

National Forests in North Carolina
Tusquitee Ranger District

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Travel Analysis Report

Upper Tellico OHV System Project

Background

In August 1999, the Washington Office of the USDA Forest Service published Miscellaneous Report FS-643 titled “Roads Analysis: Informing Decisions about Managing the National Forest Transportation System.” The objective of travel (roads) analysis is to provide decision makers with critical information to develop road systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions.

In October 1999, the agency published Interim Directive 7710-99-1 authorizing units to use, as appropriate, the road analysis procedure embodied in FS-643 to assist land managers making major road management decisions. The Rocky Mountain Region of the Forest Service then published a travel analysis guidance document as a supplement to Appendix 1 of FS-643. This document provides guidance concerning the appropriate scale for addressing the travel analysis.

In November 2005 the U.S. Department of Agriculture promulgated the final rule for “Travel Management: Designated Routes and Areas for Motor Vehicle Use”, otherwise known as the “Travel Management Rule”. In 2008, the National Forests in North Carolina updated the Motor Vehicle Use Maps in accordance with the Travel Management Rule. The maps identify National Forest System Roads (NFSR) and National Forest System Trails (NFST) within an administrative area. The maps are produced to be used as a legal document depicting NFSRs and NFSTs that are open for motorized use. The map for the area addressed in this analysis can be found at <http://www.cs.unca.edu/nfsnc/roads/roads.htm>, and is incorporated into this report by reference.

Final travel management directives became effective January 8, 2009, as well as a revision to the 2005 Travel Management Rule.

Process

Travel analysis is a six-step process. The steps are designed to be sequential with the understanding the process may require feedback and iteration 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 road 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

Products

The product of an analysis is a report for decision makers and the public that documents the information and analyses used to identify opportunities and set priorities for future NFSRs and NFSTs. Included in the report is a map displaying the known road system for the analysis area, and the risks and opportunities for each road or road segment. Due to the degree to which this analysis is integrated with the Upper Tellico OHV System Project Environmental Analysis, the latter may be considered a companion process and report to this analysis.

This Report

This report documents the travel analysis for the Upper Tellico OHV System Project area (administrative Compartments 25 and 26) on the Tusquitee Ranger District, Nantahala National Forest.

Step 1 Setting up the analysis

Purpose and Products

The purpose of this step is to:

- Identify the geographic scale or scales for the analysis,
- Develop a process plan for conducting the analysis, and
- Clarify the roles of technical specialists and line officers in the team.

The products of this step are:

- A statement of the objectives of the analysis,
- A list of interdisciplinary team members and participants,
- A list of information needs, and
- A plan for the analysis.

Objectives of the Upper Tellico OHV System Travel Analysis

This travel analysis will evaluate the existing condition of the transportation system within the Upper Tellico OHV System project area and will make recommendations for action. It is being completed to inform and support the Environmental Assessment and the decision(s) to be made for the Upper Tellico OHV System Project. This report includes analysis of all the

roads in the project analysis area including the NFSRs and NFSTs) and the unauthorized nonsystem roads. Objectives of the Upper Tellico OHV System travel analysis are:

- Identification of needed and unneeded roads
- Identification of road- and trail- associated environmental and public safety risks
- Identification of site-specific priorities and opportunities for road and trail improvements and decommissioning.
- Prioritization of decommissioning
- Identification of areas of special sensitivity or unique resource value that may require specific road management
- Provide other specific information that may be needed to support the Upper Tellico OHV System Project and other future resource management projects.

Interdisciplinary Team Members and Participants

This travel analysis was completed through an integrated interdisciplinary team (ID Team) approach at a sub-watershed project-level scale. The ID Team members and participants are:

- Ruth Berner, Team Leader, Upper Tellico OHV Project
- Bill Champion, Forester, Tusquitee Ranger District
- Jason Farmer, Zone Fisheries Biologist, Cheoah Ranger District
- Duke Rankin, Zone Botanist, Nantahala Ranger District
- Doreen Miller, Zone Wildlife Biologist, Nantahala Ranger District
- Brady Dodd, Forest Hydrologist, National Forests in North Carolina
- Barry Jones, Forest Engineer, National Forests in North Carolina
- Drew Selig, GIS Specialist, National Forests in North Carolina
- Scott Ashcraft, Zone Archeologist, National Forests in North Carolina
- Julie Moore, Zone Realty Specialist, Tusquitee Ranger District
- David Stiles, Forestry Technician, Tusquitee Ranger District
- Chad Cook, Forestry Technician, Tusquitee Ranger District
- Eric Pullium, Forestry Technician, Tusquitee Ranger District
- Candace Wyman, Project Coordinator, Tusquitee Ranger District
- Michelle Aldridge, Planning Assistant, National Forests in North Carolina
- Leslie Smith, Natural Resource Manager, Tellico Ranger District, Cherokee National Forest
- Gary Hubbard, Forest Engineer, Cherokee National Forest

Information Needs

- Forest Plan Direction
- Current condition of NFSRs and NFSTs serving the area,
- Determinations and location of unauthorized roads,
- Determination of future needs for access to the area.

Analysis Plan

Individuals of the ID Team participated in gathering information and in developing draft and final reports. Information needs were informed by field visits, collective knowledge of ID Team members, and review of GIS data, individual Road and Trail Management Plans, and past Road and Trail Assessments. Road management issues that surfaced during public scoping for the Upper Tellico OHV System Project were considered in the analysis. The report will become part of the administrative project record for the Upper Tellico OHV System Project.

Step

2

Describing the situation

Purpose and Products

The purpose of this step is to:

- Describe the existing road and trail system in relation to current forest plan direction.

The products of this step are:

- A map or other descriptions of the existing road and access system defined by the current forest plan or transportation plan, and
- Basic data needed to address travel analysis issues and questions.

Existing Road and Access System Description

Existing Situation - The area has a long history of use for timber and wildlife habitat management along with traditional recreational and social uses such as hunting, fishing, and gathering of forest products. A primary recreation activity in the project area is riding Off-Highway Vehicles (OHV's) on the Upper Tellico OHV Trail System ("System"). Features associated with the System include developed trails, undeveloped or user-created trails, developed recreation areas and bridges. This area includes parking lots with amenities and campgrounds (immediately adjacent to the System but located on the Cherokee National Forest in Tennessee). There are no outstandingly remarkable features associated with this area; features that were considered but found not to be in the project area are roadless areas, lakes or dams, forest highways, scenic byways, T & E species, and wilderness. Five impacted heritage sites were found which are considered eligible for National Register of Historic Places nomination.

There are numerous private in-holdings, primarily in the Tipton Creek Community and a large single-ownership tract on the NC-TN state line, all of which are accessible only across National Forest System lands.

Current Road Situation - Access into the project area is by Davis Creek Road (NFSR 420), which changes its name to Tipton Creek Road at Allen Gap. It is also accessible from the Cherokee National Forest and the State of Tennessee from the Tellico River Road (NFSR

210) and Beaverdam Bald Road (NFSR 24). The area is served by a road system that is available for administrative purposes, most of which is closed to general public use. There are a total of 42.1 miles of system road and trail in the project area, and approximately 13.9 miles of unauthorized road (currently not usable by motor vehicle traffic as a result of earthen berms and/or ingrowth of vegetation). 32.0 miles of the 39.3 miles within the Trail System currently have dual designation as both NFSR and NFST. The only exceptions are the 7.3 miles of NFST 10 and 10A. For the purpose of this report, dual-designation roads and trails designated as a part of the Upper Tellico OHV Trail System will be referred to as NFST. The unauthorized roads referred to in this report are displayed in the GIS roads database. In effect, they are no longer roads that can be traveled by motor vehicle except that they may provide routes for illegal ATV activity. Illegal activity was evaluated in October 2007 and March 2008 during comprehensive System condition surveys.

NFSR and NFST include:

Radford Top Road (NFSR 403) is a single lane passenger vehicle road accessible for administrative use and fire protection, and providing access for timber harvesting. It is gated and closed to public use, except for non-motorized use. There is a private in-holding at the end of this road. There is no Special Use Easement with the private landowner at this time. The road is maintained by occasional mowing.

Tellico Trail # 1 (NFST 420-1 “Tipton Creek”) is a two lane passenger vehicle road open to traffic year round. It is the main access road to the Upper Tellico OHV Trail system. The road is routinely maintained. It is designated for motorized mixed use, as analyzed in the Engineering Report incorporated into this document as Appendix A.

NFST 420-2 through NFST 420-12) listed below are all trails accessible only by four wheel drive off-highway vehicles and/or all-terrain vehicles. In many cases, modified or enhanced equipment such as winches, specialty tires and suspension systems are required in order to successfully negotiate the designated routes.

NFST 420-2 “Tipton Knob” is part of the System as well as providing deeded access to private inholdings in the Tipton Creek Community. There is a section of road approximately 1 mile in length that has deteriorated beyond repairing with routine maintenance or reconstruction.

NFST 420-3 “Bearpen” runs in part parallel to a Tellico River tributary. It is maintained for high clearance vehicles. Sediment from NFST 420-12 is depositing a substantial sediment load on NFST 420-3.

NFST 420-4 “Fain Ford” runs in part parallel to Peckerwood Creek. Sediment from the road reaches Peckerwood Creek in numerous locations. There is a ford across the Tellico River at the intersection of NFST 420-4 and NFST 420-8. Under decision, but not yet installed, is a bridge similar to the Rough Crossing Bridge on NFST 420-5, that would span the Tellico River and eliminate vehicle traffic and equipment washing in the river.

