

**Chapter 4 – Consultation & Coordination
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Response to Comments
Public Involvement Opportunities**

Armuchee Ridges Thinning & Restoration Project

Environmental Assessment



Chapter 4 – CONSULTATION AND COORDINATION

4.1 Preparers - Forest Service Interdisciplinary Team

Kate Metzger - USDA Forest Service, Calaveras Ranger District, Stanislaus National Forest, California, District Hydrologist; formerly hydrologist trainee on Chattahoochee-Oconee National Forest (2006-2008)

Contribution: Water Resources

Education: B.S. Environmental Science, William Smith College, M.S. Geography, University of Oregon

Experience: Forest Service – 5 years; Biological Science Technician, Rocky Mountain Research Station, Logan, UT; Hydrologist SCEP Student, Chattahoochee-Oconee NFs, GA; Hydrologist Trainee, Chattahoochee-Oconee NFs, GA

Cindy Wentworth – USDA Forest Service, Supervisor’s Office, Chattahoochee-Oconee NFs, GA – Forest Ecologist-Botanist, TES, Non-Native Invasive Species Coordinator
Contribution: Invasive Species, TES coordination

Education: M.S. Forest Management, Auburn University

Experience: Forest Service – 18 years, Forest Ecology & botany, 1 year soil science

Carolyn Hoffman – USDA Forest Service, Supervisor’s Office, Chattahoochee-Oconee NFs, GA – Forest Landscape Architect

Contribution: Visuals, Scenery Management

Education: B.S. Landscape Architecture, University of Georgia, B.S. Education, University of Georgia

Experience: Forest Service – 20 years, landscape architecture, recreation management

Ruth Stokes – USDA Forest Service, Conasauga Ranger District, Chattahoochee NF, GA – District Wildlife Biologist

Contribution: Biological Resources

Education: B.S. Zoology, University of Tennessee, M.S. Wildlife and Fisheries Science, University of Tennessee

Experience: Forest Service – 6 years, wildlife biology, Cherokee National Forest, Tennessee, 5 years, wildlife biology, Chattahoochee-Oconee NFs, Georgia

John Mayer – USDA Forest Service, Supervisor’s Office, Chattahoochee-Oconee NFs, GA – Forest Archeologist

Contribution: Heritage Resources

Education: B.A. Anthropology, University of Southwestern Louisiana, M.A.
History/Cultural Resource Management, Northwestern State University

Experience: Forest Service – 13 years, Kisatchie National Forest, Louisiana, 5 years,
Chattahoochee-Oconee NFs, GA

Dick Rightmyer – USDA Forest Service, Supervisor’s Office, Chattahoochee-Oconee
NFs, GA – Forest Soil Scientist

Contribution: Soil Resources, Ecological Classification, IDT Leader

Education: B.S. Forestry, University of Kentucky, minor-forest soils

Experience: 2 years - KY Division of Conservation – Soil Surveys, Forest Service – 7
years, soil resources, Ouachita National Forest, Arkansas & Oklahoma, 23 years, soils &
watershed management, Chattahoochee-Oconee NFs, GA

4.2 Forest Service Personnel serving as IDT Consultants

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4.3 Agencies and Individuals Providing Consultation and/or Public Input

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4.5 RESPONSE TO COMMENTS

Date: May 2008

Responsible Official: Michele H. Jones
District Ranger
Conasauga Ranger District
Chattahoochee & Oconee National Forests

1. *I recommend increased emphasis on management practices that create and maintain early succession habitats, as many early succession wildlife species are in serious decline. As indicated, the majority of the project area, and in fact the National Forest as a whole, is in mid and late succession stages. (Reggie Thackston, November 26, 2007)*

FS Response: The Armuchee Ridges project is a beginning towards meeting Forest Plan desired conditions for the project area; however, additional projects and treatments will be needed to increase the representation of early successional habitats in the area.

2. *I further recommend that the amount of old growth habitat be strategically reduced and converted through forest management to early succession habitat, so as to provide a more balanced distribution of habitat succession stages, thereby improving the overall wildlife diversity for the Forest. (Reggie Thackston, November 26, 2007)*

FS Response: Early successional habitat is extremely limited throughout the Forest. Projects like Armuchee Ridges have several purposes: to begin the progression toward meeting various Plan objectives for improving forest health, restoring natural forest ecosystems, and improving habitat diversity, while working within realistic timeframes and workforce capacities. Most objectives cannot be fully achieved by one project such as Armuchee Ridges. (EA, Ch. 3, pg 83)

3. *We desperately want to see more ESH (early successional habitat) created on the National Forest and the Proposed Action is a step in that direction; however, given its importance, the need, and the flexibility provided in the Forest Plan, it is unclear why the Proposed Action does not seek to provide more than the absolute minimum amount of ESH required. Again, it is important to note that any alternative other than the Proposed Action will fail to meet the standards in the Forest Plan for ESH. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: See response to Comment # 2. Additional projects and treatments may be necessary to fully meet the successional stage diversity goal of the Forest Plan. (EA, Ch. 3, pg 83)

4. *Additionally, you acknowledge that 9 of 10 sub-watersheds in the analysis area have sufficient acreage already designated as old growth or old growth-compatible. We determined from the tables that there are 8,133 acres currently designated as old growth or old growth-compatible within the analysis area. This represents 4x as much old growth overall, as is required by the Forest Plan. Although we are not opposed to managing some areas of the forest as old growth, we believe that adequate amounts already exist and much of the national forest, in the absence of management, is destined to become old growth in the future. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: Forest Plan standards require that 5% of each individual 6th level HUC or sub-watershed over 1000 acres be designated as old growth or old growth-compatible management prescription. Because treatment affecting successional stage diversity was planned in the sub-watershed lacking the 5% minimum acreage, additional small blocks were recommended for designation within that sub-watershed. (EA, Ch. 3, pg 88)

5. *Wildlife benefits are occasionally mentioned as support for the thinning. In fact, if wildlife habitat improvement is a primary objective of this thinning, then the type and intensity of the thinning operation should reflect this and the implementation of the project might differ significantly from a thinning primarily to address concerns about insect pests. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: The primary purpose for the proposed thinning of pine stands is forest health; to reduce risk of Southern Pine Beetle attacks. Wildlife habitat will certainly benefit, however, the leave basal area levels to be achieved by thinning will be guided primarily by the direction for SPB risk and hazard management. Stands of differing ages and densities will have different types of treatments, such as different leave basal areas prescribed (i.e. density and number of trees per acre retained). Stands will be thinned to within a range of basal areas. (EA, Ch. 2, pg 33)

6. *Prescribed Fire. Following thinning, the periodic use (every 3-5 years, depending upon stand conditions and specific wildlife habitat objectives) of low-intensity prescribed fire will be key to maintaining an herbaceous understory and to helping reduce the encroachment of undesirable hardwoods and pines. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: We agree that prescribed fire is a key component in maintaining herbaceous vegetation and other valuable wildlife habitat objectives. Current NEPA decisions for prescribed burning cover a large percentage of the stands proposed for thinning.

7. *Hard Mast. Under the section of Issue Identification, there was some discussion about changes in mast production (pounds/acre). Such a change, if it were to occur, would be difficult to accurately measure and any observed changes would be difficult to attribute to one specific cause (e.g. timber harvest treatment) as opposed*

to other viable explanations.....Is the FS proposing to measure/monitor changes in mast production? If so, how? Relative to this project and its implementation, we do not believe that attempting to monitor changes in mast production is necessary or worthwhile. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)

FS Response: The measure identified for the issue regarding effects to mast-producing capability in the EA was mistakenly written as “pounds per acre”; the correct measure is “acres of mature mast-producing hardwoods”. We agree that measuring changes in mast production in pounds per acre and interpreting the effects of this project on that measure would be impossible. (EA, Ch. 3, pg 72)

8. *Hard Mast.oak mast is undeniably important to wildlife; however, its importance in this region is not nearly as critical as it is in the Blue Ridge Mountain Physiographic Province. In the R&V, alternative food sources are often available in the “valley” when oak mast is limited in the Forest. Secondly, when considering the scope of the restoration activities that will involve removal of mast-producing oaks and hickories, this project affects only a minute amount of the available mast-bearing trees, both off and on the national forest. As such, overall mast production will not be significantly impacted under the proposed action. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: Wildlife species such as white-tailed deer do have alternative food sources in the Ridge and Valley Province due to the interspersed of more productive “valley” vegetation, including agricultural lands. Annual fluctuations in mast production in this physiographic province (both on and off National Forest) play less of a role in influencing wildlife population dynamics than in other parts of the southern Appalachians. (EA, Ch. 3, pg 72)

9. *We support the decision to eliminate alternatives that would have attempted to restore longleaf, shortleaf, and oak/oak-pine forests without removing the overstory oaks, and agree that this would be both “unsuccessful and impractical.” (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: Comment acknowledged.

