
Roads Analysis Report

Case Camp Ridge Forest Management 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 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 roads analysis guidance document as a supplement to Appendix 1 of FS-643. This document provides guidance concerning the appropriate scale for addressing the roads analysis.

Process

Roads 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 this roads analysis is a report for decision makers and the public that documents the information and analyses used to identify opportunities and set priorities for the road system necessary for the Case Camp Ridge project. Included in a report is a map displaying the known road system for the analysis area, and the risks and opportunities for each road or road segment. A report may also include other maps and tables necessary to display specific priorities and changes in a road system.

This Report

This report documents the roads analysis for the Case Camp Ridge Forest Management Project area (administrative Compartments 73, 74 and 75) on the Pisgah Ranger District, Pisgah National Forest.

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 Case Camp Ridge Roads Analysis

This roads analysis will evaluate the existing condition of the transportation system within the Case Camp Ridge project area and will make recommendations for specific actions in relation to the Case Camp Ridge project. It is being completed to inform and support the environmental assessment and the decision to be made for the Case Camp Ridge Project. This report includes analysis of all the roads in the project analysis area including the classified system roads and the unclassified non-system roads. Objectives of the Case Camp Ridge roads analysis are:

- Identification of needed and unneeded roads
- Identification of road associated environmental and public safety risks
- Identification of site-specific priorities and opportunities for road 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 Case Camp Ridge Forest Management Project and other future resource management projects.

Interdisciplinary Team Members and Participants

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

- Michael Hutchins (Team Leader)
- Ted M. Oprean III (Silviculturist)
- Lorie Stroup (Fisheries Biologist)
- Dave Danley (Botanist)
- Dennis Danner (Wildlife Biologist)
- Scott Ashcraft (Archeologist)
- Eric Crews (Landscape Architect)
- Chris Brown (Forester)
- Baddy Dodd (Hydrologist)
- Diane Bolt (Recreation Specialist)

Information Needs

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

Analysis Plan

Individuals of the ID Team will participate in gathering information and in development of draft and final reports. Information needs will be informed by field visits, collective knowledge of ID Team members, and review of GIS data, individual Road Management Plans, and past Road Assessments. Road management issues that surfaced during public scoping for the Case Camp Ridge Forest Management Project will be considered in the analysis. The report will become part of the administrative project record for the Case Camp Ridge Forest Management Project.

Step 2

Describing the situation

Purpose and Products

The purpose of this step is to:

- Describe the existing road 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 roads 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, gathering of forest products, hiking, biking and camping. There are several remarkable features within or associated with the Case Camp Project Area; the Blue Ridge Parkway borders the north and west of the project, Sliding Rock Recreation Area located along US 276 to the east, the Forest Heritage Scenic By-Way (US Hwy 276) borders the east and north, Looking Glass Rock Special Interest Area borders the south, the Cradle of Forestry in America Historic and Interpretive Site borders the north and the Case Camp (119) and Seniard Ridge (609) Trails run through the west portion of the project area. Other features that were considered but not found to be in the project area are roadless areas, buildings, lakes or dams, T & E species, and wilderness.

Current Road Situation - Access into the project area is by US Highway 276 and Forest Service Road 475B Headwaters Road. The area is served by a road system that is available for administrative purposes, and most of which is closed to general public use. There are a total of 11.7 miles of system (classified) road in the project area, and approximately 3.9 miles of unclassified road (currently not usable by motor vehicle traffic as a result of earthen mounds and/or ingrowth of vegetation). The unclassified roads are

referred to in this report because they are displayed in the GIS roads database and discussed in the Case Camp Ridge Forest Management Project EA. In effect, they are no longer causing environmental concerns and they are no longer travelable by motor vehicle. This RAP reflects the most current status of the road system and lengths in the Case Camp Project Area. The GIS database will be updated with the information developed for this project level RAP. Classified and unclassified roads include:

Classified Roads

- **Cove Creek Road (225)** the first 2.5 miles is an open moderate speed single-lane gravel road to be used for 2 wheel drive vehicles. It is routinely maintained to provide access for timber harvesting, silvicultural treatments and fire protection. It is open to all traffic with 2 roadside campsites located on it;
- **Headwaters Road (475B)** is an open moderate speed (20-40 mph) single-lane gravel road open to all traffic year round. It is the main access road to the Case Camp Ridge Project area and managed to provide a safe travelway for passenger cars and trucks with intervisible turnouts and widespots for passing. The road is routinely maintained to provide access for timber harvesting and silvicultural treatments. The road is open to all traffic and has 5 roadside campsites along it;
- **Cherry Cove Road (5032)** is maintained as a linear Wildlife Opening (hiking only). It is closed with a gate to allow occasional access for mowing operations and administrative use, fire protection and future access for timber harvesting. Bike and horse traffic are prohibited by Forest Supervisor Order # 01-05-2004;
- **Justice Cove Road (5040)** is maintained as a linear Wildlife Opening (hiking only). It is closed with a gate to allow occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting. Bike and horse traffic are prohibited by Forest Supervisor Order # 01-05-2004;
- **Case Camp Ridge Gap Road (5041)** is maintained as a linear Wildlife Opening (hiking only). It is closed with a gate to allow occasional access for mowing operations and administrative use, fire protection and future access for timber harvesting. FSR 5041 was found in the field to extend beyond the 0.95 miles documented in the Forest's Road Atlas. This road has a good road bed and is needed for this project. The exact distance has not yet been determined on the ground. During project implementation this distance will be determined and the road atlas information will be updated. FSR 5041 Bike and horse traffic are prohibited by Forest Supervisor Order # 01-05-2004;
- **Case Camp Ridge Road (5042)** is maintained as a Linear Wildlife Opening (discourage non-motorize use but do not prohibit), closed with a gate to allow occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting;
- **Log Hollow Road (5043)** is maintained as a Linear Wildlife Opening (discourage non-motorize use but do not prohibit), closed with a gate to allow occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting. Road incurred damage to 2 bridges in the 2004 September Storms. Bridges to be replaced Spring 2007;
- **Bennett Knob Road (5044)** is maintained as a Linear Wildlife Opening (discourage non-motorize use but do not prohibit). Currently closed with an earthen mound. Managed to allow for occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting;
- **Seniard Ridge Road (5045)** is maintained as a Linear Wildlife Opening (discourage non-motorize use but do not prohibit), closed with a gate to allow for occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting;
- **Bear Pen Branch Road (5047)** is maintained as a Linear Wildlife Opening (discourage non-motorize use but do not prohibit), closed with a gate to allow for occasional access for mowing operations, administrative use, fire protection and future access for timber harvesting. This road has

been added to the GIS database to show its current status as a closed, classified road maintained as a linear wildlife opening.

