service believes that the travel management rule and its implementing directives provide a better framework for management of motor vehicle use on NFS roads, on NFS trails, and in areas on NFS lands.” (from [Federal Register/Vol. 73, No. 237/ Tuesday, December 9, 2008/Notices](#))

The roads located on the Cherokee National Forest are a combination of historic trails that have undergone improvement over the years, roads that were built in the decades of the sixties, seventies and eighties to access timber sales, roads constructed for access to communities, either internal or adjacent to the Forest, roads constructed by recreational users, and roads constructed or otherwise acquired through a variety of means to comprise the current system. As is the case for much of the rest of the infrastructure on the Forest, funding has been inadequate to properly maintain all of the Forest's roads and bridges. In some cases these roads and bridges have become superfluous to our administrative needs, and many no longer meet public needs either. Changes are becoming inevitable, being driven both by the budget as well as by the need to have the most efficient and effective transportation system on the ground as possible, and no more. The TAP process is an attempt to begin to identify a proposed "minimum road system" (MRS) that will only come into place as NEPA decisions are made and then actual on-the-ground decisions are implemented. The MRS will probably change over time as well, as public needs and financial resources change. Therefore it is expected that new Forest-wide TAP analyses will continue to be needed, probably on about a 10 year cycle.

### 2012 Transportation Bill Effects (MAP-21)

MAP-21, the Moving Ahead for Progress in the 21st Century Act (P.L. 112-141), was signed into law by President Obama on July 6, 2012 and authorizes the Federal Lands Transportation Program (FLTP) for two years (2013 – 2014). Extensions of this bill are expected until a new reauthorization is enacted. The FLTP provides dedicated funding to improve access within Federal lands owned by the Federal government. Of the \$300 million allocated for this program, the USDA Forest Service competes with the Bureau of Land Management (BLM) and the U.S. Corps of Engineers for up to \$30 million per year. The central theme of the program is performance management. As amended by MAP-21, 23 U.S.C 203(c) requires that the USDA Forest Service along with the other four core partners eligible for FLTP funding define the part of its transportation system to be included in the FLTP. In addition, a baseline condition for this system should be determined and progress on the improvement of this system should be reported annually to FHWA. The Cherokee National Forest has requested that 409.9 miles of NFSR be included in the FLTP.

The projects to be funded by the FLTP are selected at the Southern Region office. The amount of funding that each Forest unit receives varies from year to year depending on the priorities for the region. The Cherokee NF has received \$7,628 and \$275,000 for FY13 and FY14, respectively. It's assumed that the Forest will receive at least \$50,000 per year for the roads that are in the FLTP network. Under MAP-21, the Forest Highway program was repealed and in its place a new program, the Federal Lands Access Program (FLAP), was created. This program differs from the old Forest Highways program in that funding is available to improve access to all federal lands and not only national forests. In addition, transportation projects are funded for infrastructure that is under the State, county or other local government's jurisdiction.

No road network needs to be designated and, as a result, no projects located on the NFSR system are eligible for FLAP funding.

## Alignment with Watershed Condition Framework (WCF)

Along with the other national forests across the country, the Cherokee National Forest recently conducted an analysis of its watersheds, categorized them as to their condition and prioritized them for future efforts at improvement. Three categories were identified: Class 1 – Functioning Properly, Class 2 – Functioning at Risk, and Class 3 – Impaired Function. These classifications were performed on watersheds at the 6<sup>th</sup> order hydrologic unit classification (HUC) according to standard procedures described in the “Watershed Condition Framework” technical guide, found at [http://www.fs.fed.us/publications/watershed/Watershed\\_Condition\\_Framework.pdf](http://www.fs.fed.us/publications/watershed/Watershed_Condition_Framework.pdf). It was determined that 15 watersheds on the Cherokee National Forest are Class 1, 41 are Class 2 and 6 are Class 3. A map showing the location of these can be found in the Appendices. The Watauga Lake watershed, the French Board River-Wolf Creek watershed, the Nolichucky-Clark Creek watershed, the Citico Creek, and the Ballplay Creek-Conasauga River watershed were identified as priority watersheds for focus work in the next decade. Other priority watersheds may also be found on the map in Appendix K.

The forest-wide TAP analysis was heavily informed by the WCF. For example, roads located near streams within impaired watersheds, and especially priority impaired watersheds, were particularly considered as possible decommissioning candidates. Similarly, continuing watershed improvement work is intended to be informed in the future by the TAP.

## Overview of the Cherokee National Forest and the supporting Transportation System

### General Description of the Cherokee National Forest Land Ownership Patterns, Land Use and Historic Travel Routes

The Cherokee National Forest is comprised of 655,900 acres, occupying almost 53% of the proclamation boundary. Almost all is forested, with about 107,882 acres (or 16%) being Wilderness or otherwise classified as Roadless, and 278,849 acres (or 43%) being available for active forest management. Interspersed within the proclamation boundary, and adjacent to the National Forest are several large tracts managed as TIMOs (Timber Investment Management Organizations) or REITs (Real Estate Investment Trusts) as well as some scattered large forest industry tracts, some small farms and a variety of other ownership types. There are a few small communities within the proclamation boundary as well, the larger ones being Tellico Plains, Erwin, and Mountain City. When the land came under the ownership of the Cherokee National

Forest it was riddled with a legacy of historic travel routes that were primarily located low in the watersheds, alongside stream channels, presumably as these were the simplest locations on which to construct primitive travel ways. Over the past few decades the Cherokee National Forest has been slowly working towards relocating many of these roads up the slopes and away from the streams.

The lands of the Cherokee National Forest are administered by four ranger districts, Ocoee, Tellico, Unaka, and Watauga. The number of acres administered by each district is indicated in Table 2:

**Table 2:** Acres Administered By Cherokee National Forest Ranger Districts

<b>District</b>	<b>Acres</b>	<b>Acres of Roadless</b>
Ocoee	160,752	19,037
Tellico	143,296	34,730
Unaka	174,729	24,940
Watauga	177,122	29,174
<b>Totals</b>	<b>655,899</b>	<b>107,882</b>

There are 7 major developed recreation areas on the Forest, including Chilhowee Recreation Area, Indian Boundary Recreation Area, Rock Creek Campground, Horse Creek Campground, Little Oak Campground, Jacobs Creek Recreation Area, and Cardens Bluff Campground. In addition the Forest allows dispersed recreation on some 650,000 acres. Also there are 600 miles of trails, supporting a variety of uses, including OHVs, equestrian, biking, pedestrian, and mixed use. Motor vehicles are restricted to those roads shown on the official Motor Vehicle Use Map (MVUM) included in Section H, Appendix C.