10. *Strict adherence to GA’s BMPs for Forestry and Forest Plan Standards governing timber harvests will successfully protect waterways and riparian areas from degradation within the Project Area. This is true for all streams inside the Project Area, including Bow Creek, which as you indicate, has been somewhat impaired with sediment in the past. By improving existing roads and correcting known erosion problems, this project should actually lead to improved conditions and a reduction in soil runoff. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: The Forest Service will identify appropriate Best Management Practices for the timber harvest activities during sale layout and design, and require the

implementation of BMPs through contract provisions for each sale unit. BMPs and Forest Plan standards are typically identified as a timber sale unit is located on the ground and marked, with specific BMPs stipulated through the timber sale map and contract requirements. (EA, Ch. 3, pg 50)

11. *Although native grasses provide great benefits for many wildlife species, the addition of these seeds likely represents a significantly greater cost that may either be unnecessary or may fail to provide the desired benefits.on many sites, the planting of native grasses is not required as broom-sedge, little blue stem and other native species are often present in the seed bank and will volunteer if the area is allowed to grow up. Finally, pure stands of native grass are less desirable for wildlife than mixtures of grasses and forbs that often result when an area is allowed to remain idle. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: The primary objective of seeding grasses and legumes on areas disturbed during treatment activities is primarily to mitigate potential erosion until native grasses in the area can become successfully established. Current seeding mixtures typically use desirable or non-persistent species. Native grass species will be used where applicable and erosion is not the immediate concern.

12. *NNIS are a serious concern both on and off the national forest. The EA seems to imply that when/where NNIS are already a problem or if they become a problem either during or after project implementation, prescribed fire and non-ground disturbing treatments will be used to address them. I do not believe that chemical treatments to address NNIS were mentioned. This seems overly restrictive and inefficient, given the successes that are often achieved on private and state-owned lands using appropriate chemicals, label rates, and application methods. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: A separate decision document is being developed on the Conasauga Ranger District to address NNIS, including inventory, treatment and monitoring. The use of herbicides for some treatments is anticipated, thus requiring an environmental assessment.

13. *In the EA, you state that black bears “are not typically found within the area affected by this project due to the interspersion of roads, development and non-forested lands with the relatively small, isolated forested tracts.” With a growing and thriving bear population, bears are beginning to expand their range statewide, and all indications are that they will do quite well in/around the rural areas of NW Georgia. There is no reason to believe that this project will negatively impact black bears; in fact, scattered areas of ESH across the landscape and increased sunlight reaching the forest floor beneath a predominantly pine forest, will actually improve soft mast production.... (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: Black bears are occasionally sighted in northwest Georgia but are not commonly found in the project area. We agree that this project would not negatively affect black bear, if present. (EA, Ch. 3, pg 118)

14. *With regard to white-tailed deer, the impact of the proposed thinning and restoration activities will be overwhelmingly positive. In reality, deer need areas of early-successional habitat for improved forage, soft mast production, fawning cover, and escape cover. This project will improve habitat conditions for white-tailed deer. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: We agree that this project will be positive for white-tailed deer habitat. (EA, Ch. 3, pg 119)

15. *Relative to bobwhite quail, you mention the fact that hard mast, specifically oak mast, will be reduced following implementation of these projects. Bobwhite quail are an early-successional species.....the lack of protective cover and the associated predator context in areas where oak trees are abundant is not particularly desirable for bobwhite. Concern about reducing the availability of oak mast for quail is not a valid issue. This project will be universally positive in terms of its effect on quail and their habitats. (Adam Hammond, GA DNR Wildlife Resources, November 26, 2007)*

FS Response: We agree that this project will be positive for bobwhite quail. Oak mast is a food item taken by quail when available, but we agree it is not a critical or limiting resource. (EA, Ch. 3, pg 122)

16. *It is likely that this project will greatly enhance wildlife diversity in the project area, particularly with regard to songbirds. The lack of early successional habitat in the project area obviously precludes a whole suite of species. Additionally, the North American Breeding Bird Survey indicated that, from 1980-2005 in the Blue Ridge Mountains, 40% of songbirds breeding in early successional habitat declined, while just 15% of mature forest songbirds declined. (Mark Banker, The Ruffed Grouse Society, October 3, 2007)*

FS Response: It is well documented that populations of disturbance-dependent species, including many songbirds, are among those in sharpest decline. This project will create early successional habitat for species such as prairie warbler, field sparrow, and indigo bunting. (EA, Ch. 3, pg 83)

17. *Both alternatives lack key components of a collaborative, ecological restoration project. We are most concerned about two missing, critical components: (1) a monitoring plan; and (2) a specific plan for ongoing collaboration throughout implementation. (SELC/GAFW, November 26, 2007)*

FS Response: A Monitoring Plan for the Armuchee Ridges thinning and restoration project is included in the EA as Appendix 6. The NEPA process calls for disclosing

environmental impacts that could result from implementing a proposed action. Considering this, addressing ongoing collaboration in the EA is not appropriate. However, we consider it important part of the implementation process and the Decision Notice discusses the commitment to continued collaboration. (Decision Notice, pg 1)

18. *Montane longleaf restoration (607 ac.)...we are concerned by the large scale of this experimental proposal which is not supported by a clearly defined reference condition, is not explained in detail, and does not contain specific goals and objectives which can be monitored to assess success. (SELC/GAFW, November 26, 2007)*

FS Response: The purpose and need for longleaf restoration has been clarified (EA, Chapter 1). Restoration of longleaf ecosystems is an on-going effort across the natural range of this species that once covered an estimated 9 million acres. The Armuchee Ridges area is documented as part of native range of the mountain longleaf portion, covering about 20% of the total range acreage. The habitat conditions in the area (rocky sandstone derived soils, steep slopes and exposed xeric ridges) are recognized as suitable for this species. There are examples of successful establishment of longleaf pine in the Armuchee Ridges project area, and at nearby Berry College, which clearly demonstrates that the proposed restoration is not experimental and that management tools are available to make the restoration activities successful. The proposed restoration treatments are documented as effective methods to achieve a sustainable population of this species. Longleaf restoration is also identified as a Forest Plan objective (3.5), evaluated during the revision process with public involvement. (EA, Ch.1, pg 3)

19. *The shortleaf restoration (30 ac.) likewise is unsupported by a clear reference condition but we are less concerned about it because it is so much smaller. (SELC/GAFW, November 26, 2007)*

FS Response: Shortleaf pine's native range includes the entire Chattahoochee-Oconee, thus a number of historic and current reference sites exist on the Forest. Restoration of shortleaf in the area is a desired condition and objective of the 2004 Forest Plan (3.3).

20. *The EA should commit to rehabilitate and revegetate the temporary roads after the project and explain how they will be blocked to prevent persistent illegal ATV use. (SELC/GAFW, November 26, 2007)*

FS Response: The EA states that the Armuchee Ridges project would be implemented using the standard Forest Service Timber Sale Contract, Georgia State Best Management Practices, and Forest Plan standards (EA, Chapter 2).