Unclassified Roads

- Pounding Mill Branch – 0.3 mile old USFS timber road begins on US Hwy 276 and ends at Pounding Mill Branch. Road last used in 1993 for the Cradle Salvage Sale: Road closed with earthen mound. Crossing on Pounding Mill Branch is stabilized and prism is vegetated with an abundance of tree saplings. There are no known remaining culverts on this road.
- Bennett Cove Branch – 0.7 miles of old USFS timber road begins in switch back on Cherry Cove Road FSR 5032 crosses Bennett Cove Branch and then runs parallel up Bennett Cove Branch ending at its head. Road last used in 1978 Gumstand Gap Sale and is closed by gate on FSR 5032. Resource damage evident at ford on Bennett Cove Branch. The 2004 storms altered the stream course above the ford which is causing the stream to undercut the banks of the ford. Roadbed south of ford is allowing sedimentation to erode into the branch with each large storm event. The remainder of the road is in good shape and well vegetated with tree saplings. There are no other remaining culverts on this road.
- Bridges Camp Gap - 0.9 mile of old USFS timber haul road begins off Seniard Ridge Road FSR 5045 near where Seniard Ridge Trail # 609 crosses 5045 and ends on ridge below South Spring Top. Access was closed by gate on FSR 5045 following the Log Hollow Timber Sale 1993. Prism is in good shape with an abundance of tree saplings. Three of the four culverts have been removed and the Forest Hydrologist will make a recommendation on the fourth culvert.
- Big Bearpen Branch West – 0.2 mile old USFS timber road begins off Seniard Ridge Road and ends at Big Bear Pen Branch. Before 1992 it provided access across Big Bear Pen Branch but was abandoned following reroute of FSR 5045. Last used 1983 for the Bear Pen Branch Sale. Access closed by gate on FSR 5045 and is no longer needed for timber access. There are no remaining culverts or water crossings on this road.
- Case Ridge Gap – 0.2 mile of old USFS timber road begins on FSR 5041 and ends on ridge: Last used 1978 for Gumstand Gap Timber Sale. Access closed by gate on FSR 5041 and maintained as a Linear Wildlife Opening. Prism is in good shape with no erosion problems. There are no remaining culverts or water crossings on this road.
- Justice Cove Branch – 0.4 mile of old USFS timber road begins off Justice Cove Road FSR 5040 and ends on south bank Justice Cove Creek. Last used 1978 Gumstand Gap Timber Sale. Access closed by gate on FSR 5040. There are no known remaining culverts on this road.
- Big Bear Pen Branch East – 0.5 mile of old USFS timber road begins off Headwaters Road FSR 475B and ends near Big Bear Pen Branch. Last used in 1982 for Firewood Sale. Access closed with earthen mounds. There are no remaining culverts or water crossings on this road.
- Gumstand Branch – 0.7 miles of old USFS timber road begins at Headwaters Road FSR 475B and terminates above Looking Glass Creek. Road constructed in 1982 for Firewood sale. Access closed with earthen mound and prism is in good shape. There are no remaining culverts or water crossings on this road.

Within the Case Camp Ridge Project Area (Compartments 73, 74, and 75) there are no unclassified roads displayed as classified roads on the Forest's transportation atlas.

Forest Plan Direction - The project area is in Management Area 4A (330 acres classified as suitable for timber production with few open roads); MA 4D (1,773 acres classified as suitable for timber production with few open roads); MA4C (420 acres not suitable for timber production); MA 2C (245 acres classified as not suitable for timber production); and MA 18 (riparian management areas – acres embedded in the

other Management Areas). Applicable Forest Plan direction and standards (for transportation system management and road planning) are as follows:

Management Area 2C (Forest Plan p. III-69-70):

Transportation System Management

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 32 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 ORV's. (Refer to dispersed recreation standards for ORV route management.)
 - a. Sign all routes designated for use by vehicles commonly classified as ORV's.

Road Planning, Construction and Maintenance

1. Plan and construct the transportation system to provide access for timber and public motorized recreation use in Management Area 2A. In management Area 2C, plan and construct the transportation system primarily to provide for public motorized recreation use.
 - a. Plan the road system to widely disperse harvest units in Management Area 2A.
 - b. Locate all roads on stable locations to protect adjacent resources and to most effectively serve access needs.
2. Provide fore-wheel drive ways that utilize terrain feature to provide varying degrees of difficulty and challenge to riders and protect water quality.
3. 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 Areas 4A, 4C, and 4D (Forest Plan p. III-87):

Transportation System Management

1. Provide limited access for motorized vehicles.
 - a. Manage access through an approximate density of 0.25 miles of open road per square mile include four-wheel drive ways in this density. Where existing open road densities exceed 0.25 miles per square mile, and, if closure of existing roads is prohibitive for administrative or legal reasons, then document these exceptions to the standard and investigate strategies to reduce the open road density.
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.
 - a. Sign all routes designated as four-wheel drive ways.