In 2007, FHWA contracted to a Traffic Count Project several National Forests. The following traffic count data was collected on the Cherokee National Forest:

<b>ROAD NAME, #</b>	<b>AVERAGE ANNUAL DAILY TRAFFIC COUNT (AADT)</b>
Tellico River, 210	610
North River, 217	67
Bald River, 126	55
Citico Cr, 35	79
Indian Boundary, 345	197
Spring Cr., 27	107
Hiwassee River, 108	381
Oswald, 77	351
Baker Cr, 55	83
Indian Cr., 302	33
Peavine-Sheeds, 221	86

Flatwoods, 87	58
Hickory Tree, 251	79
Unaka Mtn, 230	26
Paint Cr., 31	90
Little Stony Cr., 39	51
Laurel Fork, 50	43

Driving for pleasure is a very popular recreational activity on all National Forests.

- The 2010 National Visitors Use Monitoring summary report by the Forest Service reported an estimated 300 million visits by vehicle on Forest Service roads or nearby corridors to view scenery (National Visitor Use Monitoring Results, USDA Forest Service, National Summary Report: Data collected FY 2005 to FY 2009, updated 04/25/2010).
- In 2002, USDA Forest Service Road Management Website stated that *driving for pleasure is the single largest recreational use of Forest Service managed lands with more than 1.7 million vehicles using those roads each day to visit national forests.*

Almost all of the roads that are suitable for passenger cars, as well as many of the high clearance roads that are open to the public, are used by visitors for driving for pleasure.

## Description of the Cherokee National Forest’s Transportation System

Interstate Highways I-40 and I-26; several Federal and State highways; including US411, US321, US421, US25-70, US19W, US19W, TN30, TN68, TN165, TN107, TN91, TN67, TN70, and TN133; and quite a number of roads under county jurisdiction traverse various parts of the Cherokee National Forest.

Some of these roads comprise a portion of the old Forest Highway system that provides access to relatively large tracts of the Forest. The Forest Highway Program has been replaced under the MAP-21 program. Federal Land Management Agencies can use Highway Trust Funds for critical improvements on its most important roads. The Cherokee National Forest has requested that 409.9 miles of NFSR be included in the FLTP program.

There are 1,569 total miles of National Forest system road under the jurisdiction of the Cherokee National Forest. This mileage is comprised of 567 miles suitable for passenger car use, almost all of which are open to the public on a year round basis, 839 miles only suitable for high clearance vehicular traffic, of which approximately 104 miles are opened to the public and approximately 735 miles that are at least seasonally closed. There are 160 miles on the system inventory that are closed for periods of time greater than one year, being in “storage” for future use when needed.

The Forest Service catalogs its roads in the official inventory, I-Web, by Maintenance Levels, loosely defined as follows:

- Maintenance Level 5 – Single or Double Lane Paved Roads w/ high degree of user comfort
- Maintenance Level 4 – Moderate User Comfort; primarily double lane aggregate roads with ditches
- Maintenance Level 3 – Lowest level maintained to accommodate passenger car traffic
- Maintenance Level 2 – Maintained primarily only to accommodate use by high clearance vehicles
- Maintenance Level 1 – Closed to all traffic for periods greater than one year.

Table 3 below shows the current break down of the Cherokee National Forest road system by maintenance level:

**Table 3.** Cherokee National Forest road system mileage by objective maintenance level.

	<b>ML 5</b>	<b>ML 4</b>	<b>ML 3</b>	<b>ML 2</b>	<b>ML 1</b>
Ocoee	13.13	6.75	213.2	339.05	29.5
Tellico	16.18	23.64	72.09	162.13	8.52
Unaka	12.34	20.47	93.2	151.42	50.42
Watauga	21.98	26.77	48.08	187.03	71.18
<b>Forest Totals</b>	<b>63.63</b>	<b>77.63</b>	<b>426.57</b>	<b>839.63</b>	<b>159.62</b>

### Private and Coop Roads

Certain roads located on the Cherokee National Forest are needed to provide access to private tracts of land, or by municipalities or large private landowners in cooperation with the Forest. The maintenance responsibility for and jurisdiction of these roads are identified in the official inventory. Generally costs for maintaining these roads are pro-rated to the appropriate benefitting entity, as further specified in the enabling agreements.

### Unauthorized Roads

At any given time there may be roads found to be in existence on the landscape that are not shown in the inventory or on an official map. These roads are considered to be unauthorized roads, likely not needed for use by the Cherokee National Forest. They are subject to decommissioning at any time funding becomes available for that purpose.

### Road Maintenance Funding

The Cherokee National Forest maintains its road system primarily with funding provided through the annual Interior and Related Agency’s budget, specifically the CMRD line item. The

Cherokee National Forest received \$631,035 of this funding in fiscal year 2014. Another source of revenue available for certain types of maintenance on the Cherokee National Forest’s road system is CMLG. \$387,000 of CMLG was received in FY 2014. Since FY 2008, the Forest has received an average of \$568,214 in CMLG funds. The average CMLG allocation from FY 2012 to FY 2014 is \$259,731. Roads that support forest management operations may be maintained with timber sale or stewardship dollars during the life of the operation, but that is not typically a long term solution. Finally, partners and user groups may provide some road maintenance support. In 2014, the Cherokee National Forest received \$22,414 worth of partner and user support, either in cash or in on-the-ground value, related to the road system.

## Cost of Operating and Maintaining the Cherokee National Forest’s Roads and Bridges

### Operations Costs

As indicated in the previous section, there is on an annual basis a total of approximately \$940,766 (CMRD: \$631,035, CMLG: \$259,731, & FLTP: \$50,000) available with which to operate and maintain the Cherokee National Forest road system. Of this, approximately \$359,534, or 38% is required in order to cover fixed costs, including management salaries, rent, fleet, travel and training and cost pool contributions. This amount also covers items such as data management, contract preparation and administration and upward reporting. Regardless of the size of the road system being managed this base amount is required. This leaves only about \$581,232 to go on the ground for actual maintenance of the road system, and it must cover replacement of deficient bridges as well. Typically, 10-15% of the CMLG allocation is used for salaries which reduces the percentage of CMRD funds that are used for fixed costs.