NFST 420-5 “Tellico River” runs in part parallel to the Tellico River. Due to maintenance in 2008, the segment from NFST 420-1 to Rough Crossing Bridge over the Tellico River is passable by passenger vehicle. Rough Crossing Bridge was installed in 2006. The trail past that point is accessible by four-wheel drive only. Two areas of high sediment production exist near the intersection with NFST 420-4, as sediment is accumulating from a “trail stacking “ situation. NFST 420-12 is depositing sediment onto NFST 420-4 and then running with additional NFST 420-4 sediment down to NFST 420-5 and into the Tellico River. There is also a series of springs in this area adding to the runoff.

NFST 420-6 “State Line Loop” is part of the trail system and also accesses a large tract of private property on the NC-TN state line. There is deeded access to the private parcel. Roughly 3000 feet of the trail contribute significant sediment loading, which would be improved with installation of several properly-sized culverts.

NFST 420-7 “Peckerwood Connector” has a “challenge area” that is contributing significant sediment to Peckerwood Creek. This section of trail is damaged beyond repairing with routine maintenance.

NFST 420-8 “Bob Creek” runs parallel to the Tellico River for 1.5 miles of its total length, and is a major loop connector in the System. Three bridges which cross tributaries of the Tellico River have been condemned and closed. They remain in place pending a final decision on long term management of the system.

NFST 420-9 “Mistletoe Connector” is characterized by steep grades, areas of deep entrenchment mixed with numerous springs coming out of the bedrock area and close proximity to streams.

NFST 420-10 “Round Mountain” is an ATV-only trail with sections that are entrenched, have 500 feet of stream flow within the trail tread, and a “challenge area” generating sediment into an adjacent stream.

NFST 420-10A “Round Mountain Spur” is an ATV-only trail that parallels the Tellico River but has good grades and no entrenched segments.

NFST 420-11 Chestnut Mountain” is not depositing sediment into perennial streams. However, it contains three challenge areas that present significant safety issues for inexperienced users or ATV operators.

NFST 420-12 “Hawk Knob” is of moderate difficulty and fair condition for the majority of its length, but the first 2000 foot section is deeply entrenched, up to 15 feet in places, with unstable banks. The terrain offers few options for rerouting. Massive soil loss from this section has resulted in sediment loading onto three trails downslope, and ultimately deposition into the Tellico River below.

Garrett Creek Road (NFSR 6232) is a single lane high clearance vehicle road accessible for administrative use and fire protection, and providing access for timber harvesting

approximately once per decade. It is blocked from motorized public access with an earthen berm. The road is in need of reconditioning prior to use as a timber haul road, to be accomplished by brushing, blading to shape and create dips and turnouts, and spot surfacing with stone. The opportunity exists to replace a low water crossing on Garrett Creek with a culvert.

Unauthorized roads include:

Trail # 1 Parallel – 1.0 mile of old timber haul road running parallel to NFST 420-1, approximately 0.1 mile down-slope from NFST 420-1, no longer travelable by vehicle. This road is, in effect, no longer a road used for transportation purposes.

Kilby Cove - 1.8 mile of old road in Kilby Cove. The first 0.9 mile is on private land. The last 0.9 mile is on Forest Service land, but is no longer travelable by vehicle: this section of road is, in effect, no longer a road used for transportation purposes.

Farmer Branch - 0.4 mile of old road beginning at Allen Gap and located at the head of Farmer Branch. It is no longer travelable by vehicle. This road is, in effect, no longer a road used for transportation purposes.

Snakeden Ridge - 1.0 mile of old timber haul road that used to provide access from Cook Creek up to Snakeden Ridge. The first 0.2 mile is on private land. The last 0.8 mile is on Forest Service land, but is no longer travelable by vehicle: this section of road is, in effect, no longer a road used for transportation purposes.

Cook Creek Watershed - 1.0 mile of old road that was used to provide access to Cook Creek from Tipton Gap Road. The lower 0.5 mile is on private land, and in close proximity to Cook Creek. The upper 0.5 mile leaves Cook Creek and is on Forest Service land, but is no longer travelable by vehicle; this section of road is, in effect, no longer a road used for transportation purposes. There is evidence of illegal four-wheeler traffic coming off private land and accessing the Tellico OHV area.

Lower Garrett Creek – 1.2 mile of old road on lower Garrett Creek at the end of State Road 1335, up to Snakeden Ridge. The road meanders in and out of Forest Service land and two tracts of private land. The road is no longer travelable just past the last tract of private land; this section of road is, in effect, no longer a road used for transportation purposes.

East Branch Garrett Creek - 1.1 mile of old road on the east branch of Garrett Creek just off from Lower Garrett Creek unauthorized road. The road provides access to three private tracts of land. Just past the private land the road is no longer travelable by vehicle (approximately the last 0.8 mile); this section of road is, in effect, no longer a road used for transportation purposes.

Stateline Ridge Road- 1.7 miles of old road that used to run from the Stateline Campground on the Cherokee National Forest, northeast along the NC-TN state line, to a point near Red Log Gap. At that point it dropped off the ridge and joined the current route of NFST 420-6. It

was decommissioned in the mid-1980's during the establishment of the System. It is no longer accessible by vehicle.

Bearpen Branch – 1.6 miles of old road that runs from near Harshaw Gap, up Bearpen Branch to Bearpen Gap, then on to its intersection with NFST 420-3. It is not currently accessible by high clearance vehicle.

Deaden Tree – 2.5 miles of old road running from Bearpen Branch southeast to Deaden Tree Gap then continuing on down to Mose Creek. It is not currently accessible by high clearance vehicle.

Bob Creek – 0.2 miles of old road running from NFST 420-8 up the right side of the Bob Creek drainage to its headwater. On the GIS layer it stops at that point, but there are indications that illegal use is occurring via this route from a nearby private parcel.

Status of Current Data

The roads and trails in the project area are in the Nantahala GIS database. Classifications for the roads and trails located in the project area are summarized in the following table (NFSTR road data taken from Forest Service Infra roads database; unauthorized road data taken from field observations):

ID	NAME	EMP (length in miles)	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
403	Radford Top	1.5	L	1	1	1	-	AGG	D
420-1	Tipton Creek	5.3	L	1	4	2	C	AGG	B
420-2	Tipton Knob	3.2	L	1	1	2	I	NAT	D
420-3	Bear Pen	3.9	L	1	2	2	C	NAT	D
420-4	Fain Ford	4.8	L	1	2	2	C	NAT	D
420-5	Tellico River	1.6	L	1	2	2	C	NAT/AGG	D
420-6	State Line	2.2	L	1	2	2	C	NAT	D
420-7	Peckerwood Connector	0.6	L	1	1	2	I	NAT	D
420-8	Bob Creek	5.8	L	1	2	2	C	NAT	D
420-9	Mistletoe Connector	0.7	L	1	1	2	I	NAT	D
420-10	Round Mountain (ATV)	4.5	L	1	1	2	I	NAT	D
420-10A	Round Mountain Spur (ATV)	2.8	L	1	2	2	C	NAT	D
420-11	Chestnut Mountain	2.7	L	1	2	2	C	NAT	D
420-12	Hawk Knob	1.22	L	1	1	2	I	NAT	D
6261	Garrett Creek	1.3	L	1	2	1	I	AGG	D

ID	NAME	EMP (length in miles)	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
24	Beaverdam Bald Road	6.3	L	1	2	2	C	NAT/AGG	D
Unauth.	Trail # 1 Parallel	± 1.0	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Kilby Cove Spur	± 0.4	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Kilby Cove	± 1.8	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Farmer Branch	± 0.4	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Snakeden Ridge	± 1.0	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Cook Creek Watershed	± 1.0	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	East Branch Garrett Creek	± 1.1	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Lower Garrett Creek	± 1.2	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Stateline Ridge	± 1.7	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Bearpen Branch	± 1.6	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Deaden Tree	± 2.5	N/A	N/A	N/A	N/A	N/A	NAT	N/A
Unauth.	Bob Creek	± 0.2	N/A	N/A	N/A	N/A	N/A	NAT	N/A

WHERE:

N/A – Not Applicable

ID The official identifier of the route

NAME Common name of the route

EMP Ending measure point of the route.

FUNCTIONAL CLASS The way a road services land and resource management needs, and the character of service it provides. **L - LOCAL** Connects terminal facilities with forest collector or arterial roads or public highways. Usually local roads are single purpose transportation facilities.

LANES The number of lanes the travel way has. **1 - SINGLE LANE**

OBJECTIVE MAINTENANCE LEVEL The maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns,

1 - BASIC CUSTODIAL CARE (CLOSED) Assigned to intermittent service roads during time they are closed to vehicular traffic

2 - HIGH CLEARANCE VEHICLES Assigned to roads operated for use by high clearance vehicles.

4 – MODERATE DEGREE OF USER COMFORT Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds.

OPERATIONAL MAINTENANCE LEVEL The maintenance level currently assigned to the road considering today's needs, road condition, budget constraints and environmental concerns; in other words it defines the level to which the road is currently being maintained.

1 - BASIC CUSTODIAL CARE (CLOSED) Assigned to intermittent service roads during time they are closed to vehicular traffic

2 - HIGH CLEARANCE VEHICLES Assigned to roads operated for use by high clearance vehicles.