Management Areas 4A, 4C, and 4D (Forest Plan p. III-87):

Road Planning, Construction and Maintenance

1. Plan and construct the transportation system to provide access for timber in Management Area 4D. In Management Area 4C, plan and construct the transportation system to provide access for activities to meet management area objectives.
 - a. Plan the road system to widely disperse harvest units in Management Areas 4A and 4D.
 - b. Locate all roads on stable locations to protect adjacent resources, and to most cost effectively serve access needs.

2. 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 unless physical conditions preclude complete correction and the road cannot be legally closed.
 - 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 18 (Riparian Management Area - Forest Plan p. III-188):

Transportation System Management

1. Manage roads according to management area direction for the adjacent management area. Provide limited access for motorized vehicles.

Road Planning, Construction, and Maintenance

1. 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.
2. Construct and maintain roads to management standards for the adjacent management area.
3. 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 streambed 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. Identify temporary roads currently used as linear strip openings. Determine whether to incorporate them into the Forest Development Road System and continue to use them as wildlife opening if water quality standards can be met, or convert to permanent wildlife openings, or restore to forest conditions. Coordinate the decision about long term uses with the North Carolina Wildlife Resource Commission.
 - a. Assure drainage structures will accommodate mowing with motorized equipment without resource damage when areas are converted to permanent wildlife openings.
3. Allow nonmotorized bicycle and horse travel on Forest development roads unless signed as closed to that use.

Road Planning, Construction, and Maintenance

1. 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.
 - a. Use the following standards for temporary roads:
 Width: 12-14 feet
 Surface: Native or spot surfacing.
 Max sustained grade: 12%
 Lanes: 1
 Drainage: Outsloped or ditch.
 Max. Pitch: 15% for 200 feet.
 Revegetation of Roadbed:
 Establish cover in first seeding season after road closure.
 - b. For temporary stream crossings, minimize soil movement through the use of temporary bridges or fords.
2. Approve temporary road and skid road locations prior to construction.
3. 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 within 30 days of initial soil disturbance.
4. Maintain all roads (open or closed at a level sufficient to provide appropriate use and protect soil, water, and other resources.
 - a. Maintain roads to levels 1-5 according to management area objectives.
 - b. Use temporary closures as needed to minimize damage to road surface and to reduce maintenance.

Basic Data Needs

- GIS layer of existing road network
- GIS coverage of Management Area boundaries
- GIS coverage of private in-holdings
- GIS streams coverage
- Road Management Objectives data forms
- Vegetation inventory data

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

The Case Camp Ridge Forest Management project offered 3 opportunities for public input on road management in the project area. The first opportunity was when the project was scoped in January 2006, the second was during the public review of the Preliminary Analysis (PA) in July 2006 and the third was specifically for the RAP in September 2006. These 3 opportunities for public comment resulted in the following regarding roads in the Case Camp Ridge Forest Management Project:

- Adherence to forest management guidelines during all phases of the project will be important to protect the high quality trout streams in the area. Brook trout occur in many of the streams in this part of the forest. Effective sediment erosion control practices and maintenance of those practices will be needed to minimize sedimentation from haul roads during and after harvest activities. (*NCWRC Response to Scoping*)
- The project area largely lies within the Daniel Ridge Mountain Treasure area (Thomas J. McClure, "North Carolina's Mountain Treasures: The Unprotected Wildlands of the Nantahala and Pisgah National Forests", The Wilderness Society, 1993). Numerous stands fall wholly or partially within the Mountain Treasure area: all of the stands proposed for treatment in Compartments 73 and 74 are within the Daniel Ridge Mountain Treasure area. Logging should not be planned within the Mountain Treasure area boundaries. The emphasis should be on restoration of wildland conditions, including removing and rehabilitating logging roads. (*SAFC Response to Scoping*)
- The impact of roads, including temporary roads, is extensive and well documented. A roads analysis for roads within the project area and leading into the project area should be conducted with public involvement. Opportunities for road decommissioning should be explored. (*SAFC Response to Scoping*)
- The extent (linear feet as well as discharge) of any water courses that will be impacted as a result of the proposed project. A description of any streams should include the classification (Rosgen 1995, 1996) and a description of the biotic resources. (*USFWS Response to Scoping*)
- An analysis of any crossing structure considered (i.e., spanning structure, culvert) and the rationale for choosing the preferred structure(s). We prefer stream crossings that span the bank-full width of streams and wetlands and that do not impeded natural stream functions or fish passage. (*USFWS Response to Scoping*)
- Road construction, reconstruction and logging in this area since 1979 has created a situation in which almost half of the mid-elevation forests in these compartments have been recently logged. Wildlife species that depend on hardmasting trees and interior forest habitats are doubtlessly declining due to this trend. The current proposal, if carried out, would create a situation in which over half of the mid-elevation forests in Compartments 73, 74 and 75 are degraded by management activities. The effects of road reconstruction would be particularly harmful to aquatic resources. When walking FR 5045 and other roads in Compartment 74, I observed that culverts had been washed out at every perennial stream I crossed, adding the silt load of those sections of road to important headwater streams like Big Bear Pen Branch, and Log Hollow

Branch. These streams are important spawning habitat for trout and further episodes of siltation due to road reconstruction are unacceptable. Unless logging methods that cause less siltation can be employed in this project (i.e., horse logging, aerial cabling), I urge you to abandon plans to log in headwater areas of Compartment 74 because of the combination of past over-harvesting and damage to water quality associated with road construction. (*Josh Kelly Response to Scoping*)