### Road Maintenance Costs

The primary components of road maintenance on the Cherokee National Forest include (in addition to inspections) 1) blading and ditching, 2) surfacing (repaving in the case of ML 5), 3) signs and markings, 4) drainage structures, and 5) mowing and brushing. Table 2 displays typical unit costs for these items on the Cherokee National Forest road system by maintenance level:

**Table 4.** Typical Unit Costs (annual) for Road Maintenance components on the Cherokee National Forest.

	ML 5	ML 4	ML 3	ML 2	ML 1
Inspections	\$600	\$500	\$50	\$20	\$0
Blading and	\$1,000	\$2,500	\$300	\$110	\$0

Ditching					
Surfacing	\$7,000	\$1,200	\$150	\$0	\$0
Signs and Markings	\$650	\$300	\$50	\$0	\$0
Drainage Structures	\$2,000	\$1,500	\$300	\$70	\$0
Mowing and Brushing	\$1,500	\$1,000	\$50	\$0	\$0
<b>Totals</b>	<b>\$12,750</b>	<b>\$7,000</b>	<b>\$900</b>	<b>\$200</b>	<b>\$0</b>

## Bridge Maintenance and Reconstruction Costs

The Cherokee National Forest has 71 bridges and 65 major culverts. The bridges have to be inspected every 24 months and the major culverts have to be inspected every 48 months, at an average cost of about \$750 per structure. At the present time, 2 bridges are either known or suspected to be load limited and need to be replaced because they are on roads intended to be left open to traffic. (Load limited bridges will be rated and posted in the interim until funding for replacement can be obtained). Typical bridge replacement costs for the Cherokee National Forest are about \$4,000 per linear foot for a typical two lane bridge. These costs need to be added to the total road maintenance costs above to get a true picture of the total road and bridge maintenance costs for the next 10 years on the Cherokee National Forest.

## Total Cost of Operating and Maintaining the Cherokee National Forest Roads and Bridges to Standard

Combining the information from the previous sections results in the following table that shows the total annual cost (with maintenance cycles taken into account) to maintain the Cherokee National Forest roads and bridges to standard as the system currently exists:

Item	Number	Unit Cost	Total Cost
Fixed Cost to Operate	1	\$359,534	\$359,534
Maintenance of Level 1 Roads	160	\$0	\$0
Maintenance of Level 2 Roads	840	\$200	\$168,000
Maintenance of Level 3 Roads	427	\$900	\$384,300
Maintenance of Level 4 Roads	78	\$7,000	\$546,000
Maintenance of Level 5 Roads	64	\$12,750	\$816,000
Inspection of ½ of Bridges each Year	35	\$750	\$26,250
Replacement of Deficient Bridges	1 every other year, 40' avg. length	\$80,000	\$80,000
<b>Total Annual Cost</b>			<b>\$2,380,084</b>

Note: Compare current available budget of \$940,766 to the needed amount of \$2,380,084.

Note: Appendix F shows the cost of maintaining the “suggested” Minimum Road System” that balances costs and revenue.

## Assessment of Issues, Benefits and Risks

### Financial

The primary financial issues relate to the inability to adequately maintain the existing road system with current funding sources. As indicated previously, there is on an annual basis a total of only about \$940,766 available with which to operate and maintain the system, whereas the needed funding for the system as currently configured is about \$2,375,084. As a result, deferred maintenance continually accrues on the system, but more importantly, it is not possible to maintain Best Management Practices (BMPs) required to adequately protect water quality and associated aquatic life. Meanwhile, roads and bridges are becoming unsafe and have to be

closed, and as a result, the system is failing to meet the needs of both the recreating and travelling public, and to provide for adequate resource access for forest management activities, including prescribed fire and fire suppression.

## Environmental and Social

The primary issues in the environmental arena relate to 1) erosion of the roadbed, cut slopes, fill slopes, and ditches, with the resulting sediment discharge affecting water quality and associated aquatic resources; 2) road density effects on certain wildlife species, such as bear; and 3) the roads serving as a conduit for invasive species. In the social arena, the effects are primarily the demand for adequate access, sometimes offset by the need for providing solitude. Additionally, law enforcement faces challenges due to the high demand. Access is needed by a wide variety of forest users, including hikers, hunters, fishermen and other recreationists, as well as for forest management activities, such as restoration projects and fire suppression. Also, roads require surveillance, as they can easily become sites for crime, illegal dumping and similar activities.

## Safety and Function

The primary issues related to safety and function of the Cherokee National Forest's road system include 1) maintenance of a clear and smooth travel way, 2) access in the proximity of the use, 3) steep road grades, 4) functioning of the drainage features, 5) width and stability of the road bed, 6) proper signs and markings, 7) and structurally and functionally sufficient bridges.

## Measurement and Rating

Benefits and Risks of the overall system were tabulated and appear in Table 4 of each watershed report in the Appendices. The standard list of questions in the Forest Service Handbook was used as a guide to further assist in identifying the benefits and risks. The degree of risk was rated subjectively as being high, medium or low for the system by appropriate specialists. Then, after considering the entire system, each road was also considered. Those with particular issues, benefits and/or risks different from those of the entire system were listed and further described below for further consideration. As related projects become identified at some time in the future, this list may be referenced to inform projects or proposed changes in the Minimum Road System.

The following benefits of the Cherokee National Forest’s transportation system have been identified:

### Enabling tourism and recreation

Approximately 2 million sightseers, hikers, campers, boaters, hunters, and anglers, among others, visit the Cherokee National Forest every year. They use Forest Service roads to access hiking trails, streams, rivers, lakes, wilderness areas, recreation sites, and to return from their visits to restaurants, hotels, and outfitters in rural gateway communities across the country in the area.

### Accessing timber and minerals

Forest resources also enable private jobs and investment in rural areas.

## **Recommendations and Proposed Mitigation Measures**

### Rationale Used to Arrive at Proposed Minimum Road System

The Chief’s March 29, 2012 letter reaffirms that “the Agency expects to maintain an appropriately sized and environmentally sustainable road system that is responsive to ecological, economic, and social concerns. The national forest road system of the future must continue to provide needed access for recreation and resource management, as well as support watershed restoration and resource protection to sustain healthy ecosystems.” Budget realities being what they are, roads that are not really needed cannot be supported in the future. Roads that primarily provide access to the public or to a local community need to be considered for transfer of maintenance responsibility, as appropriate. Approximately 92 miles were identified that need to be considered in this category. Roads that appear to be not needed, or that appear to have little benefit yet which are high risk to various environmental or social values were flagged for consideration as decommissioning candidates. There are 124 miles (107 miles of system roads and 17 miles of unauthorized roads) in this category. Roads that did not appear to be currently needed for project access during the next decade, and that appear currently to be receiving extremely low use by the public or that appear to not be otherwise needed for management purposes such as fire suppression access were flagged to be considered for storage; there are 24 miles in this category. Some roads that are primarily needed only for administrative use, or by hunters and that are currently useable by passenger vehicles were recommended to be considered for conversion to the high clearance. About 16 miles were identified that should be considered in this category. Roads that are receiving the highest amount of use, especially by the motoring public, or that access major developed recreation areas, should probably not be downgraded in general.

