United States Department of Agriculture
Forest Service
National Forests in North Carolina
Supervisor's Office
160A Zillicoa Street
P.O. Box 2750
Asheville, NC 28802
828-257-4200

File Code: 1950-1
Date: October 15, 2003

Dear Interested Citizen:

Enclosed is a copy of the Decision Notice for the Forest Highway (FH) 50 Improvements Project Environmental Assessment (EA) on the Pisgah Ranger District, Pisgah National Forest.

There are no changes to the EA; therefore, final copies of the EA are only being mailed upon request. A "Response to Comments" appendix (Appendix E), documenting comments and Agency response based on the 30-day review of the EA, has been included with the decision notice.

This decision is subject to appeal pursuant to 36 CFR 215.11. A written appeal, including attachments, must be postmarked or received within 45 days after the date this notice is published in the *Asheville Citizen-Times*. The Appeal shall be sent to USDA, Forest Service, ATTN: Appeals Deciding Officer, 1720 Peachtree Rd, N.W., Suite 811N, Atlanta, Georgia 30309-9102, within 45 days of the date of this legal notice. Appeals may be faxed to (404) 347-5401. Hand-delivered appeals must be received within normal business hours of 8:00 a.m. to 4:30 p.m. Appeals may also be mailed electronically in a common digital format to *appeals-southern-regional-office@fs.fed.us*.

Appeals must meet content requirements of 36 CFR 215.14. For additional information on the decision, please contact Mae Lee Hafer, Wildlife Biologist, at 828-877-3265 or Michael Hutchins, NEPA Coordinator, at 828-682-6146.

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 business days following the date of appeal disposition (36 CFR 215.9).

Sincerely,

/s/ John Ramey

JOHN F. RAMEY
Forest Supervisor

Enclosure

Decision Notice

and

Finding of No Significant Impact

for the

Forest Highway (FH) 50 Improvements Project

USDA, Forest Service
Pisgah Ranger District, Pisgah National Forest
Transylvania County, North Carolina

Decision and Reasons for the Decision

Decision

Based upon my review of the alternatives, I have decided to select **Alternative 2** (Selected Alternative) of the *FH 50 Improvements Project Environmental Assessment* (FH 50 EA) on the Pisgah Ranger District, Pisgah National Forest, and the Mitigation Measures listed in Section 2.2.2 in Chapter 2 of the FH 50 EA.

The following activities are proposed under the Selected Alternative:

Segment A (From U.S. 276 to the Fish Hatchery):

- Repave the existing 20-foot wide surface, including the pullouts.

Segment B (From the Fish Hatchery to Cove Creek Group Campground Entrance):

- Correct fill slope failure by improving subsurface drainage and stabilizing slopes.
- Pave the segment reconstructed in 1997. Pavement width would be 18 feet; no widening or curve realignment is necessary. Paint fog lines on the road edges for driving safety.
- Construct a new bridge across (over) the existing Cove Creek Bridge. The historically significant Civilian Conservation Corps Bridge would be preserved. The new bridge would have a straight approach and alignment, and would be wider and higher above the surface of the River.
- Construct cross drains at a minimum spacing of 250 feet with culvert outflows on the fill slope lined with appropriately sized rock riprap.
- Pave the existing pull-off area across from the entrance to the Cove Creek Group Campground. This parking area would be aligned to allow the maximum number of vehicles to park.

Segment C (From Cove Creek group Campground to Intersection with Shoal Creek Road):

- Construct and maintain sediment catch basins, where needed, to trap road sediment before it reaches the Davidson River.

Upon completion of improvements to these segments of FH 50, maintenance responsibility for Segments A and B would be transferred to the North Carolina Department of Transportation (NCDOT). This road would be considered and maintained as a secondary State road. Routine maintenance activities would include shoulder mowing, ditch maintenance, snow plowing, and resurfacing, as needed. Mowing would be conducted approximately four or five times per year; other maintenance activities would be conducted on an as-needed basis. The Forest

Service would continue to be responsible for maintenance of Segment C, since no reconstruction of this segment would occur. NCDOT would continue to be responsible for maintenance of Segment D (from Shoal Creek Road to the intersection with NC 215).

The Selected Alternative will also incorporate mitigation measures (Section 2.2.2, FH 50 EA).

When compared to the other alternatives, I believe the Selected Alternative best meets the purpose and need for the project (Section 1.2, FH 50 EA), which is to reduce sediment yields to the Davidson River and Shoal Creek, improve water quality, improve habitat for aquatic species in the Davidson River and Shoal Creek, improve traffic safety, improve access for developed and dispersed recreation, and reduce maintenance costs and raise the traffic and maintenance service level of the road. The Selected Alternative meets requirements under the National Environmental Policy Act (NEPA), National Forest Management Act, and the Endangered Species Act.