SERVICE LIFE The length of time that a facility is expected to provide a specified service

C - LONG TERM SERVICE Continuous or annual recurrent service

I - INTERMITTENT TERM SERVICE A road which is closed to vehicle traffic between periods of use. The closed period must exceed one year

SURFACE TYPE The wearing course; usually designed to resist skidding, traffic abrasion, and the disintegrating effects of weather.

AGG - CRUSHED AGGREGATE OR GRAVEL Crushed or screened graded material

NAT – NATIVE MATERIAL No imported or processed materials

TRAFFIC SERVICE LEVEL A description of the road's significant traffic characteristics and operating conditions.

B – CONGESTED DURING HEAVY TRAFFIC Congested during heavy traffic, slower speeds and periodic dust; accommodates any legal-size load or vehicle.

D - SLOW FLOW OR MAY BE BLOCKED Traffic flow is slow and may be blocked by management activities. Two-way traffic is difficult, backing may be required. Rough and irregular surface. Travel with low clearance vehicles is difficult. Single purpose facility.

Forest Plan Direction – The project area is in Management Area 1B (classified as suitable for sustained yield of sawtimber and other wood products, with motorized access for traditional forest uses and recreation, including off highway vehicles), Management Area 2C (not suitable for timber production, with an emphasis on providing a quality visual experience), and Management Area 18 (riparian management areas – acres embedded in the other Management Areas). In addition, a total of 3.3 miles of Trails # 1 and #2 are in Management Area 4D (suitable for timber production with few open roads) . Applicable Forest Plan direction and standards (for transportation system management, road planning and dispersed recreation management) are as follows;

Management Area 1B (Forest Plan p. III-59 and 62):

1. Manage most arterial, collector, and Traffic Service Level C local roads as open to public vehicular use except for seasonal closures and closures for resource protection as determined by site-specific analysis.
 - a. Manage approximately 2 miles of Traffic Service Level C road per square mile as open to public vehicular use.
2. Close all temporary and Traffic Service Level D roads to public vehicular use when management activities are complete, except those roads designated for vehicles commonly classified as OHV's..
 - a. Sign all routes designated for use by vehicles commonly classified as OHV's.
3. Provide motorized recreation opportunities favoring driving for pleasure. Provide some nonmotorized opportunities including viewing wildlife, hunting, and access for fishing.
 - a. Manage for Roaded Natural 1 conditions, including a high level of public vehicular access on forest development roads.
4. Provide opportunities for vehicles commonly classified as OHV's on designated routes primarily within established OHV areas.
 - a. Use Traffic Service Level D roads to enhance or expand these opportunities if such use does not adversely impact other resources.
5. Plan and construct the transportation system to provide access for timber and public motorized recreation use.
 - a. Plan the road system to progressively access all lands suitable for timber production.
 - b. Minimize road placement on unstable soils. Use site-specific analysis to determine mitigating measures where unstable soils cannot be avoided.
6. Provide four-wheel drive ways that utilize terrain features to provide varying degrees of difficulty and challenge to riders and protect water quality.
7. Maintain roads to accommodate the intended use and to protect resources.
 - a. Maintain open Traffic Service Level C roads to a minimum maintenance level 3.

- b. Maintain open Traffic Service Level D roads to a minimum maintenance level 2.
- c. Maintain four –wheel drive ways to maintenance level 2.
- d. Maintain all closed system roads to maintenance level 1.

Management Area 2C (Forest Plan pp. III-67, 69, 70)

1. Manage most arterial, collector, and Traffic Service level C roads as open to public vehicular use except for seasonal closures and closures for resource protection as determined by site- specific analysis.
 - a. Manage approximately 2 miles of Traffic Service level C road per square mile as open to public vehicular use.
2. Close all Traffic Service level D roads to public vehicular use when management activities are complete except those roads designated for vehicles commonly classified as OHV’s.
 - a. Sign all routes designated for use by vehicles commonly classified as OHV’s.
3. Provide motorized recreation opportunities favoring driving for pleasure. Provide some nonmotorized opportunities including day use hiking, viewing wildlife, and access for fishing.
 - a. Manage for Roaded Natural 1 conditions, including public vehicular access on forest development roads.
4. Provide opportunities for vehicles commonly classified as OHV’s on designated routes primarily within established OHV areas. Use Traffic Service level D roads to enhance or expand these opportunities if such use does not adversely impact other resources.
 - a. Provide opportunities in response to identified needs to an approximate density of 2 miles per square mile in any management area unit.
5. Provide some opportunities for horse and bicycle travel on closed roads.
6. Plan and construct the transportation system primarily to provide for public motorized use.
 - a. Locate all roads on stable locations, to protect adjacent resources and to most effectively serve access needs.
7. Provide four-wheel-drive ways that utilize terrain features to provide varying degrees of difficulty and challenge to riders and protect water quality.
8. Maintain roads to accommodate the intended use and to protect resources.
 - a. Maintain open Traffic Service Level C roads to a minimum maintenance level 3.
 - b. Maintain open Traffic Service Level D roads to a minimum maintenance level 2.
 - c. Maintain four -wheel- drive ways to maintenance level 2.
 - d. Maintain all closed system roads to maintenance level 1.

Management Area 4D (Forest Plan p. III-87):

1. Provide limited access for motorized vehicles.
 - a. Manage access through an approximate density of 0.25 miles of open road per square mile.
2. Close all Traffic Service Level D roads to public vehicular use when management activities are complete except those roads designated as four-wheel drive ways.
3. Plan and construct the transportation system to provide access for timber in Management Area 4D.
 - a. Plan the road system to widely disperse harvest units.

- b. Locate all roads on stable locations to protect adjacent resources, and to most cost effectively serve access needs.
4. Maintain roads to accommodate the intended use and to protect resources. Identify where existing designated four-wheel drive ways do not meet water quality standards and develop strategies to bring them into compliance.

Management Area 18 (Riparian Management Area - Forest Plan p. III-188):

1. Manage roads according to management area direction for the adjacent management area. Provide limited access for motorized vehicles.
2. Plan new roads to minimize the amount of roadbed that occurs within the riparian area dependent on site conditions and resource protection needs.
 - a. Provide for fish passage in all stream crossings, except where fish management objective is to prevent passage.
3. Construct and maintain roads to management standards for the adjacent management area.
4. Emphasize stream crossing structures that protect the stream bank and disrupt the stream channel only one time.
 - a. Use either permanent or temporary bridges, fords, or culverts for all roads. Do not use brush-, log-, or dirt-filled crossings. Use fords only when physical conditions of approaches and streambeds allow fords to be designed and maintained to prevent visible siltation.
 - b. Cross channels at right angles where possible.
 - c. Where possible, do not allow “grade sag” over the crossings.
 - d. Design and construct stream crossings to comply with the North Carolina Forest Practices Guidelines Related to Water Quality (NCFPGRWQ).

In addition to the above, the following general direction and standards are applicable to all transportation system management and road planning in the project area (Forest Plan pp. III-46 to III-51):

1. Manage closed forest development roads for a wide range of non-motorized uses. Minimize conflicting uses (example bicycle use vs. linear wildlife opening). Resolve conflicts using an ID team approach and coordinate with other federal, state, and county agencies and user groups.
2. Allow nonmotorized bicycle and horse travel on Forest development roads unless signed as closed to that use.
3. Construct temporary roads only for non-recurrent use. Do not plan or permit purchasers to construct temporary roads in lieu of building specified roads needed for future recurrent management of the area.
4. Revegetate disturbed areas during the construction process.
 - a. On non-stream crossing areas, accomplish revegetation practices or other erosion protection sufficient to restrain erosion for exposed cut and fill slopes with 30 days of initial soil disturbance.

Basic Data Needs

- GIS layer of existing road network- See Upper Tellico EA and project record
- GIS streams coverage- See Upper Tellico EA and project record
- Road and trail survey data- See Upper Tellico EA and project record

Step

3

Identifying issues

Purpose and Products

The purpose of this step is to:

- identify the key questions and issues affecting road-related management, and
- describe the origin of the issues.

The products of this step are:

- a summary of key road-related issues, including their origin and basis, presented by general categories of environmental, sociocultural and economic, and
- a description of the status of current data, including sources, availability, and methods of obtaining information.

Issue Summary

A Proposed Action for the Upper Tellico OHV System Project was scoped in June 2008. Approximately 1500 comments were received, of which the vast majority were form letters. This scoping, plus comments received in association with a public open house held in a nearby affected community (Murphy, North Carolina) in June 2008, address the requirements for public involvement in the Travel Management Rule. Scoping for the project resulted in the following issues regarding roads and trails.

Significant Issues Related to the Proposed Action

1. Concern that the Performance Standards associated with the North Carolina Forest Practices Guidelines for Water Quality be met in managing the OHV System. These include:
 - a. Streamside Management Zones sufficient to restrain accelerated erosion and prevent visible sediment from entering intermittent or perennial streams or perennial waterbodies;
 - b. Minimizing stream crossings and constructing needed crossings and associated water control devices so as to: minimize the amount of sediment that enters the stream from the construction, not obstruct stream flow, restrain accelerated erosion and prevent visible sediment from entering intermittent or perennial streams or perennial waterbodies.