Inclement weather has a particularly costly impact on native and gravel surfaced roads. Therefore, to the extent possible, roads should be identified for seasonal closure. The TAP recommends that a minimum of 206 miles that are currently opened year-round be identified and converted to seasonally closure.

## Miles by ML Proposed as Likely Not Needed

Appendix D lists roads proposed as “likely not needed.” The total number of miles on the Cherokee National Forest that have been suggested as “likely not needed” by the TAP is 459. This includes 343.6 miles of maintenance level 2 roads that are managed as linear wildlife openings that are likely not needed in the next 10-15 years. The number of likely not needed miles in “at risk” and “impaired” watersheds are 10.8. The number of likely not needed miles in priority watersheds is 12.2.

## Suggested Conversion of Existing Road System to Minimum Road System

The table in the Appendix G lists the existing road system miles by maintenance level, and then proposes changes that respond to the rationale above to comprise the future minimum road system. Although some roads have been suggested to comprise these changes, there are others that have not yet been identified. During the next decade the suggested changes in overall road system makeup should inform projects, and additional individual road change proposals will be identified, with the goal of achieving the proposed minimum road system, and associated financial sustainability as quickly as is practical.

## Best Management Practices (BMPs) Applicable to the Cherokee National Forest

When maintaining the forest roads located on the Cherokee National Forest the following Best Management Practices should be adhered to as a minimum:

- National Best Management Practices for Water Quality Management on Forest System Lands
- Applicable State Best Management Practices
- Best Management Practices listed in the current Forest Plan.

## Description of Public Involvement to Date, and Proposed Future Public Interaction

As the watershed assessments were completed, and resource management activities were being considered, the public was given opportunities to comment on the proposals as well as on the RAP and TAP reports that were included in each of the watershed assessments.

Also, from March 23 to April 23, 2015, the public was given the opportunity to comment on the TAP. Information was posted on the Forest's website, news releases were issued, and letters were mailed to the Forest's stakeholders. These comments are organized by ranger district and can be found in Appendix N.

The public will also be provided opportunities for comment on the TAP recommendations when projects are being proposed in compliance with the NEPA process. This would be expected to include a broad spectrum of participation by citizens, stakeholders, other agencies, and tribal governments as appropriate.

## **Appendices and Maps**

- A. Map of Existing Road System That Identifies Roads Likely Not Needed and Likely Needed for Future Use
- B. Motor Vehicle Use Maps (MVUMs)
- C. List of Roads Likely Needed For Future Use
- D. List of Roads Likely Not Needed For Future Use
- E. Tabular Summary of Existing Road System Showing Benefits and Risks
- F. Spreadsheets of Existing Road System and Suggested MRS showing Maintenance Costs
- G. Comparison of Existing and Suggested Minimum Road Systems (miles by Objective ML)
- H. Chief's Letter of Direction
- I. Southern Region Expectations
- J. Map of 6<sup>th</sup> Level HUCs Watershed Condition Classifications and Priority Watersheds on the Forest
- K. Maps of Impaired Watersheds
- L. Watershed Action Plans for Priority Watersheds
- M. RAP and TAP Reports for Watershed Assessments
- N. Public Comments

Appendix A – Map of Existing Road System That Identifies Roads Likely Not Needed and Likely Needed for Future Use. This is an oversized document, therefore only the link is provided:

[Ocoee Ranger District](#)

[Tellico Ranger District](#)

[Unaka Ranger District](#)

[Watauga Ranger District](#)

Appendix B – Motor Vehicle Use Maps. This is also an oversized document, therefore only the link is provided:

<http://www.fs.usda.gov/main/cherokee/maps-pubs>

Appendix C - List of Roads Likely Needed For Future Use. This is also an oversized document, therefore only the link is provided:

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd536778.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd536778.pdf)

Appendix D - List of Roads Likely Not Needed For Future Use. This is also an oversized document, therefore only the link is provided:

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fseprd536779.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd536779.pdf)

## Appendix E – Existing Road System Benefits and Risks

Benefits	Relative Degree of Benefit	Risks	Relative Degree of Risk	Concise Description of the Issue	Suggested Risk Mitigation Measures
Access for Proposed Projects	High				
Access for General Forest Management	High				
Access for Fire Suppression	High				
Access for Developed Rec. Areas	High				
Access for High-Clearance Users	Medium				
Access to Surrounding Private Property	High				
		Surface Erosion	Medium to High	Soil Loss & Stream Sedimentation	Maintain road surface, road closures, application of BMPs
		Ditch Erosion	Medium to High	Soil Loss & Stream Sedimentation	Maintain drainage structures, road closures, application of BMPs
		Stream Sedimentation	Medium to High	Stream Sedimentation	Stream restoration, road closures, application of BMPs
		Effects on Wildlife	Low to Medium	Fragmentation of Habitat & Poaching	Road closures, stream restoration, removal of barriers to aquatic organism passage (AOP), law enforcement
		Conduit for invasive	Medium	Transport of Invasives	Road closures, treat invasives, use & enforce weed-free requirements in all contracts
		Access for Vandals	Medium	Destruction of FS Property	Road closures, law enforcement
		Access for Dumps	Medium to High	Dump Sites	Road closures, law enforcement
		Access for Illegal Activities	Low to Medium	Production & Use of Illegal Drugs, Arson, & Removal or Damage of Cultural Resources	Road closures, law enforcement

## Appendix F – Spreadsheets of Existing Road System and Suggested MRS showing Maintenance Costs

Annual Costs of Maintaining the Cherokee National Forest's Roads and Bridges								
Objective Maintenance Level	Miles by Objective Maintenance Level	Unit Mtce Cost	Total Annual Rd Mtce Cost	Number of Bridge Replacements (next 10 years)	Average Replacement Cost	Total Replacement Cost	Average Annual Cost of Bridge Replacements	Avg. Annual Rd & Bridge Mtce Cost
1	160	\$0	\$0	0	\$0	\$0	\$0	\$0
2	840	\$200	\$168,000	0	\$0	\$0	\$0	\$167,800
3	427	\$900	\$384,300	1	\$120,000	\$120,000	\$12,000	\$391,800
4	78	\$7,000	\$546,000	1	\$150,000	\$150,000	\$15,000	\$561,000
5	64	\$12,750	\$816,000	1	\$2,000,000	\$2,000,000	\$200,000	\$1,016,000
<b>Totals</b>	<b>1,569</b>		<b>\$1,914,300</b>	<b>3</b>		<b>\$2,270,000</b>	<b>\$227,000</b>	<b>\$2,136,600</b>