- There would be temporary impacts to trails that are dual designated as roads (Log Hollow Road FSR 5043/Seniard Ridge Trail #609) – i.e., hauling and road reconstruction would have temporary effect on existing trail use and experience, especially during summer months. In addition, there may be some temporary effects on dispersed camp sites along Headwaters Road FSR 475B. Both campers and those using the dual designated roads/trails would experience additional noise and traffic during timber hauling periods. (*Wildlaw Response to PA*)
- Concerned that developing/maintaining roads in the project area would be inconsistent with the increasing role of the Pisgah District has as an area with high value for recreationists. (*Wildlaw Response to PA*)
- There was a comment concern raised that a Roads Analysis Process (RAP) should be completed pursuant to 36 CFR 212. (*Wildlaw Response to PA*)
- Concerned with potential adverse effects to water quality caused by road construction/reconstruction and ability to meet Clean Water Act anti-degradation regulations for turbidity. (*Wildlaw Response to PA*)
- I believe that the road management project in the Case Camp area is necessary not only for the timber management but also roads to get to any backwoods fires that might occur in that area. (*Charles Parris Response to RAP Scoping*)
- Would like to see the roads sown with some kind of grasses, clover etc. that would benefit the wildlife. (*Charles Parris Response to RAP Scoping*)
- The roads should be closed and used for foot traffic only. (*Charles Parris Response to RAP Scoping*)
- The information contained in project documentation so far seems inconsistent with information in the Roads Atlas. In particular, the FS roads GIS layer based on the Roads Atlas shows unclassified roads not shown on project maps. These unclassified roads should be displayed and dealt with in the RAP. (*SAFC/Wildlaw response to RAP Scoping*)
- In the Case Camp Ridge area we are in favor of physically removing, rehabilitating, stabilizing or providing for natural recovery of the unclassified roads and removing a number of road segments that are currently not maintained or are causing environmental problems. (*SAFC/Wildlaw response to RAP Scoping*)
- The maintenance level 1-2 roads were placed on the system without NEPA and should be removed without NEPA. (*SAFC/Wildlaw response to RAP Scoping*)

- The RAP should examine the potential for reduction of road density within the roads analysis areas and compare current road density to Forest Plan direction for open road density.
(SAFC/Wildlaw response to RAP Scoping)
- Roads are a known vector for the introduction and spread of exotic species. This is one of the environmental costs that should be balanced with road uses and benefits in the roads analysis. Exotics are already an issue in the analysis area and this is reason to limit the road system.
(SAFC/Wildlaw response to RAP Scoping)

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

Issue 1 - Access for Vegetation Management: Ongoing vegetation management occurs in the project area within Management Areas 4A and 4D, usually one entry per decade. The current road system can be used to access a majority of the project area for vegetation management. However, there are areas that are not currently accessible with the current road system.

Issue 2 - Decommissioning opportunities: Decommission roads that will not provide future access for timber harvest, do not provide wildlife habitat, are posing a threat to water quality, and/or the Responsible Official determines are unnecessary for management in the foreseeable future.

Issue 3 - Access for general public and administrative uses: Provide public access to trail heads and dispersed camping sites.

Issue 4 - Introduction of Invasive Plants: Roads are known to be a vector for the introduction of invasive plants.

Issue 5 - Conflicts with road management and recreationists, especially on roads with dual designation as roads/trails: Ensure proper road management objectives on roads with dual designation.

Status of Current Data

The roads in the project area are in the Pisgah National Forest GIS database. Classifications for the roads located in the project area are summarized in the following table (classified road data taken from Forest Service Infra roads database; unclassified road data taken from field observations):

ID	NAME	EMP (length in miles)	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
225	Cove Creek	2.5 ¹	L	1	3	3	C	AGG	D
475B	Headwaters Road	6.5 ²	C	1	4	4	C	AGG	B
5032	Cherry Cove	1.6	L	1	1	1	I	NAT	D
5040	Justice Cove	0.95	L	1	1	1	I	AGG	D
5041 ³	Case Camp Ridge Gap	0.95	L	1	1	1	I	NAT	D
5052	Case Camp Ridge	0.9	L	1	1	1	I	NAT	D
5043	Log Hollow	1.1	L	1	1	1	I	AGG	D
5044	Bennett Knob	0.7	L	1	1	2	I	AGG	D
5045	Seniard Ridge	1.0	L	1	1	2	I	AGG	D

ID	NAME	EMP (length in miles)	FUNC CLASS	LANE	OBJ ML	OPR ML	SRVC LIFE	SURF TYPE	TSL
5047	Big Bear Pen Branch North	0.9	L	1	1	1	I	NAT	D
Uncl.	Pounding Mill Branch	0.3	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Bennett Cove Branch	0.7	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Bridges Camp Gap	0.9	N/A	1	N/A	N/A	N/A	N/A	N/A
Uncl.	Big Bearpen Branch	0.2	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Case Camp Gap	0.2	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Justice Cove Branch	0.4	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Big Bear Pen Branch East	0.5	N/A	1	N/A	N/A	N/A	NAT	N/A
Uncl.	Gumstand Branch	0.7	N/A	1	N/A	N/A	N/A	NAT	N/A

- 1 FSR 225 Cove Creek Road has 0.2 miles within the project area; the rest of the road is outside of the project area. Total length of FSR 225 is 4.2 miles of which 2.5 miles are open road.
- 2 FSR 475B Headwaters Road has 3.5 miles in the project area and 3 miles outside of the project area. Total length of FSR 475B Headwaters Road is 6.5 miles.
- 3 Following field review, FSR 5041 was identified to extend past the 0.95 miles listed in the Forest transportation database. This road is needed for the Case Camp project and its distance would be updated with the Case Camp project.

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.

Purpose and Products

The purpose of this step is to:

- assess the various benefits, problems, and risks of the current road system and whether the objectives of Forest Service policy and the Forest Plan are being met.

The products of this step are:

- a synthesis of the benefits, problems, and risks of the current road 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 road system to meet objectives.

Current Road System Benefits, Problems, and Risks

The following section is a series of questions and answers that assess benefits, problems, and risks of the current road 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?

There are 3 designated small old growth patches within the Case Camp Ridge Project area that would be affected by roading of these areas...