2. Concern that the proposed action still has OHV trails near streams and on sensitive soils and that these should be removed from the system so as to better protect the Tellico River and its tributaries from sediment. Reducing sediment inputs would improve habitat for native brook trout.
3. Concern that the OHV system should be closed until all the needed repairs are finished in order to prevent additional accelerated sedimentation of the Tellico River and its tributaries and protect trout populations.
4. Concern that the proposed OHV system may not meet Forest Plan standards in regard to OHV trail opportunity density and challenge level.
5. Concern that the proposed action reduces the amount of OHV opportunity and access to public lands for a variety of recreational uses, thereby reducing the ability of the public, especially families and people with less mobility, to enjoy the national forests.
6. Concern that the proposed OHV trail system eliminates most of the very high challenge recreation opportunity that draws people to Tellico.
7. Concern that the proposed upgrading of NFST 420-1 (Tipton Creek Road) would eliminate access for non-highway-legal vehicles from the southern end of the system.
8. Concern that proposed storm-event closure closures and associated new camping restrictions would be burdensome on OHV trip planning, family experiences, and special event planning. There are also concerns as to how it might be implemented.

Other Issues

1. Concern that the Forest Service should be building more trails, not closing trails.
2. Concern that the proposed action should be to study what the real sources of sedimentation are and what the real threats to the trout are.
3. Concern that the “no visible sediment” standard is unrealistic and should be changed.
4. Concern that the Forest Service should examine the cumulative effects on the OHV opportunity of the many closures across the region and the country.
5. Concern that the proposed action will impact the local economy.
6. Concern about the cost of the proposed action.
7. Concern that a ban on fishing and/or fish stocking would more clearly address a threat to native trout populations than implementing the proposed action.

Based upon responses from the public and interdisciplinary team involvement, the following issues were identified for this travel analysis.

Issue 1- Protecting water quality and the ability to meet state water quality standards

Issue 2 – Protecting brook trout habitat

Issue 3- Retaining adequate OHV recreation opportunities and access to public land in the Upper Tellico area

Issue 4- Impact of agency road management decisions on local and regional economies

Step	
4	Assessing benefits, problems, and risks

Purpose and Products

The purpose of this step is to:

- assess the various benefits, problems, and risks of the current transportation system and whether the objectives of Forest Service policy reform and forest plans are being met.

The products of this step are:

- a synthesis of the benefits, problems, and risks of the current transportation system,
- an assessment of the risks and benefits of entering any unroaded areas (not applicable to this project because no unroaded areas occur in the project area), and
- an assessment of the ability of the transportation system to meet objectives.

The general and specific criteria for road designation, as outlined in the Travel Management Rule, 36 CFR 212.55 (a-e) are discussed below and in greater detail in the Upper Tellico OHV System Environmental Assessment.

Current Transportation System Benefits, Problems, and Risks

The following section is a series of questions and answers that assess benefits, problems, and risks of the current transportation system and its ability to meet the objectives stated in the Forest Land Management Plan. The questions come from Forest Service publication FS-643, Road Analysis: Informing Decisions About Managing the National Forest Transportation System.

Ecosystems Functions and Processes (EF)

EF (1): What ecological attributes, particularly those unique to the region, would be affected by roading of currently unroaded areas?

Not applicable to this project area analysis. There are no roadless areas within the Upper Tellico OHV System Project area.

EF (2): To what degree do the presence, type, and location of roads and trails increase the introduction and spread of exotic plant and animal species, insects, diseases, and parasites? What are the potential effects of such introductions to plant and animal species and ecosystem function in the area?

This issue is discussed in the Nantahala-Pisgah National Forest Road Analysis Process Report (RAP, January 2003, pp. 22-23). In the activity areas, the most invasive species are *Microstegium vimineum* and *Rosa multiflora*. Ground disturbance and the increased light conditions resulting from road construction may increase the amount of acreage suitable for invasive exotic species (Trombulak and Frissell 2000). Historically, each mile of USFS road reconstruction can be correlated with 0.1 acres of invasive plants.

EF (3): To what degree do the presence, type, and location of roads and trails contribute to the control of insects, diseases, and parasites?

When established control measures for an insect, disease, or parasite can be applied from the ground (as opposed to an aerial application), the presence of roads could be a deciding factor as to whether or not treatment occurs on a particular site. The risk for southern pine beetle in the project area is virtually nonexistent since most of the area is comprised of hardwoods. There is a significant occurrence of eastern hemlocks in some areas, most which are actively or recently infested with hemlock woolly adelgid (HWA). The hemlocks are in various stages of infestation and mortality. There are no hemlock protection or genetic conservation sites within the project area. The presence of the road system is not likely to have an appreciable affect on HWA spread.

EF (4): How does the transportation system affect ecological disturbance regimes in the area?

Not relevant at this scale. Disturbance regimes must be evaluated at the broad scale, at least watershed to subbasin (Forest Service Publication FS-643, August 1999, p.42).

EF (5): What are the adverse effects of noise caused by developing, using, and maintaining roads?

Roads and trails in most of the project area are open to off-highway vehicle and/or all terrain vehicle use. Use tends to be dispersed throughout the trail system, with relatively little trail located near private land. The primary exception is the upper section of Trail # 2, traversing a ridgeline above Tipton Creek Community. Intermittent concentrated vehicle use can be found at Allen Gap Parking Area at the south end of the project area, State Line Campground at the north end, and certain "challenge areas" where vehicles and spectators may concentrate temporarily while traversing various obstacles. Roads and trails not associated with the System are generally blocked with a gate or earthen berm, and are managed as closed to motorized public use, and are used infrequently for management of Forest Service lands.

Noise is not expected to be a significant adverse affect, however it may temporarily impact recreationists engaged in non-motorized activities such as fishing, hunting or hiking.

Aquatic, Riparian Zone, and Water Quality (AQ)

AQ (1): How and where does the transportation system modify the surface and subsurface hydrology of the area?

Road and trail condition surveys conducted in 2007 and 2008 indicate that the current transportation network in the Upper Tellico OHV System Project is intercepting, concentrating, or diverting water flows from their natural flowpaths in numerous locations

Changes in water routing can result in increases in peak flows by both a volumetric increase in flow and a change in the timing of runoff to streams (Wemple et. Al. 1996).

It is likely that all roads and trails in the Upper Tellico OHV System travel analysis area modify surface hydrology to some degree due to the nature of a road prism on the landscape. The loss of forest vegetation, compaction of the soil, and modification of the slope all contribute to changes in surface hydrology. These effects can be mitigated to various degrees by the design of the road or trail and condition of the surface. For example, an in-sloped road would divert surface runoff to the inside of the road where it is concentrated for a given distance until it is diverted off the road prism, where an out-sloped road, particularly one with rolling dips, is designed to shed water off the road surface along its length.

Condition of the road or trail surface is notable as well since a well-vegetated surface will typically shed water at a slower rate than a road or trail without a vegetative cover due to increased roughness and porosity associated with vegetation. Where use is occurring throughout the year and maintenance can not keep up with wear, road or trail integrity is often damaged by wheel rutting and surface flow concentration. These conditions can often lead to erosive conditions and often gulying of the surface where slopes and water volume are high.

During June 2008, in-slope correction and other maintenance actions were implemented on all but approximately 3.29 miles of the System. The segments not maintained were deemed by the agency to require work beyond the scope of technical or economic feasibility, or were considered unsafe within the parameters of a maintenance project (Satterfield, 2008).

AQ (2): How and where does the transportation system generate surface erosion?

The transportation system in the project area has the greatest potential to generate surface erosion at stream crossings, where it runs parallel to streams, and where grade exceeds standard design standards. Numerous culverts in the project area are not functioning as intended, due to inadequate size, placement or maintenance. When flowing water bypasses the culverts, surface erosion results.

Surface erosion can occur on forest roads and trails when their surfaces (cutslopes, fillslopes, and associated drainage structures) are composed of erodible material and are exposed to

rainfall and concentrated surface runoff. Surface erosion differs greatly depending on use as well as physical factors (USDA Forest Service 1999). On a road or trail system that is not in use and managed as closed, for instance, surface erosion is less likely to occur where appropriate stabilization measures are effective and vegetation has established on the surface. The increase in use greatly increases the likelihood of erosion due to disturbance of the running surface by traffic.

AQ (3): How and where does the transportation system affect mass wasting?

There are several areas within the project area where the transportation system affects mass wasting (the large movement of soil due to gravity, as influenced by water, or “landslide”). These are most notable on NFST 420-2, 420-7, 420-9, 420-11 and 420-12 associated with highly-impacted “challenge areas”. Soil moves both incrementally in small amounts during low-volume rain events and seasonal freeze/thaw, as well as in larger amounts during significant storm events and when stabilizing vegetation, root systems and rocks collapse and release more soil at one time.

AQ (4): How and where do road and trail stream crossings influence local stream channels and water quality?

Roads and trails can act as conduits for delivery of more water and sediment to the channel than it has naturally received and formed under, and thus can influence channel formation and water quality. Crossings are an important point of connection between the road or trail and the natural drainage on the landscape.

A culvert can modify flow energy as streamflow moves from the channel to the pipe and into the channel again. Streamflow at a culvert that is too small to effectively pass flow produced by a runoff event or that becomes plugged by debris or sediment can exceed the culverts inlet capacity and result in overtopping of the inlet and thus a rise in water level on the fillslope. When doing so, the risk of fillslope failure and/or flow diversion out of the channel increases, as does the potential for erosion and sedimentation.