Annual Costs of Maintaining the Cherokee National Forest's Suggested Future Minimum Road System									
Objective Maintenance Level	Miles by Objective Maintenance Level	Unit Mtce Cost	Total Annual Rd Mtce Cost	Number of Bridge Replacements (next 10 years)	Average Replacement Cost	Total Replacement Cost	Average Annual Cost of Bridge Replacements	Avg. Annual Rd & Bridge Mtce Cost	Comments
1	163	\$0	\$0	0	\$0	\$0	\$0	\$0	
2	459	\$200	\$91,800	0	\$0	\$0	\$0	\$0	The Unit Mtce Cost may decrease if the frequency of maint. items such as mowing & surfacing is increased
3	379	\$900	\$341,100	1	\$120,000	\$120,000	\$12,000	\$12,000	Decrease in mileage reduces maint. costs. The Unit Mtce Cost may decrease if the frequency of maint. items such as mowing & surfacing is increased; mileage also reflects 82 miles to be considered for change of maintenance responsibility
4	60	\$7,000	\$420,000	1	\$150,000	\$150,000	\$15,000	\$15,000	The Unit Mtce Cost may decrease if the frequency of maint. items such as mowing & surfacing is increased
5	49	\$12,750	\$624,750	1	\$2,000,000	\$2,000,000	\$200,000	\$200,000	The Unit Mtce Cost may decrease if the frequency of maint. items such as mowing & surfacing is increased
<b>Totals</b>	<b>1,110</b>		<b>\$1,476,550</b>	<b>3</b>		<b>\$2,270,000</b>	<b>\$227,000</b>	<b>\$227,000</b>	

## Appendix G – Comparison of Existing and Suggested Minimum Road System Miles by Objective Maintenance Level

Objective Maintenance Level	Existing Road System Miles	Minimum Road System Suggested Miles	Comments
1	160	163	<p>Reflects the following:</p> <ul style="list-style-type: none"> <li>• roads likely not needed</li> <li>• ML change from 1 to 2</li> <li>• ML change from 2 to 1</li> <li>• Unauthorized roads that are likely needed</li> </ul> <p>Reduces maintenance costs by maintaining some roads to a lower standard; could result in more complaints from the public</p>
2	840	459	<p>Reflects the following:</p> <ul style="list-style-type: none"> <li>• roads likely not needed <b>(includes all ML 2 roads that are managed as linear wildlife openings that are likely not needed in the next 10-15 years)</b></li> <li>• ML change from 1 to 2</li> <li>• ML change from 2 to 1</li> <li>• ML change from 3 to 2</li> <li>• ML change from 2 to 3</li> <li>• Roads to be considered for a change in maint. responsibility</li> <li>• Unauthorized roads that are likely needed</li> </ul> <p>Reduces maintenance costs by maintaining some roads to a lower standard; could result in more complaints from the public.</p>
3	427	379	<p>Reflects the following:</p> <ul style="list-style-type: none"> <li>• roads likely not needed</li> <li>• ML change from 2 to 3</li> <li>• ML change from 3 to 2</li> <li>• ML change from 4 to 3</li> <li>• Roads to be considered for a change in maint. responsibility</li> </ul> <p>Reduces maintenance costs by maintaining some roads to a lower standard; could result in more complaints from the public.</p>
4	78	60	<p>Reflects the following:</p> <ul style="list-style-type: none"> <li>• ML change from 4 to 3</li> <li>• ML change from 5 to 4</li> <li>• Roads to be considered for a change in maint. responsibility</li> </ul> <p>Reduces maintenance costs by maintaining some roads to a lower standard; could result in more complaints from the public</p>
5	64	49	<p>Reflects the following:</p> <ul style="list-style-type: none"> <li>• ML change from 5 to 4</li> <li>• Roads to be considered for a change in maint. responsibility</li> </ul> <p>Reduces maintenance costs by maintaining some roads to a lower standard; could result in more complaints from the public</p>
System Roads Likely Not Needed (all MLs)	N.A.	459	<p>This mileage is included in the suggested mileages above.</p>
<b>Totals</b>	<b>1,569</b>	<b>1,110</b>	

## Appendix H – Chief’s Letter of Direction

**File Code:** 2300/2500/7700

**Date:** March 29, 2012

**Route To:**

**Subject:** Travel Management, Implementation of 36 CFR, Part 202, Subpart A (36 CFR 212.5(b))

**To:** Regional Foresters, Station Directors, Area Director, IITF Director, Deputy Chiefs and WO Directors

This letter is to reaffirm agency commitment to completing a travel analysis report for Subpart A of the travel management rule by 2015 and update and clarify Agency guidance. This letter replaces the November 10, 2010, letter on the same topic.

The Agency expects to maintain an appropriately sized and environmentally sustainable road system that is responsive to ecological, economic, and social concerns. The national forest road system of the future must continue to provide needed access for recreation and resource management, as well as support watershed restoration and resource protection to sustain healthy ecosystems.

Forest Service regulations at 36 CFR 212.5(b)(1) require the Forest Service to identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System (NFS) lands. In determining the minimum road system, the responsible official must incorporate a science-based roads analysis at the appropriate scale. Forest Service regulations at 36 CFR 212.5(b)(2) require the Forest Service to identify NFS roads that are no longer needed to meet forest resource management objectives.

### **Process**

Travel analysis requires a process that is dynamic, interdisciplinary, and integrated with all resource areas. With this letter, I am directing the use of the travel analysis process (TAP) described in Forest Service Manual 7712 and Forest Service Handbook (FSH) 7709.55, Chapter 20. The TAP is a science-based process that will inform future travel management decisions. Travel analysis serves as the basis for developing proposed actions, but does not result in decisions. Therefore, travel analysis does not trigger the National Environmental Policy Act (NEPA). The completion of the TAP is an important first step towards the development of the future minimum road system (MRS). All NFS roads, maintenance levels 1-5, must be included in the analysis.

For units that have previously conducted their travel or roads analysis process (RAP), the appropriate line officer should review the prior report to assess the adequacy and the relevance of their analysis as it complies with Subpart A. This analysis will help determine the appropriate scope and scale for any new analysis and can build on previous work. A RAP completed in accordance with publication FS-643,

“Roads Analysis: Informing Decisions about Managing the National Forest Transportation System,” will also satisfy the roads analysis requirement of Subpart A.

Results from the TAP must be documented in a **travel analysis report**, that shall include:

- A map displaying the roads that can be used to inform the proposed action for identifying the MRS and likely not needed roads.
- Information about the analysis as it relates to the criteria found in 36 CFR 212.5(b)(1).

Units should seek to integrate the steps contained in the Watershed Condition Framework (WCF) with the six TAP steps contained in FSH 7709.55, Chapter 20, to eliminate redundancy and ensure an iterative and adaptive approach for both processes. We expect the WCF process and the TAP will complement each other. The intent is for each process to inform the other so that they can be integrated and updated with new information or where conditions change. The travel analysis report described above must be completed by the end of FY 2015.