EF (2): To what degree do the presence, type, and location of roads 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 Roads Analysis Process Report (RAP, January 2003, pp. 22-23). In the activity areas, the most invasive species are *Microstegium vimineum*, *Oriental Bittersweet* 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 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. Currently the road system within Case Camp Ridge Project area has contributed to the successful implementation of biological control on the Hemlock Woolly Adelgid which is prevalent on native hemlock stands within the project area. The road system will also facilitate

pesticide application and seed collection of individual hemlock trees within the project area if needed in the suppression efforts.

EF (4): How does the road 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 in most of the project area are blocked with a gate or earthen mounds, and are managed as closed to public use, and are used infrequently for management of Forest Service lands. Because of the infrequent use of closed roads, and because of the roads distance from private lands and developed recreation facilities noise is not expected to be a significant adverse affect.

Aquatic, Riparian Zone and Water Quality (AQ)

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

Because of the design and condition of the current road network in the Case Camp Ridge Project area roads do not significantly intercept, concentrate, or divert water flows from their natural flowpaths.

Roads can affect the routing of water through a watershed by intercepting, concentrating, and diverting flows from their natural pathways. 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 in the Case Camp Ridge RAP 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 affects are mitigated to various degrees by the design of the road and condition of the road 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 surface is notable as well since a well-vegetated road surface will typically shed water at a slower rate than a road without a vegetative cover due to increased roughness associated with vegetation. Where road use is occurring throughout the year and road maintenance can not keep up with road wear, road integrity is often damaged by wheel rutting and surface flow concentration. These conditions can often lead to erosive conditions and often gullyng of the road surface where slopes and water volume are high.

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

The road system in the project area has the greatest potential to generate surface erosion at stream crossings. Ditch and culverts in the project area are not known to be causing any surface erosion within the project area.

Surface erosion can occur on forest roads 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 road use as well as physical factors (USDA

Forest Service 1999). On a road system that is not in use and managed as a closed road, for instance, surface erosion is less likely to occur where appropriate stabilization measures are effective and vegetation has established on the road surface. The increase in use on a road greatly increases the likelihood of erosion due to disturbance of the running surface by traffic. Resource damage is evident on the unclassified road near Bennett Cove at the ford on Bennett Cove Branch. The 2004 storms altered the stream course above the ford which is causing the stream to undercut the banks of the ford. The roadbed south of the ford is allowing sedimentation to erode into the branch with each large storm event.

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

There are no areas within the project area where the road system would affect mass wasting (the large movement of soil due to gravity, as influenced by water).

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

Roads 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. Road-stream crossings are an important point of connection between the road 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.

All road-stream crossings in the project area are culverted, with the exception of 2 bridges on the Log Hollow Road. Ditched cross-drains are used to divert water from the road surface. See AQ (2) above concerning Bennett Cove Branch.

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

All but 2 of the roads in the project area are managed as closed to public use and therefore pose little risk of high volumes of traffic hauling pollutants into the project area. Greatest risk of pollutants entering surface water would be at stream crossings.

AQ (6): How and where is the road 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-stream crossings in the project area provide a point of hydrologic connectivity. It is not known how these crossings affect water quality and quantity in the project area. No negative effects were observed in field observations on the classified roads and most of the unclassified roads (see AQ (2) above).

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?

Pounding Mill Branch, Cherry Cove Branch, Bennett Cove Branch, Justice Cove Branch, Log Hollow Branch, Big Bear Pen Branch, Gumstand Branch and Looking Glass Creek are classified by the North Carolina Department of Environment and Natural Resources (NCDENR) as class B Tr Waters. Class B waters are suitable for primary recreation and other uses suitable for Class C. Tr waters are suitable for the propagation and survival of trout. Since most of the roads in the project area are managed as closed to public use there is little risk that road-derived pollutants will affect the NCDENR classifications.

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

There are no wetlands in the Case Camp Ridge Project area.

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-stream crossings are locations where the movement of large wood, fine organic matter, and sediment are often modified. Road crossings, in the Case Camp Ridge Project area are currently in the form of culvert type crossing, except for the 2 bridge crossings on the Log Hollow Road over Log Hollow Branch and a unnamed branch north of Log Hollow. Therefore, many road-stream 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. During flood events that inundate the floodplain, a road 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, thereby reducing the likelihood of downstream transport. As a result, channel-forming processes can be altered.

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

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

AQ (11): How does the road 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 corridors within the Case Camp Ridge Project area that are within riparian areas are narrow and do not measurably affect the amount of sunlight reaching streams, except at stream crossings.

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

Because no new roads will be developed and the management status of existing open roads will not be changed, there will be no change to the current access available for these activities.

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

AQ (13) is discussed in the Nantahala-Pisgah National Forests Roads Analysis Process Report (RAP, January 2003, pp.43-47).

AQ (14): To what extent does the road 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 identified areas in the Case Camp Ridge Project Area.

Terrestrial Wildlife (TW)

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

Since the majority of the system roads in the project area are managed as closed to public use, the road system will not affect species habitat as a result of vehicular traffic. System road edges do contribute somewhat to grass/forb habitat for a variety of species.

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

Human activities that affect habitat are limited in time and duration since the majority of the roads within the project area are managed as closed.

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

Because no new roads will be developed and the management status of existing open roads will not be changed, there will be no change to the current access available for these activities. There would be no new effects on wildlife species.

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

Because no new roads will be developed and the management status of existing open roads will not be changed, there will be no change to the current access available for these activities.

Economics (EC)

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

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

EC (3): How does the road 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 current road spacing and location in the project area is adequate to meet the requirements of ground-based logging systems.

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

Lands suitable for timber production are in Management Areas 4A and 4D. A road system should be planned to progressively access all lands suitable for timber production (MA4A & 4D), using a ground-based logging system. There are extensive areas where the classified road system is not adequate. Future access for timber harvest activities could be accomplished by the road system left in place following the Case Camp Ridge project; by construction of new temporary roads; and/or by construction of additional classified roads through a transportation analysis (which would be analyzed with a transportation analysis at that time).

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

The road system in the project area is not adequate to meet the requirements of an uneven-aged silviculture system.