Most, but not all, stream crossings in the project area are culverted. Ditched cross-drains are used to divert water from the surface. Numerous sediment basins, usually associated with water bars or broad-based dips, provide an opportunity for water-borne sediment to settle out before the water continues out of the road profile. In some high-volume storm events, the sediment basins are not adequate to capture all sediment.

AQ (5): How and where does the transportation system create potential for pollutants, such as chemical spills, oils, de-icing salts, or herbicides, to enter surface waters?

The extent of potential and actual pollutant delivery is unknown at this time. Three sites have been sampled, on NFST 420-2, 420-7 and 420-9. Preliminary findings indicate levels of diesel and gas-related organics; oil and grease; and arsenic that exceed state regulatory standards (Mahan 2008). Further testing is planned, to determine the extent of entry into surface waters.

AQ (6): How and where is the transportation system “hydrologically connected” to the stream system? How do the connections affect water quality and quantity (such as, the delivery of sediments and chemicals, thermal increases, elevated peak flows)?

The road and trail stream crossings in the project area provide numerous points of hydrologic connectivity. There are 261 culverts or bridges in the System. In addition, approximately 6 of the 39.5 miles of trail lie within 100 feet of a stream. 31% of the current system mileage is considered to be hydrologically connected to water. The effect of these crossings and alignments on water quality and quantity in the project area are currently being analyzed.

AQ (7): What downstream beneficial uses of water exist in the area? What changes in uses and demand are expected over time? How are they affected or put at risk by road-derived pollutants?

Tellico River, Peckerwood Creek, Mistletoe Creek, Bob Creek, Cook Creek, Farmer Branch, and Garrett Creek are classified by the North Carolina Department of Environment and Natural Resources (NCDENR) as Class C Tr Waters. Class C waters are suitable for aquatic life propagation and survival, fishing, wildlife, secondary recreation, and agriculture. Tr waters are suitable for natural trout propagation and maintenance of stocked trout. Roberts Branch is classified as Class C waters. It is likely that if water quality and habitat conditions improve, recreational fishing activity would increase over current levels. With the current level of open road in the System, road-derived pollutants remain a significant risk to beneficial uses of water in the area.

AQ (8): How and where does the transportation system affect wetlands?

There is one wetland area near the intersection of NFST 420-1 and NFST 420-5. In addition, there are approximately twelve smaller wetlands no more than one-quarter acre in size scattered throughout the Upper Tellico OHV System Project area. Roads and trails can influence natural drainage patterns associated with the wetland, either blocking the movement of water or draining the wetland below normal levels. Illegal cross country travel associated with the System has the potential to damage wetland conditions and habitat.

AQ (9): How does the road system alter physical channel dynamics, including isolation of floodplains; constraints on channel migration; and the movement of large wood, fine organic matter, and sediment?

Road and trail stream crossings are locations where the movement of large wood, fine organic matter, and sediment are often modified. Crossings in the Upper Tellico OHV System Project area are currently in the form of culvert type crossings or bridges. Therefore, many crossings do have the potential of adversely impacting the movement of woody debris, organic matter, and sediment. At these sites movement of large wood, fine organic matter, and sediment are restricted depending on the size of the crossing. Many of the culverts have been assessed by forest specialists to be of inadequate size. During flood events that inundate the floodplain, a crossing typically creates a “bottle neck” condition and a temporary impoundment as the

water funnels through the culvert or bridge. During these situations, streamflow is slowed and the potential for deposition of entrained material increases on the upstream end of the culverts, thereby reducing the likelihood of downstream transport. Also, water velocities are higher and more apt to erode streambanks downstream of the culvert. As a result, channel-forming processes can be altered.

AQ (10): How and where does the transportation system restrict the migration and movement of aquatic organisms? What aquatic species are affected and to what extent?

All road or trail crossings that do not have open bottoms that simulate the natural stream bed restrict the movement of aquatic organisms to some extent, dependent on the organism. Of particular concern are crossings that restrict the upstream movement of fish.

AQ (11): How does the transportation system affect shading, litterfall, and riparian plant communities?

Riparian vegetation is vitally important to aquatic populations. Shading helps keep water temperatures below lethal thresholds for coldwater species. Riparian vegetation also serves as a source of both large and small organic matter, which is critical to the stability of many fish populations, and aquatic insect diversity. However, gaps in the riparian canopy that allow sunlight to reach the stream are also important, stimulating primary productivity, which in turn drives overall aquatic community stability and diversity.

Most road and trail corridors within the project area that are within riparian areas are narrow and not measurably affecting the amount of sunlight reaching streams, except at stream crossings.

AQ (12): How and where does the transportation system contribute to fishing, poaching, or direct habitat loss for at-risk aquatic species?

The system provides access for fishing. At-risk aquatic species include three forest concern species; hellbender (*Cryptobranchus alleganiensis*) and two species of mayflies (*Baetopus trishae* and *Habrophlebiodes* spp). The potential effects of the system is discussed in detail in the Upper Tellico EA.

AQ (13): How and where does the transportation system facilitate the introduction of non-native aquatic species?

Rainbow trout are stocked in the Tellico River in Tennessee, downstream of the project area. The Tellico River Road is used to access the river for stocking purposes. No stocking of non-native aquatic species is currently being done in the Tellico River within North Carolina.

AQ (14): To what extent does the transportation system overlap with areas of exceptionally high aquatic diversity or productivity, or areas containing rare or unique aquatic species or species of interest?

There are no areas of exceptional aquatic diversity within the project area.

Terrestrial Wildlife (TW)

TW (1): What are the direct effects of the transportation system on terrestrial species habitat?

The open road density in the project area may affect the safety and security of certain species such as black bear. The road density in most of the project area is 4.2 miles per square mile, more than twice the forest plan standard of 2 miles per square mile. However, the roads are unpaved and narrow, which reduces the speed of travel. This reduces the potential for mortality due to fast-moving vehicles, and creates less habitat fragmentation than wider, paved roads.

TW (2): How does the transportation system facilitate human activities that affect habitat?

Due to the proportion of open roads and trails, hunting and camping occur throughout most of the project area on a regular basis, increasing the amount of time spent in a specific area. Most extended-stay use is concentrated in a few dispersed camping areas. The vast majority of off-highway and all-terrain vehicle use occurs during daylight hours, so has less effect on crepuscular and nocturnal wildlife.

TW (3): How does the transportation system affect legal and illegal human activities (including trapping, hunting, poaching, harassment, road kill, or illegal levels)? What are the effects on wildlife species?

North Carolina Wildlife Resources Commission officers report about 20 game violations and 80 other violations in the area over the last five years. US Forest Service Law Enforcement reports about 1000 violations of all types in the Upper Tellico area, in both North Carolina and Tennessee. Data is not available specifically on game-related violations (personal communication, Devore 2008). Given the proportion of NCWRC game violations as compared to the total over five years, documented violations are not likely to have a significant effect on wildlife species.

TW (4): How does the transportation system directly affect unique communities or special features in the area?

None present.

Economics (EC)

EC (1): How does the transportation system affect the agency's direct costs and revenues? What, if any, changes in the system will increase net revenue to the agency by reducing cost, increasing revenue, or both?

The System currently provides approximately \$ 142,000 in revenue, including fee collections and grants and excluding appropriated funds. Total operating costs are reported in detail in the

Upper Tellico EA. Alternatives currently being analyzed may not improve the cost/revenue ratio. Further analysis will determine the most appropriate way to increase revenue and maintenance levels.

EC (2): How does the transportation system affect the priced and non-priced consequences included in economic efficiency analysis used to assess net benefits to society?

According to the study done by English, Menard and Jensen of the University of Tennessee, the System provides \$4.8 million to the economy of a three county area, including Cherokee, Graham and Monroe Counties. Anglers contribute \$1.1 million in economic impact to the same area. In context, this is a small but locally significant portion of the total \$369 million contributed by all forms of tourism.

EC (3): How does the transportation system affect the distribution of benefits and costs among affected people?

EC (1), (2), and (3) are discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 43-47).

Timber Management (TM)

TM (1): How does road spacing and location affect logging system feasibility?

The Jenks Branch timber sale was implemented in 2004, using existing NFST 420-2. In the mid-1980's, several stands were treated in the vicinity of NFST 420-4 and 420-11. Other stands in the vicinity of NFST 420-4 would benefit from treatment, and could be accessed from the current road system.

TM (2): How does the transportation system affect managing the suitable timber base and other lands?

Lands suitable for timber production are in Management Area 1B and 4D. There is a widespread system of unauthorized roads that may be needed approximately once per decade to accomplish timber and wildlife resource management activities. Future access for timber harvest activities could be accomplished by including needed roads in the NRSR inventory, and assigning them Objective and Operational Level 1 status.

Relocation of a one mile portion of NFST 420-2 was included in the Decision Notice for the Farmer Branch Project (October 2006). This relocation was proposed in order to enhance access to lands suitable for active management. However, the relocation was not implemented pending the analysis of opportunities in the adjacent Upper Tellico OHV Trail System.

The Farmer Branch timber sale will utilize NFSR 420-1 and 403 to access five payment units. This sale is under a three year contract until the fall of 2011.

A new road connecting Garrett Creek Road to Jenks Gap would improve access to suitable lands. Although not included in the transportation analysis of the current project, this opportunity should be considered in future analysis.

TM (3): How does the transportation system affect access to timber stands needing silvicultural treatment?