The Forest Service timber sale contract contains standard provisions that apply to all Forest Service timber sales. Provision BT6.63- Temporary Roads requires that the Timber Sale Purchaser (Purchaser) install adequate water control devices, such as outsloping and waterbars, and effectively block the road to normal vehicle traffic once the temporary road has served the Purchaser's purpose.

Forest Service Timber Sale contracts also contain special provisions, which are an addition to the standard provisions. CT6.601- Revegetation Plan and Specifications requires seeding and fertilization of all exposed soil, including exposed soil on temporary roads.

We recognize that illegal ATV use exists within the Armuchee Ridges project area and that newly opened areas, such as temporary roads, may provide an avenue for illegal ATV use. The temporary road closures would be designed to discourage illegal ATV use and may include such things as placement of boulders, re-contouring, and/or placement of debris on the road (EA, Chp.2, pg. 21).

21. *Ecological restoration. Fundamental aspects of ecological restoration are absent from the proposal. For example, the discussion of purpose and need does not focus on restoration. (SELC/GAFW, November 26, 2007)*

FS Response: The need for ecological restoration has been included in the purpose and need (EA, Chapter 1). In addition, the biological analysis contains several discussions about the ecological basis for the restoration. (EA, Chp3, pg 74, 79-80).

22. *The proposals also lack sufficiently detailed, specific objectives.....it is particularly important that they be concrete enough that their achievement can be monitored and evaluated. For most, if not all, activities proposed, the EA does not set forth objectives and performance standards at this level of detail. (SELC/GAFW, November 26, 2007)*

FS Response: The objective of this project is described in terms of purpose and need and achievement of Forest Plan goals and objectives, which are described in Chapter 1 of the EA (EA, Chapter 1).

We identify technical direction and standards to measure the success of the proposed action in documents such as silvicultural prescriptions, timber sale cutting cards, mitigation measures in Best Management Practices handbooks, and other technical direction such as the Forest Plan standards.

23. *The EA does not discuss whether and to what degree the desired conditions are self-sustaining. For example, burning hundreds of acres of oak and oak/pine forests every 3-5 years in perpetuity, as proposed, does not reestablish a self-sustaining system, so that proposal should be reexamined. What is the reference condition for this proposal and what is the scientific support for that condition? (SELC/GAFW, November 26, 2007)*

FS Response: The Armuchee Ridges analysis area is dominated by pine and oak communities which are fire-adapted ecosystems. The presence of mountain longleaf pine, shortleaf pine, and the multiple dry-site oak species are indicators of historical fire

in that ecosystem. The high stem densities of Virginia pine, red maple, and sweetgum in the mid-story and sub-canopy testifies to the effects of decades of fire suppression.

In addition, the Chattahoochee-Oconee National Forests Land and Resource Management Plan sets the management direction for National Forest System lands within the Armuchee Ridges project area. The intent of the Armuchee Ridges project is to support the implementation of the Forest Plan. The Forest Plan provides direction for ecological restoration. The concept of “self-sustaining ecosystems” is not recognized as a goal or objective in the Forest Plan.

24. *We also question whether the project stands have been sufficiently “ground-truthed” and verified that they are ecologically appropriate for the work proposed. (SELC/GAFW, November 26, 2007)*

FS Response: The majority of the stands have been ground-truthed and are found to contain the existing conditions needed to meet objectives for treatment, outlined in the purpose and need for the project (EA, Chapter 1). There is a likelihood that further field evaluation would determine that some stands, or portions of stands, would not be appropriate for the proposed treatment. Activities would not occur in these areas. This additional field validation is a standard practice in developing the silvicultural prescription. In addition, assessing the existing condition of the stands in relationship to achieving the objective has been identified as a monitoring item (EA, Appendix 6).

25. *Lack of Monitoring Plan. We are extremely concerned by the lack of a detailed monitoring plan. The lack of monitoring may be the most significant problem with this proposal. (SELC/GAFW, November 26, 2007)*

FS Response: A monitoring plan has been developed for the Armuchee Ridges thinning and restoration project, Appendix 6 to the EA.

26. *Proposed Forest Management ...we “ground-truthed” many of these stands and discussed them in our scoping comments, identifying several which were not appropriate for the management proposed. The District never responded to these stand-specific comments. ...we have visited additional stands...which also are not suitable for the work proposed and should be dropped from this project.leads us to believe that many sites have not been sufficiently “ground-truthed.” (SELC/GAFW, November 26, 2007)*

FS Response: See response to Comment # 24.

27. *Longleaf Restoration - We are particularly concerned about the method selected for longleaf pine restoration. The method selected is a regeneration cut, otherwise known as a clearcut since, according to District staff; the basal area will be reduced to less than 10%. The over 600 acres to be clearcut for longleaf restoration average nearly 100 years old and have a large oak mast-producing component with no apparent forest health problem. (SELC/GAFW, November 26, 2007)*

FS Response: Longleaf pine seedlings are shade-intolerant, which means they need an open canopy in order to compete for resources and survive. The proposal is designed to achieve the needed open condition to make the restoration of longleaf pine successful. The sites for longleaf restoration were chosen because of their ecological capacity to support longleaf communities. Oaks are present on these sites because of the submesic to xeric soils and other site characteristics which are common to both mountain longleaf and the various dry-site oak species such as chestnut and scarlet oak. The biological analysis indicates that there is an abundant mast-producing oak component throughout the stands in the project area. (EA, Chip. 3, pg. 72).

28. *If it is determined that clear-cutting is the only way to restore longleaf pine, the District should choose forest stands that are young, dense and unnaturally dominated by pine (high potential for southern pine beetle infestation), rather than completely removing healthy, mature stands which are more mixed, functioning well and providing beneficial wildlife habitat and hard mast now. (page 9, SELC/GAFW, November 26, 2007)*

FS Response: One of the young stands identified was field visited with Georgia Forest Watch during the February 7, 2008 field trip. The stand was a healthy shortleaf pine/hardwood stand. Shortleaf pine is a species that we want to encourage the project area because it was once present in much higher numbers and is more resistant to southern pine beetle infestation than loblolly or Virginia pine. In addition, the pine plantations mentioned represent a significant investment for the agency and it would not be desirable to liquidate simply to initiate another plantation.

29. *It also appears that the size of each regeneration unit may exceed Plan standards for the maximum size and proximity of such harvests: “FW-086 The maximum size of an opening created by even-aged or two-aged regeneration treatments is 40 acres” and “FW-087” Separate openings created by even-aged regeneration harvest units from each other by a minimum distance of 330 feet... (page 9, SELC/GAFW, November 26, 2007)*

FS Response: Treatments will comply with the Forest Plan standards for regeneration and even-aged treatments will be limited to 40 acres in size. FW-086 allows 80 acre regeneration areas for yellow pine restoration.

30. *Pine Thinning. Though we generally support and encourage the thinning of pine, especially planted, overstocked loblolly stands, we believe the “Desired Condition ‘Objectives’” are too vague. These goals and objectives, however, do not clearly define the desired conditions in the resulting stand. (page 10, SELC/GAFW, November 26, 2007)*

FS Response: The objective of thinning pine stands is to improve forest health in over-crowded stands, to decrease the risk of insect and disease infestation, particularly southern pine beetle, and to improve wildlife habitat. In addition, Chapter 2 identifies the

target basal area of the residual pine stands to be 60 to 80 square feet per acre (EA, Ch.2, pg 13).

31. *The EA should address how the proposed thinning will affect the future make-up of these stands over the long-term. (page 10, SELC/GAFW, November 26, 2007)*

FS Response: The primary purpose and need for thinning of pine is to improve forest health (EA, Ch. 2, pg. 78-79). There are no objectives intended for these stands beyond what is identified in the purpose and need.

A “desired condition” is described for each Forest Plan Management Prescription. The stands included in the Armuchee Ridges project fall within MPs with desired condition descriptions that identify a desire for ecological restoration or for forest communities that are appropriate to landtype associations. In the areas identified for pine thinning, the overall intent would be to move these stands towards a condition that would be more ecologically appropriate than planted loblolly plantations, likely stands with a composition of shortleaf/longleaf pine and mixed hardwoods. This EA and DN, however, focus only on the purposes of thinning for forest health.