Need for the Project

As stated in Section 1.2 of the EA, the need for the proposal was because:

- Segments B and C of FH 50 are major sources of sediment to the Davidson River (Segment B and part of C) and to Shoal Creek (remainder of Segment C) due to surface erosion and mass failure. This sediment is impacting water quality and aquatic habitat.
- FH 50 is used to access popular recreation and camping areas and experiences high traffic volumes. Unpaved portions of the road are currently experiencing washboarding and rough road conditions, which are decreasing traffic safety.
- Structural inspections of the bridge at Cove Creek indicate that this structure has deteriorated beyond the rehabilitation stage with respect to vehicular traffic.
- Annual and deferred maintenance costs of FH 50 are very high, and current funding provides for only 1/4 of the required amount necessary for all maintenance.

Project History

At the time of the public scoping period and first public review of the EA (2001), three alternatives were being considered for the project, and included the No Action (Alternative 1); Proposed Action (Alternative 2), which included, among other actions, repaving Segment A, paving Segments B and D, widening Segment D, replacing the Cove Creek Bridge (Segment B) and a box culvert (Segment D), and installing sediment catch basins along Segment C; and the alternative of paving the entire length of FH 50 (Alternative 3), which included all actions proposed under Alternative 2 in addition to widening, straightening, and paving Segment C and replacing the bridge near Lanning Ridge Road.

As a result of the findings of the heritage resources survey and analysis conducted for this project, as well as consultation with the North Carolina State Historic Preservation Office (SHPO), it was determined that straightening, widening, and paving Segment C has the potential to affect 15 additional Class II archaeological sites, which are potentially eligible for listing in the National Register of Historic Places (NRHP). These Class II sites would require archaeological testing to determine NRHP eligibility. If determined eligible, the portion of the site in the impact corridor would require test excavations and/or data recovery prior to any impact. As proposed, straightening and widening Segment C would have required extensive testing and mitigation measures. Due to these significant heritage resource issues, paving, straightening, and widening Segment C is no longer considered a reasonable alternative, and has been eliminated from the proposal. Segment C will have sediment catch basins constructed as per the decision above.

Part of the proposal for Segment B in the EA (2001) was the construction of pullout parking spaces opposite the Fish Hatchery intake to reduce crowded parking conditions at the Pisgah Center for Wildlife Education. During the first public review period for the EA (2001), concerns were raised regarding the potential for adverse impacts

on water quality and aquatic resources at the Fish Hatchery due to the location of these parking spaces. Therefore, the Forest Service decided to eliminate this action from the proposal.

Due to comments received during the first public review period for the EA (2001), predicted sediment yields to the Davidson River, Shoal Creek, and Indian Creek were reevaluated using the Water Erosion Prediction Project (WEPP) road model. Soil erosion and sediment yield estimates from the WEPP model suggest that erosion and sediment yields may increase as a result of paving Segment D of FH 50 (NC 1321). As a result of this potential increase, widening and paving Segment D was removed from the current proposal.

Other Alternatives Considered

In addition to the Selected Alternative, I considered one other alternative in detail. A comparison of these alternatives can be found in Section 2.5 of the EA.

Alternative 1: No Action
Under Alternative 1, the projects listed under the Selected Alternative would not be accomplished. Routine maintenance would continue on the existing road under current conditions. The Forest Service would continue to have maintenance responsibilities for Segments A, B, and C of FH 50, while NCDOT would continue to maintain Segment D (NC 1321). This alternative was not selected because it would not: reduce sediment yields to nearby streams, improve water quality, improve habitat for aquatic species, improve traffic safety, improve recreational access, reduce maintenance costs, or raise the traffic and maintenance service level of the road. All existing problems along FH 50 would continue under this alternative, and would worsen over time.

Public Involvement

A scoping letter was sent out on January 26, 1998, requesting comments regarding the proposed improvements to FH 50. Another letter describing the resurfacing of Segment A was sent out February 17, 1999. The proposal to improve FH 50 also has appeared in the Schedule of Proposed Actions for the National Forests in North Carolina.

The EA (2001) for the FH 50 Improvements Project was first released for public review and comment on 27 April 2001. A public notice was published on 26 April 2001 in *The Asheville Citizen-Times* to notify citizens of the availability of the EA (2001) and to invite their comments. A copy of the EA (2001) was sent to all persons who requested a copy, as well as to other pertinent agencies and individuals potentially affected by the proposal. The comment period lasted 30 days, ending on 29 May 2001.

A total of 47 comments were received during the public comment period (Appendix C, FH 50 EA). In response to public and agency comments received during the comment period, the Forest Service modified its proposal and alternatives to the proposal.

Using the comments received from the public and various agencies during the public scoping period and the first public review period for the EA (2001), the interdisciplinary team identified 10 major issues regarding the effects of the revised proposal to be addressed in detail in the EA.

A second 30-day review of the pre-decisional FH 50 EA was initiated on June 19, 2003, and was completed on July 18, 2003. Five written letters were received during this period – two timely and three untimely. Appendix E, attached to this decision notice, discloses the timely comments received and the Agency's responses.

Finding of No Significant Impact

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

1. My finding of no significant environmenal effects is not biased by the beneficial effects of the action (Sections 3.2.2.2, 3.3.2.2, 3.5.2.3, 3.6.2.2, 3.10.2.2, 3.11.2.2, 3.12.2.2, 3.13.2.2, and 3.14.2.2 in Chapter 3 and Table 2.5-1, FH 50 EA).