Minerals Management (MM)

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

Range Management (RM)

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

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?

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

Special Forest Products (SP)

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

The road 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.

Special-Use Permits (SU)

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

Haywood EMC has a special-use permit for a buried power line for Sliding Rock Recreation Area on Forest Service Road 475, Headwaters Road. The Sun Wall Trail Head is located on Headwaters Road and provides access by several rock climbing outfitter guides.

General Public Transportation (GT)

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

Headwaters Road FSR 475B connects to US Hwy 276 but, there are no communities within the project area to access from US 276.

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

There are no other large blocks of land within the project area.

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

There are no shared ownerships within the project area.

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

Roads in the project area have been built, are maintained and signed as traffic service level B, C and D roads, with all standards that the classification requires.

Administrative Use (AU)

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

The road system in the project area is managed as closed to public use. Access for research, inventory or monitoring may be granted by permit. Cooperating agencies such as the North Carolina Wildlife Commission have access through all gated Forest Service roads.

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

Illegal activities most likely to occur in the project area are violation of forest camping regulations, game laws, or illegal off-road vehicle use. The road system in the project area generally provides good access for investigations and enforcement activities.

Protection (PT)

PT (1): How does the road 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 road system in the project area that would significantly affect fuels management, either positively or negatively.

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

The road system in the project area provides for generally good ingress and egress of the project area for wildfire suppression.

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

The road system in the project area does not have any significant impact on firefighter or public safety, provided that firefighters recognize that roads in the project area are not thru-roads, but that they terminate at cul-de-sacs.

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

There are no private dwellings or developed recreation sites in the project area so 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?

UR (1) is discussed in the Pisgah-Nantahala 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.

UR (2): Is developing new roads 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?

No, the project does not propose to develop new roads into unroaded areas.

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

The adverse effects of noise and other disturbances such as temporary closure during road reconstruction and timber harvesting would affect users of Trail 119 and 609 which follow or cross Forest Roads 5042, 5043 and 5045. The adverse affects to trail users would last for a season at the most then the roads would be returned to former status as closed to public vehicle traffic until the next entry in 10 years.

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

The main participants in unroaded recreation in the Case Camp Ridge area are hunters, hikers, bicyclists and roadside campers. Rock climbers coming to Looking Glass Rock trail head on Headwaters Road would encounter heavy equipment traffic if coming from the north.

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 Pisgah-Nantahala National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62-64). Hunters who traditionally hunt this area of the Pisgah National Forest are likely to have very 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 Pisgah-Nantahala National Forest Roads Analysis Process Report (RAP, January 2003, pp. 62).

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

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

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

There are 4 roadside campsites within the project area along Headwaters and Cove Creek Roads that will be affected by noise and dust from gravel and timber haul trucks entering and exiting the project area. This will affect campers during the week when timber haul trucks and gravel trucks are using Headwaters and Cove Creek Roads. Also, visitors to the Sun Wall Trail Head located on FSR 475B just south of Gumstand Gap will experience noise during daylight hours of the weekdays from logging and road reconstruction activities.

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

Forest visitors who drive Headwaters Road 475B to view the scenery of the Looking Glass Rock Special Interest area particularly during the spring and fall color seasons. Also bicyclists who ride Headwaters and Cove Creek Roads year round would experience the affects of road constructing and maintenance activities.

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

Scenery viewers and bicyclist who traditionally ride this area of the Pisgah National Forest are likely to have strong ties to the area. There are alternative opportunities and locations for both users wishing to enjoy the views of the Looking Glass Rock Special Interest area, these include the Blue Ridge Parkway, US 276 Heritage Scenic By-Way and Avery Creek Road FSR 477. Bicyclist may use the Cove Creek Area just south and adjacent to the Case Camp Ridge project area which is equally accessible for bicycle riding.

Passive-Use Value (PV)

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

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

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 road entry or road closure?

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

The answer to PV (1), PV (2) and PV (4) is no. PV (3) is none.

Social Issues (SI)

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

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

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

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

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

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

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?

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

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

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. At the project level, there will be no effect to the above cited resources or the question is not applicable.

Civil Rights and Environmental Justice (CR)

CR (1): How does the road 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

The Case Camp Ridge Project does not propose to enter any unroaded areas.

Ability of the Road System to Meet Objectives

Lands suitable for timber production are in Management Areas 4A and 4D. A road system should be planned to progressively access all lands suitable for timber production (MA 4A & 4D), using a ground-based logging system. The road spacing and location in the project area is generally adequate to meet the requirements of a ground-based logging system. Future access for timber harvest activities could be accomplished by construction of new system roads, temporary haul roads, and/or skid trails. The road system in the project area is **not** adequate to meet the requirements of an uneven-aged silviculture system.

Step

5

Describing opportunities and setting priorities

Purpose and Products

The purpose of this step is to:

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

The products of this step are:

- a map and descriptive ranking of the problems and risks posed by the current road system,
- an assessment of the potential problems and opportunities of building roads in a currently unroaded area (not applicable to this project)
- a map and list of opportunities, by priority, for addressing important problems and risks, and
- a prioritized list of specific actions, projects, or forest plan adjustments requiring NEPA analysis.

Problems and Risks Posed by the Current Road System

The current road system in the Case Camp Ridge Project area has several undersized and blown out culverts on them. These undersized and blown culverts are contributing sediments to the Upper Davidson Watershed putting at risk the high quality waters in the several creeks that form the Upper Davidson River Watershed.

Log Hollow Road has 2 bridges damaged in the 2004 September Storms that are now safety hazards to users of the Seniard Ridge Trail #609 which follows the Log Hollow Road. The storms damaged the headers of both bridges causing sediments to enter Log Hollow Branch and an unnamed branch north of it. The storms also damaged the structural integrity of the bridges and now they are unstable for use, even by foot traffic. The decking is bad and cannot safely be replaced without replacing the entire bridge.