There is currently no need for the transportation system to access stands for crop tree release, thinning, hemlock conservation, or other intermediate silvicultural or forest health treatments.

Minerals Management (MM)

MM (1): How does the transportation system affect access to locatable, leasable, and salable minerals?

MM (1) is not applicable to this analysis.

Range Management (RM)

RM (1): How does the road system affect access to range allotments?

RM (1) is not applicable to this analysis.

Water Production (WP)

WP (1): How does the road system affect access, constructing, maintaining, monitoring, and operating water diversions, impoundments, and distribution canals or pipes?

WP (2): How does road development and use affect water quality in municipal watersheds?

WP (3): How does the road system affect access to hydroelectric power generation?

WP (1), WP (2) and WP (3) are not applicable to this analysis.

Special Forest Products (SP)

SP (1): How does the transportation system affect access for collecting special forest products?

The transportation system in the project area facilitates the collection of forest products only by making foot, bike, or horse travel easier than it would be if the roads were not present. However, there is little documented activity in firewood, ginseng or other special forest product collection. This is likely due to distance of the area from larger communities. However, if Tipton Creek Road were paved and access improved, it is likely that collections would increase.

Special-Use Permits (SU)

SU (1): How does the transportation system affect managing special-use permit sites (concessionaires, communication sites, utility corridors, and so on)?

There is a grave site near NFST 420-2 at Tipton Knob. The grave is estimated by district personnel to be 80-100 years old. As portions of NFST 420-2 are located on private land, it is important that any maintenance or rehabilitation work ensure protection of this grave site.

Verizon Wireless and Blue Ridge Electric operate permitted utility corridors in the area. Currently the corridor runs up Kilby Cove to serve private tracts in Tipton Creek and private property along Davis Creek Road and Tipton Creek Road. Blue Ridge Electric has applied for a permit to relocate their electric service along Tipton Creek Road; this application is pending negotiations with Verizon Wireless on a shared corridor, and an agency decision on paving of Tipton Creek Road.

One outfitter guide permit is currently active in the area, issued to Jeep Jamboree USA. Recreation special event permits have been issued annually to Southern Four Wheel Drive Association for the Dixie Run in October of each year, and Toyota Landcruiser for an event in May of each year. The presence of “high challenge” areas in the System are currently the primary draw for these organized, nationally-advertised events.

General Public Transportation (GT)

GT (1): How does the transportation system connect to public roads and provide primary access to communities?

Forest Service roads in the project area connect to other State Roads which provide access to the nearest community, Murphy, approximately 12 miles to the south. In addition, 420-1 (Davis Creek/Tipton Creek Road) provides a travel corridor linking the area to the Cherokee Skyway and the communities of Coker Creek and Tellico Plains, TN

GT (2): How does the transportation system connect large blocks of land in other ownership to public roads (ad hoc communities, subdivisions, in-holdings, and so on)?

There are numerous small parcels of privately-owned land accessed from 420-1 in the Tipton Creek Community as well as one large parcel accessed by 420-6. These are accessible only by crossing National Forest lands.

GT (3): How does the transportation system affect managing roads with shared ownership or with limited jurisdiction? (RS 2477, cost-share, prescriptive rights, FLPMA easements, FRTA easements, DOT easements)?

Deeded rights of way are associated with the private holdings in Tipton Creek community and the Thrash tract on the NC-TN state line: the Fain Cabin Tract Road (420-6, 420-7), the old

Wagon Train Road (from 420-1, along Tipton Creek, back to 420-1 and up 420-6) , and a third deeded right of way in the vicinity of 420-10. In the event a portion of 420-7 is removed from the System, the agency should pursue a road maintenance agreement with the benefiting landowner who uses this deeded access to his property, pursuant to FSM 7703.24. This would eliminate agency responsibility for maintenance of a road which is not needed for management of National Forest lands.

The forest is in the process of a land exchange for a tract accessed from 420-2 near Jenks Gap. When this tract is acquired, there will be no private deeded right of way from Jenks Gap west toward the NC-TN state line.

There is a deeded right of way from the Allen Gap Parking Lot to a private inholding.

GT (4): How does the transportation system address the safety of road users?

NFST/R 420-1 has been built and signed as a Traffic Service Level D road, with all standards that the classification requires. Due to limited funding, only a portion of the road has typically been maintained at TSL D. Other roads and trails in the System have been rated easy, moderate, difficult and most difficult, with those ratings communicated to the public through on-site signage, maps and publications. The Upper Tellico System analysis discusses the trail ratings as updated in 2008, based on recent user experience inventories and consistent with current agency rating protocols. The new ratings are characterized as easy, more difficult and most difficult. Users make decisions as to the safety of a specific road or trail, based on their experience level, type and condition of equipment used, weather and road conditions, and other factors.

Administrative Use (AU)

AU (1): How does the transportation system affect access needed for research, inventory, and monitoring?

Monitoring plans and protocols for a variety of resources have been established and in some cases implemented. The transportation system provides access for agency employees, partners, contractors and volunteers. Access to closed roads for research, inventory or monitoring may be granted by permit. Cooperating agencies such as the North Carolina Wildlife Commission, Tennessee Valley Authority and others have access through all gated Forest Service roads.

AU (2): How does the transportation system affect investigative or enforcement activities?

Illegal activities most likely to occur in the project area are violation of game laws and illegal cross country vehicle use. NFST 420-1 generally provides good access for investigations and enforcement activities. Access to most of NFST 420-2 through 420-12 is limited to qualified ATV/UTV operators accompanied by another employee, which makes law enforcement problematic throughout most of the System.

Protection (PT)

PT (1): How does the transportation system affect fuels management?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, p. 61). There are no aspects of the transportation system in the project area that would significantly affect fuels management, either positively or negatively.

District fire management personnel have planned three prescribed burns in the area, primarily for rhododendron control and recruitment of hard mast-bearing species such as oak and hickory. These blocks are identified in the FACTS database. However, due to high historic levels of precipitation and predominance of moist conditions on north and east facing slopes, the fire return interval is on the order of 100 years. A prescribed burn conducted under typical parameters would likely result in a widely scattered mosaic pattern, and is considered by district staff not to be cost-effective to implement. Therefore, it is likely that the burn blocks will not be implemented. The transportation system therefore is not needed to support fuels management.

PT (2): How does the transportation system affect the capacity of the Forest Service and cooperators to suppress wildfires?

Some roads and trails in the project area provide for good ingress and egress for wildfire suppression. Others are useful primarily as containment lines accessed on foot or by ATV/UTV. NFST 420-10A provides excellent access to remote back country.

There are several south-facing slopes along NFST 420-1 that provide the highest risk for significant fire activity. The area from Allen Gap south to Dockery Creek is particularly vulnerable. Although outside the forest boundary, there are several privately owned structures above the road. NFST 420-3, 420-10 and 420-11 are important roads for contingency planning should a wildland fire start along NFST 420-1.

420-10 is a conduit for illegal access from Graham County and private land, and is not needed for fire suppression contingency planning.

PT (3): How does the transportation system affect risk to firefighters and public safety?

Throughout most of the System, access is limited to OHV access, which makes firefighting and public safety support challenging. The proposal to pave NFST 420-1 will enhance access for firefighters and public safety officers. Improvement of other roads and trails in the System would improve access for street-legal vehicles.

PT (4): How does the transportation system contribute to airborne dust emissions resulting in reduced visibility and human health concerns?

Contributions are minor, if at all.

Unroaded Recreation (UR)

UR (1): Is there now or will there be in the future excess supply or excess demand for unroaded recreation opportunities?

The Cherokee National Forest is currently developing a road analysis for the Middle Tellico, which will include access considerations in the vicinity of the Bald River Gorge Wilderness Extension. Interim reports indicate that the forest plans to keep NFSR 24 open, but may install a berm at the end of the road to eliminate trespass into the proposed wilderness area extension (personal communication, Gary Hubbard, 2008).

UR (2): Is developing new roads and trails into unroaded areas, decommissioning of existing roads, or changing the maintenance of existing roads causing substantial changes in the quantity, quality, or type of unroaded recreation opportunities?

Selection of Alternative F as described and analyzed in the Upper Tellico OHV System project EA, would increase motorized travel in a sub-watershed currently not accessible by vehicle.

UR (3): What are the adverse effects of noise and other disturbances caused by developing, using, and maintaining roads and trails, on the quantity, quality, and type of unroaded recreation opportunities?

Not Applicable. The project does not propose to develop roads in an unroaded area.

UR (4): Who participates in unroaded recreation in the areas affected by constructing, maintaining, and decommissioning roads?

In the project area the main participants in unroaded recreation are hunters.

UR (5): What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?

UR (1), (2), (4), and (5) are discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62-64). Hunters who traditionally hunt this area of the Nantahala National Forest are likely to have strong ties to the area.

Road-Related Recreation (RR)

RR (1): Is there now or will there be in the future excess supply or excess demand for roaded recreation opportunities?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62). In addition, according to the comments submitted in response to scoping, there is an excess demand for the type of OHV and ATV experience the

System provides. Analysis currently underway will assess the agency's ability to meet that demand.

RR (2): Is developing new roads or trails into unroaded areas, decommissioning of existing roads or trails, or changing the maintenance of existing roads or trails causing substantial changes in the quantity, quality, or type of roaded recreation opportunities?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62-63). The analysis currently underway will address a full range of alternatives for roaded recreational opportunities, within the context of resource protection and conservation.