2. There will be no significant adverse effects on public health and safety, because the Selected Alternative is small in scale, effects are expected to remain localized and short-term, and implementation will be in accordance with mitigation measures (Section 2.2, Chapter 2 and Section 3.14.2.2, Chapter 3, FH 50 EA). Long-term impacts on human health and safety will be beneficial (Section 3.14.2.2, Chapter 3, FH 50 EA).

3. There will be no significant effects on unique characteristics of the area, because there are no park lands, prime farmlands, wild and scenic rivers, or ecologically critical areas in the project area, nor are their local law or requirements imposed for the protection of the environment (Sections 3.2.2.2, 3.6.2.2, 3.7.2.2, 3.8.2.2, 3.10.2.2, Chapter 3, FH 50 EA). There will be no significant adverse effects on wetlands, the Fish Hatchery, or rare aquatic species because the Selected Alternative is small in scale, effects are expected to remain localized and short-term, and implementation will be in accordance with mitigation measures. Long-term impacts on these resources will be beneficial (Section 2.2, Chapter 2 and Sections 3.2.2.2 and 3.5.2.2, Chapter 3, FH 50 EA).

4. The effects on the quality of the human environment are not likely to be highly controversial because there is no known scientific controversy over the impacts of the proposed project (Section 3.13, Chapter 3, FH 50 EA).

5. The action is not likely to establish a precedent for future paving of the entire road or for similar paving or road construction projects because of heritage resource concerns and resource protection needs (Section 1.3, Chapter 1, and Section 2.3, Chapter 2, FH 50 EA, and Project History above), as well as the revised Forest Service Policy for the Forest Transportation System.

6. The cumulative impacts are not significant (Sections 3.2.3, 3.3.3, 3.4.3, 3.5.3, 3.6.3, 3.7.3, 3.8.3, 3.9.3, 3.10.3, 3.11.3, 3.12.3, 3.13.3, and 3.14.3, 3 Chapter 3, FH 50 EA).

7. The action will have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP because all cultural resource sites are either avoided or protected (Section 3.9.2.2 Chapter 3, FH 50 EA). The action will also not cause loss or destruction of significant scientific, cultural, or historical resources, because all cultural resource sites are either avoided or protected (Section 3.9.2.2 Chapter 3, FH 50 EA). Development of the Selected Alternative occurred in coordination with the State Historic Preservation Office (SHPO). The Forest Service has undergone Section 106 (National Historic Preservation Act) consultation with the North Carolina SHPO regarding this project, and compliance from the SHPO was obtained in a letter dated April 24, 2002.

8. The action will not adversely affect any endangered or threatened species or their habitat that has been determined to be critical under the Endangered Species act of 1973 with the implementation of mitigation measures for aquatic species recommended in the Biological Evaluation (Appendix A, FH 50 EA). One May 9, 2001, the U.S. Fish and Wildlife Service (USFWS) concurred that the proposed action described in the initial EA (2001) will have no effect on any species that is federally listed and endangered or threatened. The USFWS sent a second letter of concurrence on July 22, 2003, for the May 2003 EA.

9. The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA. The action is consistent with the Nantahala and

Pisgah National Forests of North Carolina Land and Resource Management Plan and Forest Plan Amendment 5 (Sections 1.1 and 1.2 Chapter 1, FH 50 EA).

Findings Required by Other Laws and Regulations

This decision to make improvements to FH 50 is consistent with the intent of the Forest Plan's long-term goals and objectives listed on pages III-1 – III-3 and pages III-1 and III-2 of Forest Plan Amendment 5. The project was designed to conform with land and resource management plan standards and guidelines through the incorporation of measures to protect natural resources, public safety, visual resources, and Forest facilities while improving resource conditions and providing safe and easy access to Forest resources.

Administrative Review or Appeal Opportunities

This decision is subject to appeal pursuant to 36 CFR 215.11. A written appeal, including attachments, must be postmarked or received within 45 days after the date this notice is published in the *Asheville Citizen-Times*. The Appeal shall be sent to USDA, Forest Service, ATTN: Appeals Deciding Officer, 1720 Peachtree Rd, N.W., Suite 811N, Atlanta, Georgia 30309-9102, within 45 days of the date of this legal notice. Appeals may be faxed to (404) 347-5401. Hand-delivered appeals must be received within normal business hours of 8:00 a.m. to 4:30 p.m. Appeals may also be mailed electronically in a common digital format to *appeals-southern-regional-office@fs.fed.us*.

Appeals must meet content requirements of 36 CFR 215.14. For further information on this decision, contact Mae Lee Hafer, Wildlife Biologist at USDA, Forest Service, Pisgah Ranger District, 1001 Pisgah Highway, Pisgah Forest, North Carolina 28768, or phone 828-877-3265; or Michael Hutchins, IDT Leader at USDA, Forest Service, Appalachian Ranger District, US 19E Bypass, Burnsville, North Carolina, 28714, or phone 828-682-6146.