The Log Hollow Road, 5043 poses risks to trail users as it has a dual designation the Seniard Ridge Trail, #609. Log Hollow Roads current RMO is D1 designating it to be maintained as a Linear Wildlife Opening which has a Recreation Objective of “Discourage non-motorized use but do not prohibit” which does not meet the recreation management objectives for the area.

The Case Camp Ridge Project area road system is inadequate to access the suitable lands within Compartments 73, 74, and 75. This poses a problem for prescribing uneven-aged management such as Selection Regeneration Method on stands suitable for its implementation.

The unclassified Bennett Cove Road crosses Bennett Cove Branch with a ford. The ford suffered damage in the 2004 September storms and is now contributing sediments into Bennett Cove Creek.

Assessment of Building Roads in a Currently Unroaded Area

The Case Camp Ridge project does not propose to build roads in a currently unroaded area.

Opportunities for Addressing Important Problems and Risks

Classified Roads

Watershed conditions would be improved on Log Hollow Branch, Big Bear Pen Branch and Justice Cove Branch by installing 4 new culverts to replace the blown out undersized culverts on FSR 5040, FSR 5043 and FSR 5045 along with replacement of 14 existing undersized culverts on the same roads.

Replacement of the 2 damaged bridges on Log Hollow Road FSR 5043 would improve safety for users of the Seniard Ridge Trail #609 section along the Log Hollow Road.

Change the RMO for Log Hollow Road, FSR 5043 from D1 Maintenance Level 1 to RMO D3 Maintenance Level 2 with a Recreation Objective of “Encourage non-motorized use such as hiking, biking and horseback riding”. Changing the RMO from D1 to a D3 would provide management direction to use the road as a trail and provide for more intensive and regular road maintenance that would make the road/trail safer for trail users.

Change the RMO for Big Bear Pen Road, FSR 5047 from D1 to D5 to meet wildlife management objectives for MA 4D which calls for a minimum of 3% permanent grass/forb openings per compartment. FSR 5047 is a dead end road that has no opportunities for expansion and does not access or has potential to connect any recreational opportunity such as a trail or developed recreation site. A D5 Road Management Objective would designate the road be maintained as a Linear Wildlife Opening with a Recreation Objective to “Prohibit bikes and horse traffic” (foot travel only) and with a Timber Objective to “Provide and maintain as access route for timber harvesting and treatments once each decade.

Unclassified Roads

Pounding Mill Branch Unclassified Road – No resource damage occurring. At end of timber sale activities this unclassified road would be converted to a linear wildlife opening.

Bennett Cove Unclassified Road – Rehabilitate section of road bed from intersection with FSR 5032 to ford to prevent further erosion into Bennett Cove Branch. This would require bank stabilization on both sides of ford and stabilization of roadbed on east side of ford. Following a stabilization action, this unclassified road would remain in a decommissioned state.

Bridges Camp Gap Unclassified Road – No resource damage occurring; road is in good shape. Leave as is. Based on the current condition of this unclassified road, it would remain in a decommissioned state.

Big Bear Pen Branch West Unclassified Road – No resource damage occurring. At end of timber sale activities road would be ripped, seeded, and closed and would be in a decommissioned state.

Case Ridge Gap Unclassified Road – No resource damage occurring. At end of timber sale activities road would be ripped, seeded, and closed and would be in a decommissioned state.

Justice Cove Branch Unclassified Road – No resource damage occurring. At end of timber sale activities road would be ripped, seeded, and closed and would be in a decommissioned state.

Big Bear Pen Branch East Unclassified Road – No resource damage occurring. At end of timber sale activities road would be ripped, seeded, and closed and would be in a decommissioned state.

Gumstand Branch Unclassified Road – No resource damage occurring. At end of timber sale activities road would be converted to a linear wildlife opening.

NEPA Analysis Needs

The opportunities identified in this roads analysis can be incorporated in the NEPA process and environmental documentation for the Case Camp Ridge Forest Management Project.

Step

6

Reporting

Purpose and Products

The purpose of this step is to:

- report the key findings of the analysis.

The products of this step are:

- a report including maps, analyses, and test documentation of the roads analysis, and
- maps that show the data and information used in the analysis, and the opportunities identified during the analysis.