The next step in identification of the MRS is to use the travel analysis report to develop proposed actions to identify the MRS. These proposed actions generally should be developed at the scale of a 6<sup>th</sup> code subwatershed or larger. Proposed actions and alternatives are subject to environmental analysis under NEPA. Travel analysis should be used to inform the environmental analysis.

The administrative unit must analyze the proposed action and alternatives in terms of whether, per 36 CFR 212.5(b)(1), the resulting road system is needed to:

- Meet resource and other management objectives adopted in the relevant land and resource management plan;
- Meet applicable statutory and regulatory requirements;
- Reflect long-term funding expectations;
- Ensure that the identified system minimizes adverse environmental impacts associated with road construction, reconstruction, decommissioning, and maintenance.

The resulting decision identifies the MRS and likely not needed roads for each subwatershed or larger scale. The NEPA analysis for each subwatershed must consider adjacent subwatersheds for connected actions and cumulative effects. The MRS for the administrative unit is complete when the MRS for each subwatershed has been identified, thus satisfying Subpart A. To the extent that the subwatershed NEPA analysis covers specific road decisions, no further NEPA analysis will be needed. To the extent that further smaller-scale, project-specific decisions are needed, more NEPA analysis may be required.

A flowchart displaying the process for identification of the MRS is enclosed with this letter.

### Timing

The travel analysis report **must be completed by the end of FY 2015**. Beyond FY 2015, no Capital Improvement and Maintenance (CMCM) funds may be expended on NFS roads (maintenance levels 1-5) that have not been included in a TAP or RAP.

### Leadership

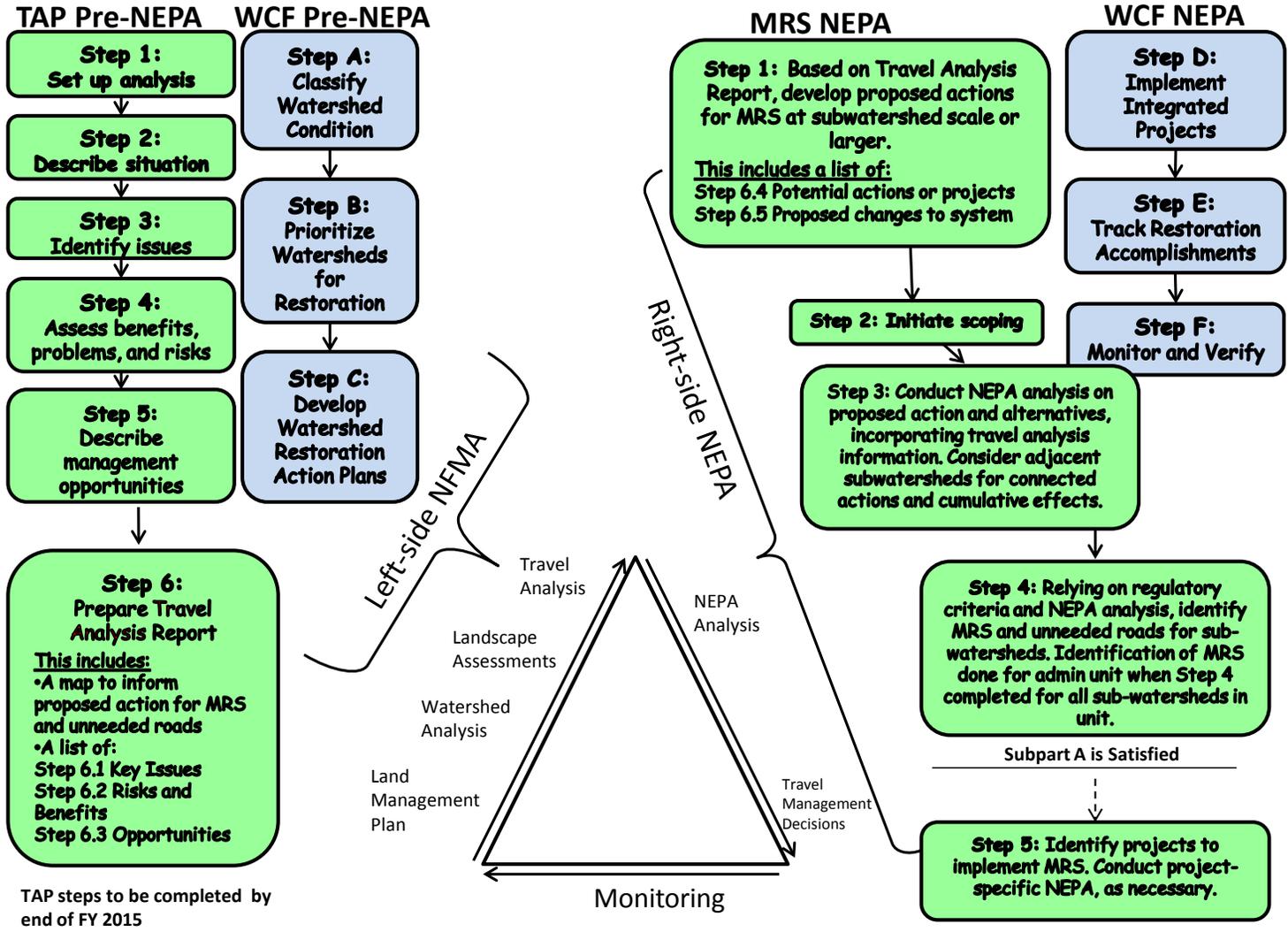
The Washington Office lead for Subpart A is Anne Zimmermann, Director of Watershed, Fish, Wildlife, Air and Rare Plants. Working with her on the Washington Office Steering Team are Jim Bedwell, Director of Recreation, Heritage, and Volunteer Resources, and Emilee Blount, Director of Engineering. I expect the Regions to continue with the similar leadership structures that have been established.

Your leadership and commitment to this component of the travel management rule is important. Together, we will move towards an ecologic, economic, and socially sustainable and responsible national road system of the future.