Implementation

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 business days following the date of appeal disposition (36 CFR 215.9).

/s/ John Ramey
JOHN F. RAMEY
Forest Supervisor
National Forests in North Carolina

October 15, 2003
DATE

APPENDIX E

RESPONSE TO COMMENTS FOR THE FOREST HIGHWAY 50 IMPROVEMENTS ENVIRONMENTAL ASSESSMENT

FH 50 IMPROVEMENTS PROJECT ENVIRONMENTAL ASSESSMENT

RESPONSE TO COMMENTS

General Discussion

The Forest Service received five letters during the 30-day Notice and Comment Period for the FH 50 Improvements Project Environmental Assessment (EA) – two timely and three untimely. This formal comment period began June 19, 2003, and ended on July 18, 2003.

One timely comment letter received within the 30-day review period was written by Mr. Speed Rogers. These comments were generally against the proposal. Comments focused on an alternative of closing or gating FH 50, insufficient traffic data, and forest management policies regarding roads.

The other timely comment letter received was from Mr. Jason Robinson. These comments generally called into question the need to reduce sediment reaching the Davidson River as, according to Mr. Robinson, the river is functioning properly. Mr. Robinson also collected data in the analysis area.

Specific comments from the timely letters are present below, along with the Agency's responses to those comments.

1-1 Comment: "If [FH 50] is being used mostly by commuters, and this must be carefully quantified, then is this a proper function of National Forests in general, and of National Forest roads in particular? The proposed EA is inadequate in supplying such information. Counting cars in parking areas on nearby highways or on parking lots is no substitute for automatic counting devices positioned at a strategic locations along FH 50 itself…In summary I believe this EA is deficient…1) No accurate assessment of traffic volume and present use of FS 475 as these things relate to the LRMP for the Pisgah National Forest."

1-1 Response: FH 50 is not being used mostly by commuters. This is evidenced by the number of vehicles counted at popular recreational facilities along Segments A and B of FH 50 (accessed via use of FH 50) compared to the number of vehicles counted by the North Carolina Department of Transportation (NCDOT) along Segment D. Traffic along Segments A and B was much higher than along Segment D. In addition, traffic counts along Segment D can largely be attributed to residents traveling to and from their houses along that segment. Installing an automatic counting device to measure traffic along FH 50 would not distinguish between types of users (i.e., whether they are Forest visitors or area commuters). Furthermore, an exact traffic count for FH 50 is not necessary to provide sufficient analysis of the impacts of the proposal, nor

on the ability of the proposal to meet the purpose and need for the project, as stated in Section 1.2 of the EA.

1-2 Comment: "Another weakness in the present EA is the rather summary dismissal of the formerly proposed road closure alternative…The arguments adduced are not very convincing. Closing FH 50 just past Cove Creek bridge or at the Lanning Ridge parking area (junction of Laurel Fork and Davidson River) would allow motorized access from either direction, especially from US 276 where the large volume of recreational traffic would come."

1-2 Response: The Forest Services believes that the rationale provided in Section 2.3 of the FH 50 EA for the dismissal of an alternative of total or partial closure of FH 50 is sufficient. As stated in this section, such an alternative would only meet parts, but not all, of the purpose and need as stated in Section 1.2 of the EA. A partial or total road closure alternative would not be consistent with Forest Plan direction (Forest Plan Amendment 5, pp. III-2 and III-51). In addition, the Forest is not proposing any activities to change the service level of FH 50 along Segment C.

1-3 Comment: "Hopefully the 'traffic service level of the road' would not be 'raised,' but greatly lowered. Something fundamental has been lost in sense of purpose if the USDA Forest Service sees its mission as 'raising the traffic service level of the road'."

1-3 Response: Traffic engineering and planning practices use level of service (LOS) as a way of describing the quality of traffic operations within a traffic stream at a given location. Raising the LOS of the road does not equate to increasing the amount of traffic that will use that road. Rather, raising the LOS of the road refers to improving driving conditions, including traffic safety, along the road. Raising the LOS of the road is in compliance with the direction for the Forest transportation system as stated in the Nantahala and Pisgah National Forests Land and Resource Management Plan Amendment 5 (pp. III-46-51 and III-69-70). In addition, Forest Service Transportation System Policy (revised January 2001) directs the Forest Service to provide a safe recreational environment for users, to maintain Forest facilities to provide for the safety and health of Forest users, and to provide access to Forest resources.

1-4 Comment: "It should be noted that after the paved segments of sections A & B of FH 50, as outlined in this proposed EA, that the 2C and 2A zones ('for people who enjoy the forest by driving through it') drop out just past Cove Creek. After that as one goes south and west, it's all 4D and 3B management areas, neither of which emphasize or even encourage motorized enjoyment of the Forest landscape."

1-4 Response: As stated in Section 2.2.2 of the FH 50 EA, the only activity proposed for the Segment of FH 50 past Cove Creek (Segment C) is the installation of sediment catch basins to reduce sedimentation to nearby water resources. No changes in the traffic service level of this segment are proposed, and none would occur. There would be no additional emphasis on or encouragement of motorized enjoyment of the Forest landscape under the Selected Alternative (Alternative 2).