32. *Oak and Oak/Pine Restoration. Stands 943004, 943023 and 922035, which are respectively 95, 95 and 97 years old. A good percentage of this stand is riparian (943004). There is absolutely no legitimate forest health reason to enter this stand and it should be dropped from this proposal. (page 10, SELC/GAFW, November 26, 2007)*

FS Response: See comment #24.

33. *Stand 943023....CISC lists the mean slope as 25% and the stand contains a riparian section with running water which is unsuitable for timber extraction. The rest of the stand has an average slope much greater than 25% and for that reason alone is probably unsuitable for timber cutting. There is no forest health issue here. (page 11, SELC/GAFW, November 26, 2007)*

FS Response: See comment #24.

34. *Stand 922035 is another mature mixed oak/pine stand that wraps around what was the former Narrows picnic area. Moreover, the Pinhoti Trail runs through the abandoned picnic area and alongside this stand and would be most unfavorably impacted by a timber harvest. This 75 year old CCC site should be surveyed for its cultural significance and the timber left alone. (page 11, SELC/GAFW, November 26, 2007)*

FS Response: See comment #24.

35. *...it is unclear what type of harvest is scheduled in the planned oak and oak pine restoration areas. The EA lists commercial thinning with no direction as to how*

much the basal area would be reduced.... If this is the intent, then there is no reason to enter or treat stands 922035, 943004 or 943023, since there is hardly any loblolly or Virginia pine in these stands. GAFW is opposed to any timber harvest or disturbance in these stands. If the Forest Service is serious about restoration and not harvesting for timber revenue then these mature healthy stands should be left alone. (page 11, SELC/GAFW, November 26, 2007)

FS Response: See comment #24.

36. Adequacy of EA and Potential Need for EIS. *From the beginning, we have stated that an EIS will probably be needed for this project. ...because it may have a significant effect on the environment, due to its extremely large size....likely impacts to unique and ecologically important resources; scientific controversy.... We emphasized that any EA prepared for this project must carefully consider these factors of significance 40 C.F.R. 1508.27, and contain a thorough, site-specific analysis of the project's potential environmental impacts and their significance. Unfortunately, this draft EA fails to do so in many respects, and therefore, is not adequate to support a finding of No Significant Impact (FONSI). (page 12, SELC/GAFW, November 26, 2007)*

FS Response: The EA complies with the requirements of NEPA and the FONSI contains the rationale for not conducting an EIS. (DN, pg 8)

37. Water Quality. *The EA, however, discusses only one of these impacts to water quality, aquatic habitat and at-risk species.... The EA totally fails to discuss other kinds of sediment impacts... (page 14, SELC/GAFW, November 26, 2007)*

FS Response: Sedimentation is disclosed in the EA as the primary pollutant expected from the proposed ground-disturbing activities. There are multiple effects of sediment on the biologic and physical health of the stream ecosystem, all of which are the result of the degradation of physical channel structure. The nature of the proposed activities (thinning, no permanent road construction, limited temporary road construction, and prescribed burning) is such that very little sediment will be delivered to the fluvial system if BMPs and Forest Plan standards are implemented. Therefore, the effects of sedimentation are likely to be minimal from the proposed activities. (EA, Ch. 3, pg 43)

38. The EA also does not recognize the length of time that sediment will affect the stream system. *(page 14, SELC/GAFW, November 26, 2007)*

FS Response: The time it takes sediment to move through the stream system is generally not easy to quantify. The uncertainty in these figures is based primarily on differences in flow regimes from year to year, landform and channel topography, and the amount and type of sediment in the stream channel. Generally there is a lag between the time sediment enters the stream system and the time it takes to move downstream through the system.

Swank et.al, 2001 does provide some information regarding the temporal scale at which sediment moves through the stream network, however this study is difficult to apply to this project for several reasons. This study was conducted in the Southern Blue Ridge Ecoregion. The Armuchee Ridges project is located in the Ridge and Valley Ecoregion where precipitation rates are much less than in the Southern Blue Ridge Ecoregion. Precipitation rates in these two regions are 36-55 inches per year and approximately 74 inches (Swank et al, 2001) per year respectively. Soils in the Ridge and Valley are also less erosive than the soils in the Southern Blue Ridge. The primary treatment in this study was a large clearcut. The clearcut area (approximately 53 acres) exceeded Forest Service limits for clearcuts at the time (40 acres). There are no clearcuts proposed in the Armuchee Ridges project. Further, the amount of road construction in this study (1.83 miles in a 147-acre watershed) exceeds the amount of temporary road construction proposed in any part of this project.

One final confounding aspect of this study is that during the study period, there was a storm event that produced the highest discharges recorded in 65 years at the Coweeta Hydrologic Laboratory. This event likely resulted in the production of more sediment than would be expected in a normal or even a wet water year. This is probably one reason sediment yield was higher in this study than initially predicted. The article expresses that for smaller-scale projects with fewer roads, the sediment output would likely be less than observed in this study. (EA, Ch. 3, pg. 43)

39. *The EA also seems to underestimate potential stream sedimentation.....as discussed further below; riparian zones should be completely avoided... (page 15, SELC/GAFW, November 26, 2007)*

FS Response: As stated in the EA, roads are the primary impact to water quality in forested watersheds. Although prescribed burning and harvesting are ground disturbing activities, and therefore may produce some sediment, sediment production from these activities is minimal with properly implemented BMPs. It is well documented that harvesting and prescribed burning activities with adequate controls have very little impact on long-term water quality (Swank et. al, 2001, Fulton and West, 2002).

The number of acres as well as the type of treatment in the riparian corridor is also disclosed in the final EA. Treatments in the riparian corridor are proposed in pine stands to be thinned, projected to occur on 584 acres. Forest Plan standards and Best Management Practices will be designed into treatments and implemented during operations. The harvesting technique that will be the most effective at minimizing water quality impacts will be employed in the riparian corridor. (EA, Ch 3, pg 44).

40. *Lack of Required Site-Specific Analysis.we emphasized the need for site-specific analysis, including an “on the ground” assessment of resource conditions and likely impacts, especially for soil and water resources and species of viability concern.the Draft EA contains virtually non detailed, site-specific information about the current condition of streams, soils and aquatic life in the various stands*

or groups of stands in the project area....(page 15, SELC/GAFW, November 26, 2007)

FS Response: NEPA does not require detailed presentation or display of site specific data in the EA. This information is typically included in the project files for the various resource areas to support the effects analysis in Chapter 3 of the EA. Site specific data from a recent stream inventory of Blue Springs Branch is included in the EA. Additional site specific analysis will be performed as projects are implemented. Should additional protections to streams be warranted, based on the sensitivity of the ecosystem or other issues, they will be enacted during project implementation.

General information about streams in the project area is disclosed in the EA, including trout streams, impaired streams, streams with existing inventories, and general conditions of streams in the Ridge and Valley Ecoregion. (EA, Ch. 3, pg 45)

41.85 stream miles adjacent to the proposed project areas, but does not disclose where this information comes from. Problematically, no site-specific information is provided about the condition of these streams.Blue Springs Branch as a surrogate for all others, claiming it is typical of the project area. How did the District determine this stream and its conditions....What does the District know about the condition of the other streams.....? (page 15, SELC/GAFW, November 26, 2007)

FS Response: Information about streams in the Armuchee Ridges analysis area, including physical and chemical parameters, fish assemblages, as well as multi-component indices of biological integrity, such as Index of Biological Integrity (IBI) scores and modified Index of Well-being classes may be found in the Project File and is summarized in the EA (EA, Ch.3, pg 47). Blue Springs Branch is a suitable representative stand based on these criteria.