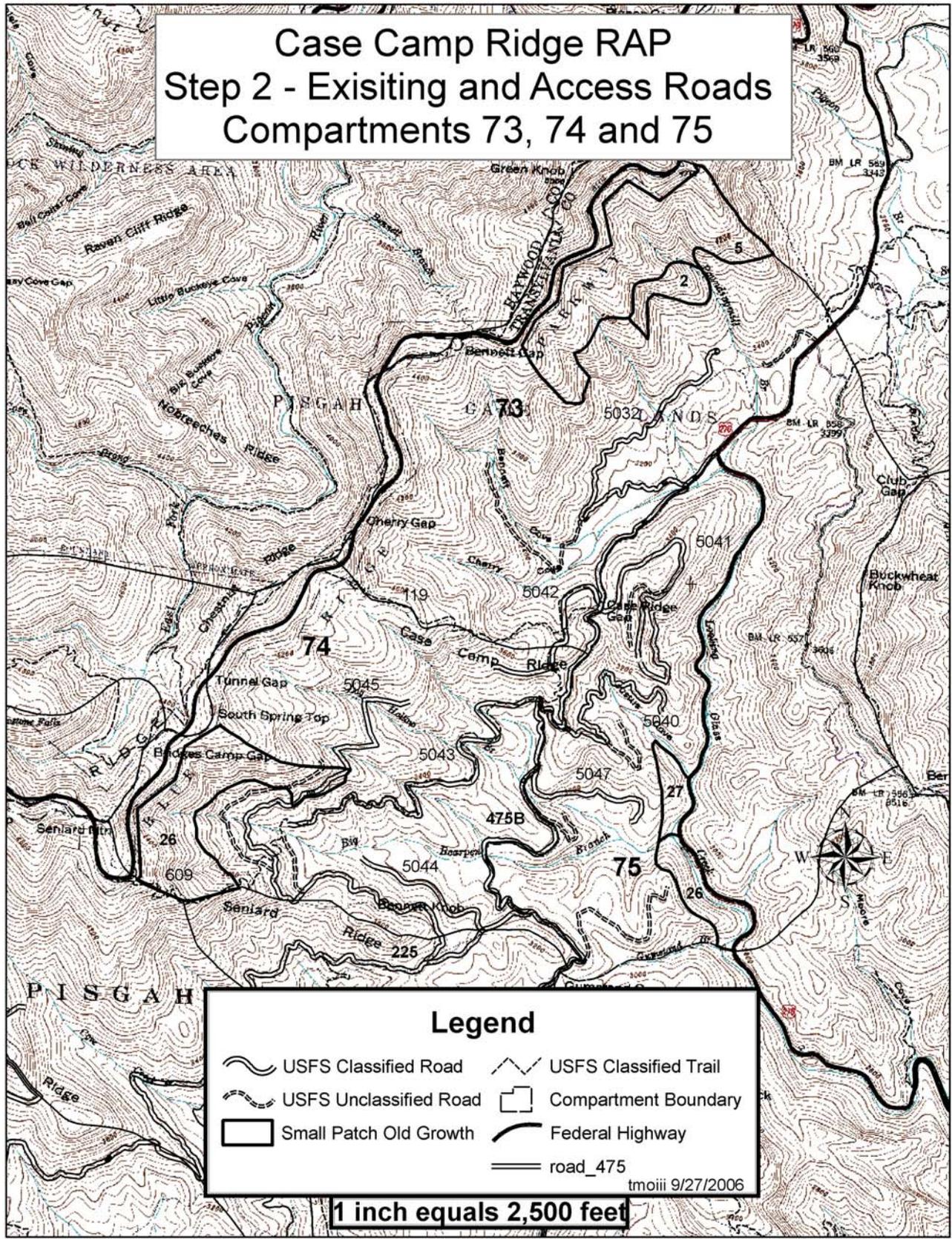
Report

This report is available to the public upon request. It will also be included as an attachment to the Case Camp Ridge Forest Management Environmental Assessment.

Maps

Attached are two maps, one for Step 2 showing locations of all classified and unclassified roads within the Case Camp Ridge project area and the other for Step 5 showing locations of opportunities recommended by the Case Camp Ridge Road Analysis Process Report.

Case Camp Ridge RAP Step 2 - Existing and Access Roads Compartments 73, 74 and 75



Legend

tmoiii 9/27/2006

1 inch equals 2,500 feet

Appendix A - Documentation Table for Roads Analysis Process Step 4

No.	Responsible for Write-up	Addressed?	If not addressed, rationale or location in administrative record
EF1	Ted Oprean	Yes	
EF2	David Danley	Yes	Addressed in the Nantahala-Pisgah Forest Scale RAP
EF3	Ted Oprean	Yes	Addressed in the Nantahala-Pisgah Forest Scale RAP
EF4		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
EF5	Ted Oprean	Yes	
AQ1	Lorie Stroup	Yes	
AQ2	Brady Dodd	Yes	
AQ3		No	No areas of mass wasting within project area
AQ4	Brady Dodd and Ted Oprean	Yes	
AQ5	Ted Oprean	Yes	The quantities of chemicals that may be hauled over roads in the area are minimal.
AQ6	Brady Dodd	Yes	
AQ7	Lorie Stroup	Yes	
AQ8		No	No wetlands within project area
AQ9	Brady Dodd & Ted Oprean	Yes	
AQ10	Lorie Stroup	Yes	
AQ11	Lorie Stroup	Yes	
AQ12	Dennis Danner	Yes	
AQ13		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
AQ14		No	No areas within project area
TW1	Dennis Danner	Yes	
TW2	Dennis Danner	Yes	
TW3	Dennis Danner	Yes	
TW4	Dennis Danner	Yes	
EC1		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
EC2		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
EC3		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
TM1	Ted Oprean	Yes	
TM2	Ted Oprean	Yes	
TM3	Ted Oprean	Yes	
MM1		No	Not applicable to this project
RM1		No	Not applicable in this area
WP1		No	Not applicable in this area
WP2		No	Not applicable in this area
WP3		No	Not applicable in this area
SP1	Ted Oprean	Yes	
SU1	Ted Oprean	Yes	
GT1	Ted Oprean	Yes	
GT2	Ted Oprean	Yes	Unclassified roads to be closed, disked, and seeded
GT3	Ted Oprean	Yes	
GT4	Ted Oprean	Yes	
AU1	Ted Oprean	Yes	
AU2	Ted Oprean	Yes	
PT1	Ted Oprean	Yes	Addressed in the Pisgah-Nantahala Forest Scale RAP
PT2	Ted Oprean	Yes	
PT3	Ted Oprean	Yes	
PT4	Ted Oprean	Yes	

No.	Responsible for Write-up	Addressed?	If not addressed, rationale or location in administrative record
UR1		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
UR2	Ted Oprean	Yes	
UR3	Ted Oprean	Yes	
UR4	Ted Oprean	Yes	
UR5	Ted Oprean	Yes	Addressed in the Pisgah-Nantahala Forest Scale RAP
RR1		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
RR2		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
RR3	Ted Oprean	Yes	
RR4	Ted Oprean	Yes	
RR5	Ted Oprean	Yes	
PV1		No	Not applicable in this area
PV2		No	Not applicable in this area
PV3		No	Not applicable in this area
PV4		No	Not applicable in this area
SI1		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI2		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI3		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI4		No	Not applicable in this area
SI5		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI6		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
SI7		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
SI8		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI9		No	Addressed in the Pisgah-Nantahala Forest Scale RAP
SI10		No	Addressed in the Nantahala-Pisgah Forest Scale RAP
CR1		No	Addressed in the Pisgah-Nantahala Forest Scale RAP