1-5 Comment: "This abundance of roads is actually quite a sad reflection on forest management policies when one considers that roads are perhaps the greatest of all threats to forest ecosystems and to non-extractive uses of the Forest. These threats include fragmentations, loss of genetic transfer, excessive access by humans, stream sedimentation, road kill, poaching, spread of exotic species, over-hunting, roadside litter, noise, air pollution, loss of aesthetic and spiritual values such as peace and quiet and sense of remoteness."

1-5 Response: The revised USDA, Forest Service Policy for the Forest Transportation System (FSM 7700, revised January 2001) is aimed at reducing the number of newly constructed roads by emphasizing reconstruction and maintenance of existing roads. No new roads would be created by the Selected Alternative (Alternative 2), as described in Section 2.2.2 of the EA. Since no new roads are being constructed, there would be no additional fragmentation, loss of genetic transfer, excessive access by humans, stream sedimentation, poaching, spread of exotic species, over-hunting, or any other impact associated with new road construction. The proposal is aimed at reducing sedimentation (Section 1.2 in Chapter 1 and Section 3.2 in Chapter 3, FH 50 EA). No significant impacts associated with road kill (Section 3.7.2.2), roadside litter (Section 3.11.2.2), noise (Section 3.4.2.2), air pollution (Section 3.3.2.2), or loss of aesthetic and spiritual values (Section 3.11.2.2) would occur under Alternative 2, the Selected Alternative.

2-1 Comment: "Several positive aspects of this project are touted as inevitable results, including increased fish production and improved water quality. There is no evidence to support this in the EA, and the report relies only upon a few literature citations to support this hypothesis. I don't believe that there is any argument that sediment levels can be high enough to adversely affect fish and hellbender populations, or even 'water quality'. However, I don't believe that there are any data that imply that sediment levels in the Davidson are at this stage (certainly no data actually presented in the EA). At any rate, the burden of proof is upon the USFS to substantiate the claim that the Davidson is actually threatened by sedimentation, a claim I believe to be unfounded and based on arbitrary information. This is one of the finest trout streams in NC, not a system struggling under an un-natural sediment load."

2-1 Response: The Biological Evaluation (BE) located in Appendix A of the EA disclosed that sediment deposits were heavy, especially immediately upstream of the hatchery dam (Section 3.1.1, Appendix A, FH 50 EA). The BE also disclosed that "*Substrate composition is also important since most aquatic insects rely on clean interstitial space as habitat, and trout require clean gravel for spawning and larger substrate for instream cover*" (Section 3.1.1, Appendix A, FH 50 EA). The EA disclosed that field visits to the project area identified numerous instances of erosion occurring at culverts, ditches, outsloped shoulders, fill slopes, and in the buffer area between the end of the fill slope and the nearest stream. A substantial slope failure was observed on Segment B to the west of the Rockhouse Creek crossing as shown in Figure 3.2-1 (Section 3.2.1, FH 50 EA). [Note: Additional information related to aquatic wildlife, habitat, and effects are in the AQUA report, which is filed in the project record.] We do not contest the point that sand and other fine sediments are a natural component of any aquatic system—that is true. However, site-specific aquatic habitat data from the Davidson River (throughout the watershed, not just in the FH 50 corridor) does not identify sand and small substrate as a major habitat element. It is naturally present, but not naturally a dominant particle size.

2-2 Comment: "The blanket claim that it is good to reduce sediment levels (no matter what the current levels are) is not backed up by the biology of the Davidson River, and is not supported by the data presented in the Environmental Assessment. If such data exist (such as macroinvertebrate assemblage composition and trends) then they should be used in the decision making process, since this is a major objective (improving water quality and hellbender and fish production) of the paving project."

2-2 Response: The EA and the BE disclose the need to reduce sediment levels to further improve aquatic habitat (see 2-1 Response above). The Davidson River does provide quality aquatic habitat, but there is always room for improvement, especially given the high recreation demand placed on the river, runoff and altered riparian vegetation associated with portions of FS 475 paralleling the river, and the Pisgah Hatchery (including the facts that their major intake and discharge are located on the river). All of these uses, as well as forestry and other Forest Service activities are contributing to the condition of the River. To call the Davidson River pristine is grossly misguided. Webster defines pristine as "*belonging to the earliest state, uncorrupted, fresh and clean.*" The Davidson River is definitely a high quality system, but not pristine. A comparison of the Davidson River to local wilderness streams supports the fact that the aquatic invertebrate community and habitats are being affected by local land uses, which does not diminish its resource values, but simply identifies that the aquatic invertebrate community and habitat composition have been altered from their natural state.

2-3 Comment: "There has been no consideration given to 'natural' sediment levels in the Davidson, and the project has been recommended despite an absolute vacuum of information in this department (begging the question of how one would record improvements in these categories, with no comparative data)."