Stream miles were estimated using a spatial (GIS) dataset developed by the Forest Service. For this layer, low order streams were added to the basic stream layer in the office based on the best available topographic data (DEMs and contours). This stream layer was not validated in the field due to time and cost restraints. However, it does provide a better estimate of the stream network than what is typically available on existing USGS quads.

Blue Springs Branch was chosen for inventory in 2001 because it was one of the least impacted streams on the Forest in the Ridge and Valley Ecoregion, and has a substantial portion of its headwater area on national forest. Blue Springs Branch was not intended to be a surrogate for all other streams in the project area. This information was included because it is an existing inventory in the project area. A detailed history of management of Blue Springs Branch is unknown, therefore the statement regarding effects of past management practices were removed from the final EA.

42. *Second, there is not detailed, reasonably thorough site-specific information and analysis regarding the condition of these streams and the likely impacts to them, as NEPA requires. (page 16, SELC/GAFW, November 26, 2007)*

FS Response: See response to comment # 40.

43. *At this stage, the District must conduct NEPA analysis “to evaluate the environmental impact of the specific project.” (page 16, SELC/GAFW, November 26, 2007)*

FS Response: See response to comment # 40.

44. *Will impacts be felt more heavily in some watersheds than others? For example, this proposal plus other projects would treat almost 75% of one drainage in the East Armuchee Creek watershed (HUC # 0401). In two drainages in the John’s Creek watershed, about 45% and 30% of the Forest Service land in those drainages (roughly 20% and 10% of the entire drainages) would be treated by this and other projects (page 16, SELC/GAFW, November 26, 2007)*

FS Response: The SELC/GAFW comment letter (Nov. 26, 2007) states that “This proposal plus other projects would treat almost 75% of one drainage in the East Armuchee Creek Watershed (HUC #0401). This statement is incorrect. 73% of the Forest Service acreage in this HUC would be treated, while only 19% of total HUC area would be treated. The activities in this HUC would take place over a 7-year period, so the effects from the projects are much less than if the activities were scheduled during a shorter period.

Skid trails and log landings are short-term in duration, and these considerations are all part of the cumulative effects analysis. As shown in tables 3-13 through 3-16 in the EA, some HUCs will have more activities than others and the timing, acreage and type of activity are all disclosed in the EA. (EA, Ch. 3, pg. 53-61)

45. *If the District attempts to proceed without sufficient site-specific analysis to verify that these standards will be met, it would have no basis for demonstrating that the project is consistent with the Forest Plan.... In this case, it is not apparent that the District plans to verify at all. (page 17, SELC/GAFW, November 26, 2007)*

FS Response: This project is compliant with the Forest Plan. The stands identified in the EA for possible treatment have been initially identified and evaluated for their suitability based on available data and site investigation as needed. Stands that could not be operationally treated and comply with Forest Plan standards or other constraints are generally dropped from further analysis. When the Decision Notice is approved and the proposed action moves forward the District will complete site specific layout and location of suitable stands (sale layout, marking and cruising) and design them to meet Forest Plan standards and timber sale contract provisions. If a proposed stand cannot comply with the Forest Plan requirements it is dropped from treatment.

46. *Insufficient evidence to Support Mitigation Measures (Riparian Prescription 11 and BMPs). The District seems to be using these mitigation measures to lay the groundwork for a Finding of No Significant Impact (FONSI). (page 18, SELC/GAFW, November 26, 2007)*

FS Response: BMPs have been shown to be effective at minimizing water quality damage from forestry activities. Prud'homme and Greis, (2002) provides a summary of the effectiveness of BMPs in the South. The specific BMPs that will be followed in all of the Armuchee Ridges projects are outlined in the Georgia BMP manual. Further, BMP compliance will be monitored by appropriate personnel during project activities. (EA, Ch. 3, pg. 50)

47. *Here, the EA does assert that studies have shown that “properly implemented BMPs are effective at preserving water quality.... The EA does not, however, explain how those proven BMPs compare to the ones planned for use here, the CONF’s track record in properly implementing such measures, or their efficacy on past projects on the CONF. (page 18, SELC/GAFW, November 26, 2007)*

FS Response: Research is cited in the EA describing the effectiveness of BMPs to minimize impacts to water quality. The BMPs applied on the Armuchee Ridges project are those described in the Georgia Forestry BMP handbook, which is based on research and operational studies in the southeast U.S. (EA, Ch. 3, pg 50)

48. *...we are aware of no support for the claim that BMPs can eliminate all effects, as the EA tacitly suggests. Nor are we aware of any support for the even more extreme assertion that these mitigation measures can actually “enhance” water quality and aquatic habitat. We fail to see how these passive measures to prevent more sediment from entering streams can somehow improve current conditions. (page 18, SELC/GAFW, November 26, 2007)*

FS Response: Overall, BMPs are strongly believed to minimize erosion and sediment effects from forestry activities, although they cannot eliminate them altogether. This has been demonstrated and proven through numerous research studies, and has been established as direction through the publication and enactment of BMP handbooks in all states with forestry programs. Effectiveness depends on many factors, including watershed physical characteristics, rare weather events (e.g. 25-year or greater precipitation events), and correct implementation. BMPs for the Armuchee Ridges project come from the Forest Plan standards and Georgia’s Best Management Practices for Forestry. These will be implemented on the ground through specific timber sale contract clauses, and compliance checking by timber sale administrators and specialists. Many BMPs are associated with design and planning activities and have already been implemented when the Draft EA was developed (e.g. selection of suitable stands, determination of appropriate logging methods, and use of existing road networks). (EA, Ch. 3, pg 50)

49. Cumulative Impacts. *The analysis of cumulative impacts is seriously flawed. Under NEPA, the District must analyze, consider and disclose the environmental impacts of this proposal... First, the draft EA contains no information whatsoever about activities on private lands in these watersheds. (page 20, SELC/GAFW, November 26, 2007)*

FS Response: Effects analysis in the EA complies with NEPA requirements for this project.

50. Cumulative effects analysis offers an improperly isolated, truncated view of sediment movement within stream systems. *This view does not recognize that the entire project is located within the Oostanaula River watershed and that sediment from activities in each sub-watershed eventually move downstream into this river, the extent and impact of which is not considered in this EA.*

FS Response: The risk is low for the potential sediment from this project to have a cumulative impact on a scale larger than the 6th level HUCs in which the specific treatments are located. The nature of these activities is such that very little sediment will be delivered to the adjacent and downstream channels. Therefore the amount of sediment that would be delivered to the Oostanaula River from this project is negligible. Even at the scale of the four 5th level HUCs in the project area, there are likely to be no cumulative effects from this project, as disclosed in the EA. (EA, Ch. 3, pg. 51)

51. Clean Water Act. *A number of streams in the project area are state-designated trout streams. The EA does not discuss how these water quality standards for trout streams will be met. (page 21, SELC/GAFW, November 26, 2007)*

FS Response: Georgia's BMPs for Perennial and Intermittent Stream SMZs (streamside management zones) includes provisions for protection of water quality in all streams. Trout and the insects they eat are sensitive to elevated water temperatures and sediment, therefore trout streams have additional requirements pertaining to the width of the SMZ (100 feet minimum vs. the 20-100 foot SMZ required on non-trout streams). Within the 100 foot SMZ on designated trout streams and tributaries, minor silvicultural activities may take place as long as streamside vegetation which provides shade and canopy cover is retained (see EA sections on riparian and aquatic communities for more information). Forest Service standards for riparian corridor management are similar to Georgia BMPs, requiring a minimum 100' buffer on all perennial and intermittent streams. All activities within this zone must comply with Forest Plan standards and the BMPs for perennial and intermittent streams, and trout streams, if applicable.

The EA discloses that many of the streams in the project area are classified as trout streams. As stated in the EA, forest plan direction and BMPs will be used on all projects to preserve the water quality of all water bodies. This includes trout streams and impaired streams. Forest plan direction and Georgia BMPs for trout streams dictate that there will be no harvesting of bank trees, and that at least 50 square feet of basal area will be left evenly distributed throughout the riparian corridor (100 feet on either side of the

stream on 0-10% slopes and 125 ft on slopes 11-45%) to provide shade and keep water temperatures low.