RR (3): What are the adverse effects of noise and other disturbances caused by constructing, using, and maintaining roads and trails, on the quantity, quality, and type of roaded recreation opportunities?

None.

RR (4): Who participates in roaded recreation in the areas affected by road and trail constructing, changes in maintenance, or decommissioning?

Users of the Upper Tellico OHV System, trout fishermen, campers, local residents and people driving for pleasure would be affected by road related activities. Deer hunting is not common; however, bear hunting remains popular. Roads and trails important to bear hunters from mid-October through late November include NFSTs 420-1, 420-2, 420-3, 420-4, 420-6 and 420-10.

RR (5): What are these participants' attachments to the area, how strong are their feelings, and are alternative opportunities and locations available?

The University of Tennessee User Survey indicated that the area is very important to users for having fun, escaping from everyday stress, experiencing nature and personal freedom, and resting mentally. The highest proportion of OHV users were from Georgia (33%), with Tennessee, North Carolina, South Carolina and Florida also drawing many visitors. The number of out-of-area users indicate that the area has unique features which have prompted users to travel significant distances in order to experience them. The highest proportion of anglers were from Tennessee (87%).

The closest large OHV trail system is the Chattahoochee-Oconee NF in Georgia, which offers more than 100 miles of riding opportunities for a range of skill levels and vehicle types. The majority of Chattahoochee-Oconee National Forest trails are within 85 miles (calculated by Google Maps) from Murphy. While a range of opportunities are available, there are not any very challenging areas in this system comparable to the difficulty levels provided by the Upper Tellico OHV System.

There are other extensive trail systems nearby. Public and private systems within 150 miles are documented below.

Although more than 300 miles away, the Turkey Bay OHV trail system in the Land Between the Lakes National Recreation Area attracts similar ridership as the Tellico system. This trail system includes all ranges of difficulty, from easy riding to tough trails and 31 challenge areas. Trails are open to all vehicles, dune buggies, UTVs, amphibious ATVs and rock crawlers.

Other public trail systems within 150 miles:

Nantahala's Wayehutta OHV Area	Sylva, NC	64 mi
Prentice Cooper State Forest	Chattanooga, TN	92 mi
Sumter National Forest	Abbeville, SC	137 mi
Cedar Springs OHV		
Parson's Mountain OHV		
Cherokee National Forest	Various	approx 150 mi. away

Private OHV opportunities within a 150-mile radius of Murphy.

Snoopers Rock	Chattanooga, TN	91 mi
Broad River ATV and MX Park	Calton, GA	117 mi
ONLY open weekends		
Coal Creek OHV Area	Oliver Springs, TN	117 mi
Gulches Off-Road Vehicle Park	Laurens, SC	122 mi
Highland Park Resort	Cedartown, GA	132 mi
K-Bar-M ATV Park	Gaffnet, SC	137 mi
Durhamtown Plantation Off Road Park	Union Point, GA	144 mi

MX-only (motorcross) opportunities within 150 miles

Lazy River MX	Dalton, GA	80 mi
Calhoun Supercross	Calhoun	83 mi
Sandstone MX	Maryville, TN	86 mi
I-81 Motorsports Park	Greenville, TN	104 mi
Strawberry Hill MX Raceway	Fountain Inn	106 mi
Trials Training Motorcycle Resort	Sequatchie, TN	119 mi
TNT-MX Park	Monteagle, TN	136 mi
Aonia Pass Motocross Park	Washington, GA	150 mi

Note: MX-only opportunities represent roughly half of the privately-owned OHV trail systems.

Hunters and OHV recreationists who traditionally hunt or ride this area of the Nantahala National Forest are likely to have strong ties to the area.

Passive-Use Value (PV)

PV (1): Do areas planned for road or trail construction, closure, or decommissioning have unique physical or biological characteristics, such as unique natural features and threatened or endangered species?

There are no unique natural features, or threatened or endangered species, in the project area.

PV (2): Do Areas planned for road or trail construction, closure, or decommissioning have unique cultural, traditional, symbolic, sacred, spiritual, or religious significance?

Among the alternatives being analyzed, between 37.6 and 81.9 acres may be potentially affected, having slopes of less than 20% and located within the impact area. Further field review and analysis will identify specific sites of concern, if any.

PV (3): What, if any, groups of people (ethnic groups, subcultures, and so on) hold cultural, symbolic, spiritual, sacred, traditional, or religious values for areas planned for entry or closure?

As a part of the environmental analysis and NEPA process, the forest tribal liaison is consulting with tribal interest groups. This consultation is documented in the project record. There is no other known ethnic group, subculture or other group with interests as described above.

PV (4): Will constructing, closing, or decommissioning roads or trails substantially affect passive-use value?

No.

Social Issues (SI)

SI (1): What are people's perceived needs and values for roads or trails? How does management affect people's dependence on, need for, and desire for roads or trails?

The roads and trails are important to the primary human uses of the area. The System is inherently dependent on roads for motorized recreation.

SI (2): What are people's perceived needs and values for access? How does transportation management affect people's dependence on, need for, and desire for access?

Access is critical to the use of the private land in the area. On public land, the majority of use is associated with use of the System for motorized recreation. However, in a survey of off-highway vehicle users, 73.8 % of respondents report participating in other activities in addition to OHV recreation while in the area (Fly, 2008). Of that group, the following uses are reported: camping – 54.3%, photography – 41.9%, sightseeing – 39.3%, picnicking – 30.4%, hiking/packpacking – 22.7%, swimming – 18.5%, trout fishing - 20.1%, animal/bird watching

- 14.1%, water sports - 7.7%, mountain biking – 6.7%, other fishing - 6.4%, hunting - 2.9%, horseback riding -1.9%.

In a similar survey of trout anglers, 83.9% report participating in other activities other than fishing while visiting the Tellico River. Of that group, the following uses are reported: camping – 56.2%, trout fishing on streams other than the Tellico River – 47.3%, picnicking – 41.1%, sightseeing – 35.3, swimming – 32.5%, hiking/backpacking- 27.7%, photography – 26.7%, hunting – 23.6%, animal/bird watching – 21.2%, fishing for species other than trout – 20.2%, fish only in the Tellico River- 16.1%, OHV driving-10.3%, mountain biking – 5.1%, water sports- 4.8%, horseback riding – 3.8%.

Most of these activities require some degree of access to get to the location where the activity is pursued, even if the activity itself does not involve a road or trail. A change in management would have distinctly different effects, depending on the use. Most of the activities could continue to occur if access were restricted, but would likely take place in more concentrated zones nearest to access points.

SI (3): How does the transportation system affect access to paleontological, archaeological, and historic sites?

Survey and analysis of effects to these sites are discussed in the project environmental assessment.

SI (4): How does the transportation system affect cultural and traditional uses (such as plant gathering, and access to traditional and cultural sites) and American Indian treaty rights?

As a part of the analysis currently underway, the forest tribal liaison is consulting with tribal interest groups. Any effects will be disclosed in the project environmental analysis

SI (5): How are roads and trails that constitute historic sites affected by management?

NFSTs 420-1 and 420-2 follow historic routes mapped by USGS in 1884. The effects of the project on these resources are currently being analyzed.

SI (6): How is community social and economic health affected by transportation management (for example, lifestyles, businesses, tourism industry, infrastructure maintenance)?

A recent survey of businesses resulted in 78 responses from Cherokee County NC, and 8 responses collectively from Clay County NC, Fannin County GA, Monroe County TN and Polk County TN (Fly 2008). The majority of respondents represented real estate sales (34.4%), rental cabins (26.2%), retail (18.9%), construction (10.0%), automotive repair/service (7.8%). Reported percentages of sales to OHV users was varied, with no statistically supportable trends. However, the types of businesses that were most responsive are dependent on roads and access for their customers. An assessment of the benefits of the System to the local and area economy are underway as a part of the ongoing project analysis

SI (7): What is the perceived social and economic dependency of a community on an unroaded area versus the value of that unroaded area for its intrinsic existence and symbolic values?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62-63).

SI (8): How does transportation management affect wilderness attributes, including natural integrity, natural appearance, opportunities for solitude, and opportunities for primitive recreation?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62-63).

SI (9): What are traditional uses of animal and plant species in the area of analysis?

SI (1) through SI (10) are discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 68-69).

SI (10): How does management affect people's sense of place?

SI (1) through SI (10) are discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 68-69). Hunting, fishing, and collection of miscellaneous plants are traditional uses in the area.

Civil Rights and Environmental Justice (CR)

CR (1): How does the transportation system, or its management, affect certain groups of people (minority, ethnic, cultural, racial, disabled, and low-income groups)?

This issue is discussed in the Nantahala-Pisgah National Forest Roads Analysis Process Report (RAP, January 2003, pp. 67-69).

Risks and Benefits of Entering Unroaded Areas

Not applicable, as we are not proposing to enter unroaded areas.

Ability of the Road System to Meet Objectives

The objectives of the Upper Tellico Off-Highway Vehicle System project are to stem the flow of sediment that is entering the Upper Tellico River and its tributaries from the OHV Trail System, improve brook trout habitat, meet forest plan standards, meet state water quality

standards, and comply with the Travel Management Rule. The current System does not meet these objectives

Six alternatives have been developed and fully analyzed to determine their ability to address the above objectives. Details may be found in the project EA which serves as a companion document to this analysis.