2-3 Response: The Watershed Erosion Prediction Project (WEPP) road model was used to comparatively evaluate not paving the road (No Action Alternative, Table 3.2-2, FH 50 EA) and paving the road (Proposed Action, Table 3.2-3, FH 50 EA). As the model predicted, paving Segment B, with protected culvert outflows, was estimated to reduce total erosion tons/year by a factor of three versus not paving the segment. Appendix D of the EA describes the methodology used for the WEPP road model (see also Response 2-2 above). The AQUA report says nothing about eliminating naturally occurring sediments.

2-4 Comment: "It is likely that reducing instream sediment loads may actually have harmful effects on rare species and communities in the project area. I have made several collections of the Natural Heritage Program Rare species *Litobrancha recurvata* in both the Davidson River and Rockhouse Creek (see map). This is a burrowing mayfly, dependent upon organic material in sandy deposits (in deep holes and slow sections). Starving the sediment sources in the river (or alternately scouring them away by increasing impervious surface, decreasing rainfall retention time and increasing discharge immediately after and during flood events) will likely reduce habitat for these animals. This particular mayfly is especially important to anglers anf fish alike. There is a quiet regional pilgrimage by southeastern anglers to fish the Davidson River during the drake (including both burrowing mayflies, *Litobrancha* and *Ephemera*) hatch, which occurs around Memorial Day every spring. I collected adult *Litobrancha* on the project section of the Davidson River on May 26, 2003, upstream of the confluence of Rockhouse Creek

and Davidson River. These insects represent not only an important biological resource but an economic one as well. Their habitat should not be viewed as something to be sliminated, since much of the biomass of this population is directly transferred to the trout population upon metamorphosis and reproduction of the adults (*Litobrancha* is one of the largest mayflies in North America, especially out of the mayflies found in trout streams)."

2-5 Comment: "Another important species for consideration in project effects (ignored in EA) is the NHP rare dragonfly *Lanthus parvulus*. I collected this species at three sites in Davidson River and Rockhouse Creek. Many odonates are adapted to sandy habitats where they may burrow in sand and silt and ambush prey form a hidden position. This dragonfly was also ignored in the EA, but was undoubtedly collected in the single USFS macroinvertebrate survey reported in the project analysis (I found it at all three sites where I collected)."

2-6 Comment: "It is interesting that the EA reports that no species of *Gomphus* were collected, but *Lanthus* is ignored (even though it is a member of the same taxonomic family as *Gomphus*, the Gomphiidae. For more information, see an aquatic insect identification manual such as Merritt and Cummins, 1996). Why the particular search for Gomphus was undertaken (instead of a search for rare species, or instead of identifying the Gomphid larvae undoubtedly collected) is an immediate question raised by the EA. I have been unable to obtain the species list for the sampling effort reported in the EA, but I would be delighted to know if *Lanthus* was collected in that effort as well."

2-7 Comment: "I collected a species of *Aeshna* at Rockhouse Creek. I do not have sufficient taxonomic material to properly identify this individual, but it should be noted that *Aeshna tuberculifera* is on the Rare NHP list, and *A. verticalis* is on the NHP Watch List. There is some chance that this individual belongs to one of those two species, although there is at least one more species in NC which is not listed (*A. umbrosa*). These dragonflies stand to be directly impacted by any road building project which changes the local hydrology and stream discharge patterns. I collected one individual of a *Neoperla* species at the hatchery intake, but I do not have the material for species level identification of this genus. There is however a species of this genus on the Watch list (*N. clymene*). Additionally, I collected one *Amphinemura* individual at Rockhouse Creek. There is a watch list species in this genus (*A. nigritta*) but I cannot definitively identify this specimen to species. Finally, I collected *Neophlax* larvae in Davidson River below Cove Creek. There are several rare and watch listed species of *Neophylax* in NC.

2-4,5,6,7 Response: Mr. Robinson's general comment centers around surveys for and analysis of potential impacts on rare species, particularly aquatic insects (reference his comments for the species he is particularly concerned about). This response will focus on Forest Service survey and analysis methods.

First, the Forest Service recognizes three levels of rare species (see definitions below). In addition, the North Carolina Natural Heritage Program (NCNHP) may also track other species defined as rare (based on any number of factors, including known range, habitat requirements, etc.). Survey protocols are listed in the aquatic analysis (AQUA) for this project for those species requiring site-specific surveys. The AQUA also discloses when and where these surveys

were done. In addition, the AQUA discloses other data sources used in the analysis and the sampling protocols used. All of this information is located in the project file.

A proposed, threatened, or endangered species (T, E, PT, and PE) is a species that has been formally listed or is proposed for listing by the United States Fish and Wildlife Service. These species are included in every AQUA conducted for projects within a watershed where the species is known to, likely to, or may occur. These species are also included in analyses for watersheds where the species occurred historically but haven't been found during recent surveys. Site specific surveys for these species (and their habitats) are conducted for every project occurring in a watershed where the species is known to, likely to, or may occur.