*/s/ James M. Pena (for):*

LESLIE A. C. WELDON

Deputy Chief, National Forest System



## Appendix I – Sub-Part “A” Travel Analysis (TAP), Southern Region Expectations, Revised to align with 2012 Chief’s Letter

### **Sub-Part “A” Travel Analysis (TAP) Southern Region Expectations Revised to align with 2012 Chief’s Letter**

- A. **Background.** During the period 2005 - 2010 the National Forests of the Southern Region successfully completed **Sub-Part “B”** (Designation of Roads, Trails and Areas for Motor Vehicle Use) Travel Analysis. The result was a set of Motor Vehicle Use Maps (**MVUMs**) that prescribe the Forest Service roads that allow traffic; and in doing so it also prohibited cross-country travel by off-highway vehicles (OHVs). Forests are now beginning work on **Sub-Part “A”** (Administration of the Forest Transportation System) Travel Analysis to identify the **minimum road system** needed for safe and efficient travel and for the protection, management and use of NFS lands; **and also to identify roads no longer needed to meet forest resource management objectives.**

**TAP** analysis identifies risks and benefits of individual roads in the system, but especially **cumulative effects and affordability of the entire system.** Consideration is given to the access needed to support existing Forest Plans, and for informing future Forest Plans and resulting projects. TAP is intended to identify opportunities to assist managers in addressing the unique ecological, economic and social conditions on the national forests and grasslands.

- B. **Agency Direction.** Sub-Part “A” Travel Analysis is required by the 2005 Travel Management Rule (36 CFR 212.5). Forest Service Manual 7712 and Forest Service Handbook 7709.55 Chapter 20 provides specific direction, including the requirement to use a six step interdisciplinary, science-based process to ensure that future decisions are based on an adequate consideration of environmental, social and economic impacts of roads. A letter from the Chief of the Forest Service dated March 29, 2012 was issued to replace a November 10, 2010 letter previously issued on the same topic. It reaffirms agency commitment to completing travel analysis reports for Subpart A of the travel management rule by 2015, and also provides additional national direction related to this work, addressing process, timing and leadership expectations. The letter requires documentation of the analysis by a

**travel analysis report**, that includes a map displaying the existing road system and possible likely not needed roads. It is intended to inform future proposed actions related to identifying the minimum road system. The TAP process is designed to work in conjunction with other frameworks and processes, the results of which collectively inform and frame future decisions executed under NEPA. These other analyses and procedures include Watershed Analysis Framework and mapping; Recreational Framework planning and analyses; and forest-wide planning under the new Planning Rule. This document (**Southern Region Expectations**) supplements the national direction for Sub-Part “A” TAPs developed for the Southern Region.

- C. Geographic Scale.** Like smaller scale road analyses (RAPS) that have been underway at the project level, TAPs consider economic, environmental and social effects of roads. Analysis at the smaller project scale, however, does not adequately address cumulative effects and affordability. The Chief’s letter requires that proposed NEPA actions be informed by work at the 6<sup>th</sup> order HUC watershed as a minimum. **Southern Region Expectations** are for a Unit TAP at the District level or equivalent; and since budgets are generally allocated to the Forest level, District analyses are not considered complete until all other Districts on the same Forest are also complete and have been integrated to create a Forest Scale TAP. As projects that involve travel (road) decisions are subsequently proposed on a unit, additional project level analysis will be required in advance of associated NEPA decisions only if the proposal varies substantially from the Unit Scale TAP covered by it. The purpose would be to show any additional impact on cumulative effects and affordability.
- D. Process, Review and Approval.** Forests Interdisciplinary Teams (IDTs) are expected to conduct analyses, with guidance and review by the Regional Office TAP Review Team (members listed below). Standard boilerplate, spreadsheets and Executive Summary format will be developed by the Review team for incorporation into the TAP reports. Final review will be by the Forest Supervisor, indicating that the analyses comply with national and regional direction. Upon completion of the last District TAP on a Forest, the Forest Supervisor needs to submit a forest-wide Executive Summary and verify that the cumulative results meet the expectations defined in this guidance.

The Regional TAP Review Team consists of Team Leader Paul Morgan (Engineering), Emanuel Hudson (Biological and Physical Resources), Mary Hughes Frye (Recreation), Paul Arndt (Planning) and various other ad hoc members as needed. They will submit their review comments to the TAP Steering Team prior to officially

conveying them to the Forest. The Steering Team will be responsible for overall direction and oversight of the process. This team consists of Randy Warbington, TAP Steering Team Lead and Director of Engineering, Dave Schmid, Director of Biological and Physical Resources, Chris Liggett, Director of Planning, and Ann Christensen, Director of Recreation as well as George Bain, Forest Supervisor on the Chattahoochee Oconee NF's and Steve Bekkerus, Regional Legislative Affairs Specialist.

- E. **Information Systems.** Analysis will be based upon field-verified spatial data (GIS, or Geographic Information System road and trail layers), and official tabular data (from I-Web, the corporate Forest Service data base) as applicable. ARC Map products will be included as a part of all completed Unit Scale TAPs, and will be provided to the Regional Office TAP review team as a part of the final TAP report.
- F. **Access.** As prescribed by 16USC532 the Forest Roads and Trails Act TAPs should identify an adequate system of roads and trails to provide for intensive use, protection, development, and management of National Forest System lands. As such, they should address user safety and environmental impacts, and provide for an optimum balance of access needs and cost. Roads, trails and bridges that are unsafe and where unacceptable risks cannot be eliminated or mitigated due to a lack of funding should be identified for closure or possible decommissioning. Likely not needed , temporary and unauthorized routes should be identified for possible decommissioning. TAPs should support current Forest Plan direction and anticipate future Forest Plan analysis needs, as well as Recreational Framework planning and analyses. As unit scale TAPs are completed, associated MVUMs must be reviewed. After appropriate NEPA decisions are made to implement TAP recommendations, future MVUM revisions need to be revised to assure that they are in agreement with those decisions.
- G. **Environmental.** One major analysis component of the TAPs is impact of the road system on water quality. In those cases where high road densities on National Forest lands are a major factor in causing watersheds to be at risk or impaired, some roads should be identified for decommissioning in order to reduce the impacts and change the classification. Also, it should be recognized that some existing roads are poorly located and should be eliminated, while some new roads might be needed to replace them and provide essentially equivalent access in better locations, generally farther away from live streams or wetlands. The Watershed Condition Framework should inform each unit's travel analysis. An overriding objective for all roads should

be compliance with provisions cited in National Best Management Practices for Water Quality Management on National Forest System Lands, April 2012.

While a reduction in maintenance levels may be a desired option for cost reduction, it is not an appropriate strategy when it results in more environmental impacts. Similarly, changes in recreational use should be considered, especially for roads that cannot be maintained to standard and that may begin to attract challenge-oriented four-wheelers that create even further impacts on the environment and on the road.

- H. **Financial.** Units should consider all expected sources of funding available to maintain the road system to appropriate standards (based upon 3 year history and current trends), and include all costs that are required to comply with applicable Best Management Practices (BMPs) for their maintenance. Include associated bridge maintenance as well, and replacement costs for those routes that include bridges that are deficient or expected to need major work in the next ten year period. Identify and account for fixed costs (program management, fleet, etc.) when analyzing financial feasibility. Ultimately units must balance the costs of maintaining the identified system such that the recommendation will not result in accrual of deferred maintenance on roads and bridges once the TAP is implemented (i.e. there should be a zero balance between anticipated maintenance revenue and anticipated maintenance cost on an annual basis).