Step 5	Describing opportunities and setting priorities
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Purpose and Products

The purpose of this step is to:

- compare the current transportation system with what is desirable or acceptable, and
- describe options for modifying the transportation system that would achieve desirable or acceptable conditions.

The products of this step are:

- a map and description of the problems and risks posed by the current road system,
- a map and list of opportunities for addressing important problems and risks, and
- a list of specific actions, projects, or forest plan adjustments requiring NEPA analysis.

Problems and Risks Posed by the Current Road System

Comprehensive condition surveys in November of 2007 and March of 2008 revealed numerous instances of sediment from the OHV System reaching the Upper Tellico River and its tributaries.

In many cases the sediment could be visibly tracked either directly entering a waterbody from the road or trail, or through the woods to a waterbody, or to another road or trail that transported the sediment to water. On many miles, poor design and location in combination with excessive use have resulted in deteriorated travelways to the point that regular road or trail best management practices are no longer adequate to protect trails from erosion and stream channels from sedimentation.

These surveys showed that only 47% of the trail drainage features were functioning properly, and 31 % of the roads and trails showed evidence of stormwater runoff entering stream channels and contributing sediment to streams. This was particularly a problem for the 6 miles of trails that are within 100 feet of streams and 1.67 miles of trails within 25 feet of streams. (See table of detailed trail-by-trail condition survey findings later in this chapter.)

State turbidity standards are not currently being met with turbidity readings during runoff events much higher within the Upper Tellico watershed than in nearby reference streams. Existing data also shows that there are elevated fine sediment deposits in Tellico and tributary streambeds compared to nearby reference streams. Substrates within the Upper Tellico watershed are embedded by sands and silt. Based on available monitoring, the sediment loading coming from the Tellico OHV system is likely to be having a negative effect upon brook trout reproduction.

Assessment of Building Roads in a Currently Unroaded Area

Not applicable, as we are not proposing to build roads in a currently unroaded area.

Opportunities for Addressing Important Problems and Risks

The Tusquee Ranger District has proposed to implement a series of road and trail modifications and other management actions for Tellico OHV system. The intent would be to greatly reduce the amount of soil and other material leaving the road and trail system and entering the Upper Tellico River and its tributaries and thereby improve the habitat for native brook trout. This outcome depends on three categories of activities: defining a road and trail system that can be maintained in the future without extraordinary maintenance costs; fixing existing problems with an initial intense period of heavy maintenance; and managing the conditions of OHV use so as to reduce the potential for future soil loss. Six alternatives have been developed and analyzed to determine their likelihood of reducing sediment entering the Tellico River and its tributaries, and improve habitat for brook trout.

NEPA Analysis Needs

Issues and opportunities have been incorporated in the NEPA process and environmental documentation for the Upper Tellico OHV System Project. A decision on this project is anticipated in the spring of 2009.

Step	Reporting
6	

Purpose and Products

The District Ranger and staff have recommended that Roads 403, 6261, and twelve unauthorized roads be retained as described in the table on page 14 of this report.

NFS Road 420-1, also known as Tipton Creek Road is to be retained as a major travelway through the area. It will support both motorized and non- motorized recreation opportunities, as well as a variety of administrative uses and private land access. The long term intent for the road is to bring it up to Forest Highway standards, pave it, and eventually transfer it to the State of North Carolina. It can be a key link in regional travel and tourism, providing loop route opportunities associated with the Cherohala Skyway, as well as more direct travel between Murphy NC and Tellico Plains TN.

NFS Trails 420-2 through 420-12 are addressed in the environmental assessment prepared for the project area. A description of each alternative, complete effects analysis, and maps are included in that document.

Below is a summary of the proposed disposition of each NFSR/NFST and unauthorized road inventoried in Step 3 of this report.

ID	NAME	Length in miles	Seasonal or Yearlong	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
403	Radford Top	1.5	Y	L	1	1	1	-	AGG	D
420-1	Tipton Creek	5.3	Y	L	2	4	4	C	PAVED	B
420-2	Tipton Knob-Upper	2.0	For access and maintenance by private ROW holders only	L	1	1	1	1	NAT	D
420-2	Tipton Knob-Lower	0	-	-	-	-	-	-	-	-
420-3	Bear Pen	0	-	-	-	-	-	-	-	-
420-4	Fain Ford	2.6	S	L	1	2	2	C	NAT	D
420-5	Tellico River	1.1	Y	L	1	2	2	C	NAT/AGG	D
420-6	State Line	2.2	S	L	1	2	2	C	NAT	D
420-7	Peckerwood Connector	0.5	-	-	-	-	-	-	-	-
420-8	Bob Creek	0	-	-	-	-	-	-	-	-
420-9	Mistletoe Connector	0	-	-	-	-	-	-	-	-
420-10	Round Mountain (ATV)	0	-	-	-	-	-	-	-	-
420-10A	Round Mountain Spur (ATV)	0	-	-	-	-	-	-	-	-

ID	NAME	Length in miles	Seasonal or Yearlong	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
420-11	Chestnut Mountain	0	-	-	-	-	-	-	-	-
420-12	Hawk Knob	0	-	-	-	-	-	-	-	-
6261	Garrett Creek	1.3	-	L	1	2	1	I	AGG	D
24	Beaverdam Bald Road	6.3	L	L	1	2	2	C	NAT/AGG	D
	Trail # 1 Parallel	± 1.0	To be reconstructed as a temporary road in the Farmer Branch Timber Sale, then closed out at the end of the contract. No need to designate as a NFSR.							
	Kilby Cove Spur	± 0.4	Not needed	-	-	-	-	-	-	-
	Kilby Cove	± 1.8	Not needed	-	-	-	-	-	-	-
	Farmer Branch	± 0.4	Not needed	-	-	-	-	-	-	-
	Snakeden Ridge	± 1.0	Not needed	-	-	-	-	-	-	-
	Cook Creek Watershed	± 1.0	Not needed	-	-	-	-	-	-	-
NFSR	East Branch Garrett Creek	± 1.1	Need for future management access	L	1	1	1	I	NAT	N/A
NFSR	Lower Garrett Creek	± 1.2	Need for future management access	L	1	1	1	I	NAT	N/A
	Stateline Ridge	± 1.7	Not needed	-	-	-	-	-	-	-
	Bearpen Branch	± 1.6	Not needed	-	-	-	-	-	-	-
NFSR	Deaden Tree	± 2.5	Needed for future management access	L	1	1	1	I	NAT	N/A
	Bob Creek	± 0.2	Not needed	-	-	-	-	-	-	-

WHERE:

N/A – Not Applicable

ID The official identifier of the route

NAME Common name of the route

EMP Ending measure point of the route.

FUNCTIONAL CLASS The way a road services land and resource management needs, and the character of service it provides. **L - LOCAL** Connects terminal facilities with forest collector or arterial roads or public highways. Usually local roads are single purpose transportation facilities.

LANES The number of lanes the travel way has. **1 - SINGLE LANE**

OBJECTIVE MAINTENANCE LEVEL The maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns,

1 - BASIC CUSTODIAL CARE (CLOSED) Assigned to intermittent service roads during time they are closed to vehicular traffic

2 - HIGH CLEARANCE VEHICLES Assigned to roads operated for use by high clearance vehicles.

4 - MODERATE DEGREE OF USER COMFORT Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds.

OPERATIONAL MAINTENANCE LEVEL The maintenance level currently assigned to the road considering today's needs, road condition, budget constraints and environmental concerns; in other words it defines the level to which the road is currently being maintained.

1 - BASIC CUSTODIAL CARE (CLOSED) Assigned to intermittent service roads during time they are closed to vehicular traffic

2 - HIGH CLEARANCE VEHICLES Assigned to roads operated for use by high clearance vehicles.

SERVICE LIFE The length of time that a facility is expected to provide a specified service

C - LONG TERM SERVICE Continuous or annual recurrent service

I - INTERMITTENT TERM SERVICE A road which is closed to vehicle traffic between periods of use. The closed period must exceed one year

SURFACE TYPE The wearing course; usually designed to resist skidding, traffic abrasion, and the disintegrating effects of weather.

AGG - CRUSHED AGGREGATE OR GRAVEL Crushed or screened graded material

NAT - NATIVE MATERIAL No imported or processed materials

TRAFFIC SERVICE LEVEL A description of the road's significant traffic characteristics and operating conditions.

B - CONGESTED DURING HEAVY TRAFFIC Congested during heavy traffic, slower speeds and periodic dust; accommodates any legal-size load or vehicle.

D - SLOW FLOW OR MAY BE BLOCKED Traffic flow is slow and may be blocked by management activities. Two-way traffic is difficult, backing may be required. Rough and irregular surface. Travel with low clearance vehicles is difficult. Single purpose facility.

Report

This report is available to the public upon request. It will also be included in the Upper Tellico OHV System Project Record.

Maps

See attached map: Upper Tellico Off Highway Vehicle System Alternative (C)

References Cited

Mahan, J., 2008. Soil Assessment Activities, Upper Tellico OHV Trails 2, 7 and 9. Correspondence and supporting documentation, 40 pp.

Satterfield, E, 2008. Upper Tellico OHV Trail Maintenance Project. Correspondence and supporting documentation, 3 pp.

Cherokee NF Middle Tellico Travel Analysis when available (not completed as of this date)

Nantahala-Pisgah Forest Land and Resource Management Plan