Riparian corridor standards and BMPs will also be implemented to ensure that the impacts from project activities in impaired watersheds are minimized. As stated in the EA, the only stream impaired for sediment in the project area is Bow Creek. Armuchee Creek and the Oostanaula River are impaired from fecal coliform (not from impacts to biota from non-point sediment sources as SELC/GAFW comment letter suggests), however these streams are not located in any of the project HUCs and are outside the bounds of analysis of this project. John's Creek is located in the project area (HUC 0303) and is impaired for fecal coliform. Forestry and related activities have virtually no effect on fecal coliform levels, therefore the proposed activities will not exacerbate fecal coliform levels. Fecal coliform is generally affected by sewage system leaks, septic tanks, and grazing. (EA, Ch. 3, pg. 44)

52. *Riparian Corridor 11. In our scoping comments, we requested that the District completely avoid activity within the 100' to 150' riparian corridor, because we believed the work proposed in the riparian area did not fit within the Forest Plan's riparian prescription 11 (except for the riparian hardwood restoration) and because we believed that the large scale of this project warranted additional protection to prevent adverse impacts, especially cumulative impacts, to streams. (page 22, SELC/GAFW, November 26, 2007)*

FS Response: The Forest Plan provides for management actions within Management Prescription 11, Riparian Corridor, which is embedded within all other Management Prescriptions. The distances in the Forest Plan are defined as minimums and can be expanded as needed to meet site specific conditions. The Plan identifies desired conditions for riparian areas, some of which require silvicultural treatments to maintain, restore or enhance the habitats within the corridor. One example is to reduce the percentage of pine established by previous treatments to allow enhancement of potential hardwood species in the areas. Removal of pines in these situations requires compliance with the Forest Plan standards for activities conducted within the specified distances. (EA, Ch. 3, pg. 44)

53. *Our comments, however, were not squarely addressed and these issues were not considered in the EA. The scoping response table sought to duck the issue with the unresponsive statement that "Forest Plan direction exists for activities in riparian corridors." The question is not whether Plan direction exists; it is whether the District is adhering to that direction and whether, based on site-specific factors, additional protections are needed for this project.... (page 22, SELC/GAFW, November 26, 2007)*

FS Response: see response to Comment 51.

54. *Moreover, as we have explained before, we disagree that general thinning is permitted in the riparian corridor.activities and management treatments*

within the Riparian Corridor, ...are for the benefit of riparian-associated species. (page 23, SELC/GAFW, November 26, 2007)

FS Response: The purpose and need has been updated to reflect the needs to treat riparian corridors to benefit riparian-associated species (EA, Ch. 2, pg. 13)

55. *With the exception of the riparian hardwood restoration, we do not believe that the restoration activities proposed here truly are needed within the riparian corridor. (page 23, SELC/GAFW, November 26, 2007)*

FS Response: See Response #54.

56. *The EA claims that timber may be harvested from riparian areas so long as an average of 50 sq. ft. of basal area is retained. The riparian prescription 11 says nothing about this, however. This apparently comes from the Georgia Forestry BMPs.we have found some Forest Service staff relying solely on the BMPs, despite the fact that the riparian prescription 11 contains extensive, specific direction beyond the BMPs. (page 23, SELC/GAFW, November 26, 2007)*

FS Response: Forest Plan standards typically do not stipulate site level direction as specific as basal area requirements, but require compliance with other existing direction; in this case the current Best Management Practices for Forestry in Georgia. BMP direction for harvest along streams directs leaving an average of 50 square feet of basal area per acre within streamside management zones on perennial and intermittent streams. This is the minimum amount of basal area to be retained, primarily for thermal control on trout streams. (EA, Ch. 2, pg. 13)

57. *Impacts to Soils from Temporary Roads and other Ground Disturbance. The EA does not, however, provide a crosswalk between the stands and these soil and erosion ratings, so it is impossible to examine the specific stands with these severe ratings. (page 24, SELC/GAFW, November 26, 2007)*

FS Response: Stand specific soils information is in the project record, including erosion ratings, and was summarized in effects analysis. (EA, Ch. 3, pg. 31)

58. *The EA does not explain precisely which activities would occur on slopes between 15% and 45%, so it is not clear whether, given the many steep slopes here, these standards will be met. Nor is it clear whether those soils at severe risk of compaction exceed the plastic soil limit. (page 24, SELC/GAFW, November 26, 2007)*

FS Response: The operation limit for skidders is 35-40%. Steeper slopes would require bladed trails, which are also referred to as constructed skid trails. Chapter 2 (EA pg. 21, Table 2-8) states that skidding would not be allowed on sustained slopes over 35%.

59. *Likewise, there are no details about the limits on the location of the 23 miles of temporary roads. ...If timber harvesting is proposed on slopes up to 45%, will temporary roads be constructed on such slopes? What is the maximum sustained slope on which temporary roads would be built, and the maximum slope for short distances? What is the maximum length of those short distances? What about the slope for ground-based harvesting with skidders, etc.? (page 25, SELC/GAFW, November 26, 2007)*

FS Response: See response to #20 and #58. For the majority of the stands proposed for treatment, temporary roads to be used in harvesting activities are generally in place from previous operations. Operational use typically requires clearing, re-establishment of cross drainage, installation of stream crossings where needed, and maintenance during operations. Establishment and operational standards are found in the Best Management Practices handbook and are used in timber sale contract provisions. (EA, Ch. 2, pg. 21)

60. *We also remain concerned that these stands have not been sufficiently “ground-truthed.” However, we are concerned that some stands will not be fully examined before making a final decision. (page 25, SELC/GAFW, November 26, 2007)*

FS Response: See response to comment #24.

61. *It is also not clear how these temporary roads will be handled after timber harvest. Will they be rehabilitated and revegetated and, if so, when will this be done – how many years after that phase of work? Will some temporary roads be converted to linear wildlife an opening, as sometimes has been for other projects? (page 26, SELC/GAFW, November 26, 2007)*

FS Response: See response to # 20.

62. *The EA does not address....this ATV issue at all. The EA must consider the likely use of these roads by ATVs, and the effects of that use, and explain how it will be mitigated. (page 26, SELC/GAFW, November 26, 2007)*

FS response: We acknowledge that illegal ATV use exists within the Armuchee Ridges project area, and that newly opened areas, such as temporary roads, may provide an avenue for illegal ATV use. Temporary road closures would be designed to discourage illegal ATV use and may include such things as placement of boulders, re-contouring, and/or placement of debris on the road. (EA, Chapter 2, pg. 21)

In addition, skid trails will be closed at their junction with landing sites by placing slash on the skid trail.

63. *Under NEPA, the Forest Service must disclose and consider the impacts and costs of future illegal use of temporary roads in this area. (page 26, SELC/GAFW, November 26, 2007)*

FS response: See response to comment # 62.

64. *Prescribed Fire. Fire tolerant species not identified, role of fire in oak/oak-pine ecosystem is not described, nor is the natural (pre-European) reference condition for burning these stands every 3-5 years identified. (SELC/GFW, November 26, 2007)*

FS Response: The role of fire in oak/oak-pine forest communities is described in the EA Chapter 3, pages 63-65.

65. *We do not support landscape-scale prescribed burning. Proper use of fire must be site specific (topography/forest type/age/moisture regime/elevation/aspect). (SELC/GFW, November 26, 2007)*

FS Response: Prescribed fire would be applied on a site-specific basis. The Armuchee Ridges project includes prescribed burning to support mountain longleaf pine restoration (639 acres), shortleaf pine restoration (30 acres), oak/oak-pine restoration (520 acres), and oak/oak-pine maintenance (156 acres).

66. *Fire is costly and risky. (SELC/GFW, November 26, 2007)*

FS Response: Prescribed fire is an important tool in ecological restoration and costs less per acre than any other silvicultural treatment.