A sensitive species (S) is a species appearing on the Regional Forester's Sensitive Species list for the Southern Region. These species may or may not have a Federal or State status, but generally have a global rank of G1, G2, or G3 and a State rank of S1 or S2. These species are included in every AQUA conducted for projects within a watershed where the species is known to, likely to, or may occur. Site specific surveys for these species are conducted for every project occurring in a watershed where the species is known to occur. Mr. Robinson comments specifically about surveys for the genus Gomphus. This genus is given attention during project surveys because of the number of species known to occur in North Carolina found on the Sensitive and Forest Concern lists.

A Forest Concern species (FC) is a species which National Forests in North Carolina considers to be generally rare, and an important part of the biodiversity across the Forests that do not fall within one of the above categories. These species may or may not have a Federal or State status, and generally have a global rank of G3 or lower and a State rank of S1 or lower. Forest Concern species do not qualify as sensitive species because their populations are not threatened rangewide. These species are included in every AQUA conducted for projects within a watershed where the species is known to or is likely to occur. The large groups of Forest concern species, which may occur within the aquatic analysis area, but are not known to or are not likely to occur are addressed collectively as the aquatic insect community. Site specific surveys for these species are not required by any law or regulation; however habitat suitability is always noted during site-specific surveys for other rare species.

Of particular species Mr. Robinson voices concern about, *Litobrancha recurvata* (mayfly) and *Lanthus parvulus* (dragonfly) are listed as Forest Concern. Mr. Robinson also references the genus *Aeshna* (dragonfly), and it is noted that there are two species of Aeshna on the Forest Concern list. In addition, he mentions the genus *Neophylax* (caddisfly). There is one species of *Neophylax* on the Forest Concern list, but it is no longer tracked by the NCNHP based on new global ranking, range, and habitat information. It is being recommended that this species be dropped from the Forest Concern list. Site-specific surveys are not required for these species by law or regulation; however, habitat surveys were conducted for these species during the site visits listed in the AQUA. Any potential effects to these species are considered in the AQUA when potential effects to the aquatic insect community are disclosed.

Based on the information used for the Forest Highway 50 AQUA (NCDWQ monitoring data, 1992-present), *Litobrancha recurvata* has not been sampled from the Davidson River, although

several other burrowing mayflies do occur on the species list and habitat for the species does exist within the project area. Also, based on the same monitoring data, an unidentified species of *Lanthus* does occur in the Davidson River; however, comprehensive odonate surveys within the Davidson River corridor conducted by the Forest Service (as discussed in the AQUA, this data is still preliminary, pending report publication in January 2004) does not show any species of *Lanthus*. Odonates, in particular, are extremely difficult to identify to species without both larval and adult forms. This may explain why the NCDWQ lists Lanthus sp., as opposed to identifying any of the odonates found during their monitoring to species (they were working form larval samples only). No members of the genus *Aeshna* were found during either of the previously mentioned survey efforts, although three other members of the Aeshnidae family were identified. Three species of Neophylax have been collected from the Davidson River. All of this information, while summarized in the AQUA, BE, and EA, is included in the project file.

2-8 Comment: "These presence/absence and identification issues concerning rare species should be resolved by USFS biologists before blanket comments about how this project will benefit aquatic insects may be accepted at face value. How can one believe that the changes planned for the stream will be positive changes, when the biologists have no idea about which organisms are found there? There are too many unfounded assumptions here that must be supported with active scientific investigation and not cut and pasting from textbooks. The biological assessment appears to be tailored to the position that the project will have no significant impacts, although the question certainly remains open (even more so, given the particular inappropriate sampling schemata and management indicator species decisions implemented in this project). This chilling scenario is given credibility by the statement in the EA (A-19) that upon implementation of the project, THEN invertebrate samples will be collected. This is entirely backwards. If you are really concerned with impacts to rare species, do your homework FIRST."

The BE did not state this. It stated on page A-19: "Aquatic invertebrate samples (qualitative) were taken from Cove Creek and the Davidson River on February 2, 1999 by Sheryl Bryan to scan for rare species. Since this is not the optimum sampling period for aquatic invertebrates, new samples will be taken and processed immediately prior to project implementation. The February samples were scanned for the rare genera addressed below on May 12, 1999. Also invertebrate samples will be taken periodically during project implementation to assess effects of the project on aquatic invertebrate populations". These statements clearly show the Forest Service's recognition of the fact that the site specific surveys were not conducted under the best of conditions, and that more survey may be required. They also show the Forest Service's intent to collect, analyze, present, and use the best, most current information in their project planning and implementation process. Should one of the rare species considered in the AQUA be found in a critical project location, site-specific mitigation or recommendations for adjustment to the project will be made.

2-9 Comment: "The notion that stream insect assemblages in the Davidson River are adapted to the moderate levels of sand and sediment in the stream is further supported by the presence of sand-adapted species in the collections. *Phylocentropus* is a caddisfly larvae which constructs tube-shaped retreats in sand deposits in deep holes and backwaters. These larvae are present in Rockhouse Creek and are likely to occur in the mainstem of the Davidson here as well, although they did not show up in my collections (I would likely need a net or some apparatus to collect

these animals in the mainstem). The sandy bog like area upstream of the hatchery intake is a rare wetland habitat not included in the analysis, a sedimentary deposition area with lots of woody debris. It would be devastating to several rare species populations (especially *Litobrancha*) for the sediment budget to these wetlands to be diminished or altered. This area is not used for spawning by resident trout and would not be used to spawning even if all the sediment were removed (only if the hatchery intake dam is removed and free flow again is allowed could this be spawning habitat). There are no other data on reproduction in the Davidson and any suggestions that trout will be affected (ONE WAY OR THE OTHER) are a) not supported by any specific information relevant to the situation at hand, and b) merely conjecture and uninformed opinion, not science."