The focus of this analysis should not be primarily on disinvestment, i.e. just reducing passenger car roads to high clearance roads in order to meet funding constraints. Roads receiving minimal maintenance have the high likelihood, at least those roads located relatively low in the watershed, of creating additional siltation impacts. They can also have unintended consequences for recreation management. Therefore a better strategy might be to identify roads not required for current operations but that might be needed at some time in the future for seasonal or intermittent closure, or **“storage”**. Other strategies might include scheduling maintenance over a two to three year cycle on less used roads, adding seasonal restrictions, identifying roads to transfer to state or local jurisdiction, and identifying likely not needed roads for possible decommissioning. Total mileage of high clearance roads should not generally increase over the amount in the current system unless it is determined that there has been substantial maintenance level “creep” over the years and therefore a substantial increase in high clearance roads is warranted. However it is expected that the number of roads identified to be placed in storage will generally increase from the current level.

Finally it should be noted that similar to the road system, the trail system is also over-committed to be managed within its maintenance budget. Therefore, unless maintenance funding is verified to be available over the long-term, it is not acceptable to identify roads for conversion to trails; the more appropriate options would be storage or decommissioning, depending upon future need.

I. **Public Involvement and NEPA** (National Environmental Protection Act)

**Requirements.** Unit scale TAPs are not NEPA decisions; they are analyses intended to inform future projects regarding affordability and cumulative effects. These projects, depending upon the specific impacts, will generally require NEPA decisions prior to implementation. The public will need to be provided opportunities for comment on TAP recommendations near to the time that actual projects are being proposed. This would be expected to include a broad spectrum of participation by citizens, other agencies, and tribal governments as appropriate.

J. **Products.** All final products to be posted on an internal website or on the “O” drive available for access by other Forests and the Regional Office. The final product should consist of the following items:

- 1) A **Travel Analysis Report** summarizing the process the results of all analyses conducted.
- 2) A **map showing the entire Road System, ML 1-5, and delineating potential likely not needed roads.**
- 3) A **list of roads that are proposed for transfer to another jurisdiction and whether acceptance by that jurisdiction is likely within the next three years.**
- 4) A tabular **summary of issues, benefits and risks** for each road in the system. (Although not included in this write-up an example format is available and will be provided to each unit as they begin work on their TAP.)
- 5) A spreadsheet identifying available maintenance funding and expected costs for applying **affordable operational maintenance levels** and associated **BMPs** (best management practices) to the road system to result in a **financial strategy that balances funding and costs** such that no deferred maintenance will accrue if fully implemented.
- 6) Signature sheets with dates, indicating preparation and review officials, **and Review by the Forest Supervisor.**

**K. Schedule and Completion Date.**

The chief's letter directs that all units be covered by a TAP by the end of FY 2015. The proposed schedule is as follows:

- FY10 George Washington NF, GW/J NFs  
Talladega Ranger District, NFs in Alabama  
Andrew Pickens RD, FM/S NF  
Davy Crockett Ranger District, NFs in Texas
- FY11 Jefferson NF, GW/J NFs - **Completes GW/J NFs**  
Oakmulgee Ranger District, NFs in Alabama  
Oconee Ranger District, Chattahoochee-Oconee NFs  
Appalach/Wakulla Ranger District, NFs in Florida  
Enoree Ranger District, FM/S NF  
Croatan NF, NFs in North Carolina
- FY12 Shoal Creek Ranger District, NFs in Alabama  
Bankhead RD, NFs in Alabama  
Conecuh RD, NFs in Alabama  
Tuskegee RD, NFs in Alabama  
Conosauga Ranger District, Chattahoochee Oconee NFs  
Chattooga River RD, Chattahoochee-Oconee NFs  
Blue Ridge RD, Chattahoochee-Oconee NFs – **Completes CH-O NFs**  
Osceola RD, NFs in Florida  
Long Cane RD, FM/S NFs  
Winn RD, Kisatchie NF  
Pisgah NF in NC  
Angelina/Sabine Ranger District, NFs in Texas  
Sam Houston RD, NFs in Texas  
Redbird RD, Daniel Boone NF  
Magazine RD, Ozark-St. Francis NFs
- FY13 Stearns RD, Daniel Boone NF  
Shoal Creek RD, NFs in Alabama– **Completes NFs in AL**  
Caney and Kisatchie RDs, Kisatchie NF  
LBJ/Caddo RD, NFs in TX – **Completes NFs in TX**

Nantahala NF in NC

Ocala RD, NFs in Florida – **Completes NFs in FL**

Francis Marion RD, FM/S NFs – **Completes FM/S NFs**

Big Piney, Pleasant Hill and Boston Mountain RDs, Ozark-St. Francis NFs

Land between the Lakes – **Completes LBL RA**

FY14 NFs in Mississippi – **Completes NFs in MS**

London RD, Daniel Boone NF

Ouachita NF (Districts to be named)

Sylamore and St. Francis RDs, Oz-St. Francis NFs

Lee Creek, Lake Weddington RDs, Ozark St. Francis NFs – **Completes Oz-St. Francis NFs**

Calcasieu and Catahoula RDs, Kisatchie NF – **Completes Kisatchie NF**

Uwharrie RD, NFs in NC – **Completes NFs in NC**

FY15 El Yunque NF – **Completes EYNF**

Cumberland RD, Daniel Boone NF – **Completes DBNF**

Cherokee NF – **Completes Cherokee NF**

Ouachita NF (Remaining Districts) – **Completes Ouachita NF**

The End

Appendix J – Map of 6th Level HUCs Watershed Condition Classifications and Priority Watersheds on the Forest. This is an oversized document, therefore only the link is provided

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3836089.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3836089.pdf)

Appendix K – Maps of Impaired Watersheds. These are oversized documents, therefore only the links are provided:

**North Zone:**

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3835938.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3835938.pdf)

**South Zone:**

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3836087.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3836087.pdf)

Appendix L - Watershed Action Plans for Priority Watersheds. These are oversized documents, therefore only the link is provided

<http://www.fs.usda.gov/detail/cherokee/home/?cid=STELPRD3831740>

Appendix M - RAP and TAP Reports for Watershed Assessments. These are oversized documents, therefore only the link is provided

<http://www.fs.usda.gov/detail/cherokee/home/?cid=STELPRD3831740>

**Appendix N – Public Comments**

**General:**

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3836122.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3836122.pdf)

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3836120.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3836120.pdf)

**Watauga Ranger District:**

[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3836118.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3836118.pdf)