In addition, detailed plans are developed for each prescribed burn that outlines the conditions under which the burn can take place in order to minimize the risk of escape while still meeting the objectives of the burn. These parameters include such things as minimum relative humidity, maximum temperatures, and wind speed. On the Conasauga Ranger District, an estimated 11,070 acres have been burned using prescribed fire in the last 5 years and an estimated 37 acres (0.3% of the total acres) have been burned outside of control areas.

67. *Fire was not dominant in moist southern Appalachian forests. (SELC/GFW, November 26, 2007)*

FS Response: As described in the EA, Chapter 3, pages 67-68, mesic deciduous (cove hardwood) forest communities are characterized by relatively low levels of disturbance. Fire occurrence was infrequent.

68. *Fire has to be considered experimental and should be done in small units only. (SELC/GFW, November 26, 2007)*

FS Response: The Armuchee Ridges analysis area is dominated by pine and oak communities which are fire-adapted ecosystems. The presence of mountain longleaf pine, shortleaf pine, and the multiple dry-site oak species are indicators of historical fire

in that ecosystem. The high stem densities of Virginia pine, red maple, and sweetgum in the mid-story and sub-canopy testifies to the effects of decades of fire suppression.

The use of prescribed fire to influence vegetation is well-documented and not considered experimental. As with many of the stands found in the Armuchee Ridges area, fire was historically so prevalent and frequent that flora and fauna adapted to it in order to survive. Land managers have recognized this and utilized prescribed fire for decades. The size of a burning unit depends on multiple factors such as treatment objectives, topography, natural firebreaks, and many others.

69. *No provisions are made for monitoring fire effects. (SELC/GFW, November 26, 2007)*

FS Response: A Monitoring Plan specific to the Armuchee Ridges Thinning and Restoration project includes an item for monitoring the achievement of objectives related to prescribe burning (EA, Appendix 6).

70. *What monitoring data show the stands identified for Condition Class 3? (SELC/GFW, November 26, 2007)*

FS Response: The assessment of Fire Condition Class stated in the Final Environmental Impact Statement for the Revised Forest Plan is based on a sampling of stand conditions across the Forest.

71. *The EA contains no evidence that fire-adapted ecosystems ever existed on the project areas, much less that they are short-interval fire adapted systems. We do support burning in Longleaf Pine, Table Mountain Pine and Pitch Pine to maintain or create the ecosystem. (SELC/GFW, November 26, 2007)*

FS Response: The Armuchee Ridges analysis area is dominated by pine and oak communities which are fire-adapted ecosystems. The presence of mountain longleaf pine, shortleaf pine, and the multiple dry-site oak species are indicators of historical fire in that ecosystem. The high stem densities of Virginia pine, red maple, and sweetgum in the mid-story and sub-canopy testifies to the effects of decades of fire suppression. (EA, Ch. 3, pg. 67)

72. *We are concerned that repeated fire could cause nutrient loss, leading to reduced soil productivity. (SELC/GFW, November 26, 2007)*

FS Response: In dormant season low-intensity fires, direct heating of the mineral soil generally is minor except where accumulations of woody debris smolder for lengthy periods. Only a small percentage of the heat generated by the fire is directed downward into the soil, and mineral soil is a poor conductor of heat, especially when dry. Nutrients lost during fire through volatilization and ash convection are returned to the soil during post-fire precipitation. Nitrogen availability and organic carbon content in soils may

increase after fire. The degree to which these and other effects are felt depends on the amount and type of fuel present and other site characteristics.

73. Provide more detail (intensity/ignition) on the prescribed burning plans in the EA. (SELG/GFW, November 26, 2007)

FS Response: The majority of the prescribed burning proposed in the Armuchee Ridges area was approved through previous NEPA decisions (Decision Memo, 17 January 2006). Under this decision, areas identified for longleaf/shortleaf restoration and oak/oak pine restoration and maintenance would be treated with prescribed fire. The completion of burn plans is not required in the NEPA document.

74. The Plan limits prescribed burning in mesic forests and in riparian corridors (limited to fire-dependent species). What are the fire-dependent vegetative communities and/or species in the riparian areas in these stands (oak/oak-pine)? (SELG/GFW, November 26, 2007)

FS Response: The prescribed burning in mesic forest types are intended to meet the purpose and need described in Chapter 2.

75. There are two different objectives given in EA for riparian hardwood restoration. (SELG/GFW, November 26, 2007)

FS Response: This error has been corrected. Prescribed burning is no longer planned for the riparian hardwood restoration treatment.

76. Maintaining Oaks and Mast Production. We are concerned about reduction in mast production as a result of silvicultural practices resulting in negative effects on white-tailed deer. (SELG/GFW, November 26, 2007)

FS Response: Given the abundance of oak and oak-pine forest in the Armuchee Ridges analysis area (approximately 42% of the analysis area on National Forest), similar forest communities on adjacent private land, and the supplemental food sources available both on and off the Forest, a small reduction in mature mast-producing acreage (less than 600 acres) will be negligible in the context of the project area. Early successional habitat, which provides both food and cover, is much more of a limiting factor affecting deer habitat on the Forest at this time. (EA, Ch. 3, pg. 67)

77. Clearcut hardwood stands discriminate against oak recruitment as other species out-compete oak seedlings. (SELG/GFW, November 26, 2007)

FS Response: The oak/oak-pine restoration that would take place is identified as a regeneration harvest. There are many types of regeneration harvests, clearcutting being only one type of regeneration harvest. The oak/oak-pine restoration is identified for regeneration but the “appearance” will be as a commercial thinning. It’s not identified for commercial thinning because regenerating a stand is not an objective of commercial

thinning. The longleaf pine restoration would also be a regeneration harvest and would have the appearance of a clearcut. The objective of these treatments is to regenerate the stands to longleaf pine, not oak, and longleaf pine need an open canopy in order to survive. (EA, Ch. 3, pg. 74)

78. *Invasive Species. No monitoring or treatment is included in the Draft EA for invasive species. (SELC/GFW, November 26, 2007)*

FS Response: The presence of an existing population of NNIS within the project area is known, as is the potential for harvest activities to cause the spread of NNIS. The majority of the populations occur along the roadside and within riparian areas, areas typically impacted by historic or current human disturbances. Mitigation measures will be applied during harvest activities to minimize the potential for spread. These include such things as equipment cleaning and prohibiting skidding within the riparian corridor, except for at designated crossings.

Monitoring for the spread of NNIS has been included in the Monitoring Plan. Also, the District is in the process of completing an “adaptive management” type of EA which would allow for the treatment of NNIS with the use of herbicides. This is considered a “reasonably foreseeable future action” and it’s expected that the EA will be completed in the fall of 2008.

The analysis in the EA indicates that, although there is a risk that activities may spread NNIS, there would be no impacts to threatened, endangered, or rare plant communities and NNIS spread would have negligible impacts to wildlife habitat. (EA, Ch. 3, pg. 127-134)

79. *Exotic species along roads should be treated as a part of this project. (SELC/GFW, November 26, 2007)*

FS Response: See response to #78.

80. *Equipment washing and inspection for invasive species seed needs to be included in the contract, including other possible mitigations. (SELC/GFW, November 26, 2007)*

FS Response: See response to #78.

81. *Known NNIS sites need to be monitored: other sites need to be checked. (SELC/GFW, November 26, 2007)*

FS Response: See response to #76.

82. *Spread of NNIS as a result of the project treatments has an effect of ‘significance’ which raises questions about the need for an EIS. (SELC/GFW, November 26, 2007)*

FS Response: The analysis in the EA indicates that, although there is a risk that activities may spread NNIS, there would be no impacts to threatened, endangered, or rare plant communities and NNIS spread would have negligible impacts to wildlife habitat (EA, Ch. 3, pg 107-118).