Data to support the conclusions reached in the BE concerning potential effects on aquatic habitats and trout populations are summarized in the AQUA. Briefly, trout populations were monitored annually in the Davidson River were monitored annually between 1990 and 1993 (and sporadically since then), and aquatic invertebrate populations have been monitored regularly since 1992. All of the data used in this analysis is located in the project file. The AQUA also disclosed site-specific aquatic habitat monitoring data used to reach conclusions stated in the BE. To say that the AQUA contains no consideration of site-specific information, above and beyond professional judgment or opinion, is simply not correct.

2-10 Comment: "The biological impacts of this road should actually be investigated and not merely written away on paper. To date, there seems to be very little resources or time allocated to actually determining the species which are not in the project area. There have been many issues raised over this road project, but there seems to have been little or no serious effort allocated at determining the status of the biological resources most affected (aquatics). Monitoring and survey information is crucial to good decision making, but this requires field work and collections. It seems that the inventory portion of this project has largely consisted of choosing a few arbitrary species from management lists, then tailoring the assessment to these organisms.

Comment 2-11: "Collection efforts for the aquatic analysis are woefully, tragically inadequate. Numerous rare species may be found in the project area, which are either ignored or overlooked in the impact analysis of the EA. Collection of these insects at one site at one time is certainly not enough to even determine the presence of rare species in the project area, and certainly not their distributions (see the suggestions made by USFS Biologist Mae Lee Hafer in her M.S. thesis, concerning a similarly cryptic and difficult to locate terrestrial species, the green salamander *Aneides aeneus*. In the thesis she suggests that up to 24 trips to a site may be necessary to correctly determine the presence or absence of that species). This is an area that should be pursued by competent, professional aquatic biologists (optimally those with a working knowledge of regional and local habitats and taxa). Library searches DO NOT substitute for field work."

Comment 2-12: "The suggestion that water quality (or associated indices, including improving salmonid spawning habitat and macroinvertebrate production) will improve as a result of the project is entirely hypothetical and total conjecture. There is o evidence that water quality is hampered by sediment (at current levels), and plenty of evidence to the contrary (Davidson is a

fine, fine trout stream as it is. Why monkey with it? How can you improve EXCELLENT WATER QUALTY?). Provide some actual data to support these ideas, as it stands there is no information in the EA, just lots of hand-waving. In order for monitoring efforts to be useful, they should incorporate before AND after measurements of the criteria chosen as relevant indices (sediment levels, spawning habitat availability or abundance, macroinvertebrate production/richness, etc.). If there is no conceptual framework for baseline comparisons, then any work in this direction is so much rock and gravel counting.

See response to comment 2-9 above.

Comment 2-13: "The biological analysis completely overlooks the biological and evolutionary history of this watershed. The Davidson has been a driving force in the erosion of the large monolithic dome features which have popularized drives on the nearby Blue Ridge Parkway. Insects living in this watershed (and nearby watersheds) have dealt with sediment as a habitat feature for millennia. This implies that the true natural state of the system includes depositional sediment deposits, which in turn become habitat for many species, some of which are now 'rare'. One cannot apply blanket statements (i.e. sediment is bad for streams) across the board to all situations. Any biological analysis must incorporate the underlying geology of this area, which makes it biologically and geologically distinct from any other area in the world. Textbook assumptions DO NOT APPLY."

The BE discloses the geologic importance the area plays on aquatic habitat in the project area and that reducing sediment would improve habitat for many aquatic species (BE Section 3.1.1, and EA Section 3.5.2.2). Further, the AQUA and BE (Section 5.3.1) state that no habitat types would be lost, only rearranged. The Davidson River, while continuing to support excellent water quality and trout populations, does not represent pristine habitat conditions for a stream of its size and topographic location. The Forest Service has been evaluating the range of reference conditions for streams across the Forest since 2000. This data is in the process of being summarized to disclose the range of aquatic habitat conditions across mountain streams.

Comment 2-14: "None of these comments stand alone as reasons for or against the construction project. What is missing from the project analysis is baseline information, and the general patterns of uncertainty, vagueness, and obscured objectives ARE reasons to not implement the project. The EA contains little scientific analysis, based on an even smaller amount of relevant data. As it stands now, there is no reason that this project should proceed without a complete aquatic inventory of fish, insect, and amphibian habitats and populations in the project area (including riparian zones and deep benthic habitats in depositional areas). This is a potentially sensitive area, with species and assemblages that are not widely distributed across the region in general of USFS lands in specific.

See responses above.