83. *Need to address the cumulative effects of other activities with this project on spreading of NNIS. (SELC/GFW, November 26, 2007)*

FS Response: Cumulative impacts of activities have been captured in the final EA (EA, Ch. 3, pg. 130, 132, 134)

84. *Avoid impacts to caves and sinkholes in stands proposed for management. Provide buffers for protection. Need surveys for caves and sinkholes in E. Armuchee Creek. (SELC/GFW, November 26, 2007)*

FS Response: Caves and sink holes are identified during timber sale preparation and buffers are applied to exclude timber harvest and disturbance from harvest activities. Forest Plan standards for caves (9.F-020 through 9.F-022) will be followed.

85. *Thinning in the riparian corridor may adversely affect gray bat foraging. (SELC/GFW, November 26, 2007)*

FS Response: An analysis of the effects of the Armuchee Ridges project on gray bat foraging habitat has been completed, and a determination has been made that Alternative 2 and 3 are not likely to adversely affect gray bat foraging habitat because effects would be insignificant or discountable (EA, Ch. 3, pgs. 108-110). Modification to riparian corridors in the project area will be extremely limited in scope and duration.

86. *A ‘may-affect’ conclusion requires the agency to consult with FWS. (SELC/GFW, November 26, 2007)*

FS Response: Informal consultation has been completed on the Biological Evaluation and the US Fish and Wildlife Service has concurred with the findings for the project.

87. *Old Growth. The decision needs to include designation of additional Old Growth acres. (SELC/GFW, November 26, 2007)*

FS Response: Stands needed to meet Old Growth requirements within HUC# 031501030404 have been selected and identified in the Final EA to ensure that their old growth characteristics will not be altered until a Forest Plan amendment is completed. A Forest Plan amendment is required to change Management Prescription designation (i.e. 9.H to 6.B). (EA, Ch. 3, pgs. 88-91)

88. *We are concerned about thinning 3 potential old growth stands which might negatively affect their old growth characteristics. We believe it is appropriate to*

survey these stands first, so that the District knows whether these stands are old growth. (SELC/GFW, November 26, 2007)

FS Response: The EA provides analysis that indicates that thinning the 3 potential old-growth pine stands will not negatively impact old growth characteristics because the oldest age class will be retained. (EA, Ch 3, pg 90)

89. We also question why stands which do not meet the minimum age for Old Growth are suggest for Old Growth blocks to meet the 5% requirement while none of the seven stands that do meet the minimum age are suggested for old growth blocks and some are even suggested for thinning. (SELC/GFW, November 26, 2007)

FS Response: The stands that are suggested for designation as additional Old Growth blocks are the oldest stands within the sub-watershed which did not meet the 5% standard. These stands most-nearly meet the age requirement for existing old growth type 22 (110 years old), and provide diversity in old growth types. None of the seven stands which meet minimum age criteria are within the sub-watershed which did not meet the 5% standard.

90. We are concerned about thinning the 6 stands that are in 6.D. Are these 6 stands in the core area or the surrounding area of 6.D? (SELC/GFW, November 26, 2007)

FS Response: The 6 stands proposed for thinning in 6.D are outside the “core” area, which is comprised of late-successional stage mixed mesophytic or cove hardwood forest (stands 933014 and 933020 totaling 226 acres). The “core” area has not reached minimum age for old growth type 05 - mixed mesophytic (140 years) but is 80-100 years old. The EA provides analysis that indicates that thinning the 6 young pine stands in the surrounding area will not negatively impact old growth characteristics because the oldest age class will be retained. (EA, Ch. 3, pg. 90)

91. Recreation and Trails.the trail experience will be heavily impacted by the clearcuts planned for longleaf restoration along Taylor Ridge and the timber cuts planned for the oak and oak/pine restoration in stand 922035. Due to the type of harvesting proposed (clearcutting), visual impairment will be long-lasting. (page 38, SELC/GAFW, November 26, 2007)

FS Response: Stand 922035 is within MA 9.H, Management, Maintenance, and Restoration of Plant Associations to their Ecological Potential. The landscape character is natural-appearing; active management may occur with low to high short-term and moderate to high long-term landscape character changes. Restoration of plant communities takes precedence over recreation, and recreation uses may be redirected or suspended in some locations due to restoration activities. The restoration activities will raise the stability or integrity from the existing diminished condition towards the Desired Future Condition and therefore are valid actions. (EA, Ch. 3, pg. 140)

92. *Heritage Resources. The PA contains very little detail. It states that the CONF will identify historic properties and provide historic property inventory reports for each annual program of work to the SHPO and THPO for review and comment.*

FS Response: The final Programmatic Agreement (PA) expands on the process for phased compliance (see final PA). Additional language about phased compliance and the intention to meet all laws related to archeology and heritage preservation has been included in Chapter 2 of the EA. The PA has been approved and signed by the State Historic Preservation Office, the Eastern Band of Cherokee Indians, and the Chattahoochee National Forest.

93. *It does not, however, commit to perform on-the-ground surveys for historic properties, explicitly resolve to avoid them, or set forth measures to mitigate impacts to them.*

FS Response: The PA states that , “...all cultural resources that are not considered ineligible for listing in the National Register of Historic Places and are subject to direct or indirect effects resulting from the Undertaking will be avoided and protected from project effects where prudent and feasible. In the very rare instance that protection through avoidance cannot be successfully implemented, the Forest Service will develop a treatment plan in consultation with the SHPO and THPO. The Forest Service shall submit the plan to the SHPO and THPO for a 30 calendar day review. Unless the SHPO and THPO object within 30 days after receipt of the treatment plan, the Forest Service shall ensure that it is implemented.” If cultural resources cannot be avoided, the public will be provided an opportunity to comment on the proposed treatment plan.

In addition, standard provision BT6.24- Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources outlines the requirements for protection of heritage resources and provides guidance on protection of sites if unknown sites are discovered during timber sale operations.

94. *The EA stated all activities would be conducted pursuant to “mitigation measures determined in consultation with the SHPO and THPO.” Yet the PA does not include mitigation measures.*

FS Response: See response to #93.

95. *The EA contains no information about the type, characteristics and significance of the properties or about avoidance or mitigation measures. Pursuant to both the NHP and NEPA, this information should be publicly available in the EA.*

FS Response: There are 21 known sites within the stands proposed for treatment. These include lithic scatters, historic home sites with no standing structures, historic dump site, and historic mill and dam. The process to determine whether or not these sites are eligible for listing on the Historic Registry has not been determined at this time. The

heritage resource analysis has been updated to reflect the information about the known sites.

96. Under Section 106, the District must involve and inform the public and provide opportunities for public comment.

FS Response: The public involvement requirements have been met with the development of the Programmatic Agreement (PA). The public was notified of the opportunity to review and comment on the draft PA with a public notice in *The Daily Citizen* which is published in Dalton, Georgia, and is the newspaper of record for the Conasauga Ranger District.

In addition, 36 CFR 800.4(a) (4) requires that “information and advice should be sought from interested persons likely to...have concerns for historic properties on National Forests...” Georgia ForestWatch and the Southern Environmental Law Center indicated an interest in the protection of heritage resources associated with the Armuchee Ridges projects and were afforded the opportunity to provide input on the draft PA. We reviewed their comments and incorporated them where possible in the PA.

4.6 – PUBLIC INVOLVEMENT OPPORTUNITIES

This section highlights opportunities for public participation during the Armuchee-Cohutta Large Scale Assessment (2006-2007) and the development of the project through the NEPA process. Collaboration with all interested individuals, organizations and cooperating agencies has been a key part of the project developing an exchange of information, ideas, concerns and issues since April 2006. This collaboration will continue into the implementation phase of the project.

Forest Supervisor Kathleen Atkinson initiated the Armuchee-Cohutta Large Scale Assessment in November 2005, identifying an interdisciplinary team (IDT) from the District and Supervisors Office to conduct an assessment of the District’s vegetation management opportunities. The intent of the assessment was to identify opportunities to implement objectives of the 2004 Forest Plan, specifically vegetation management objectives.

The Armuchee-Cohutta Large Scale Assessment (LSA) was initiated as a collaboration effort with interested partners and the public. The LSA was designed to identify a 5-year vegetation management program of work for the Conasauga Ranger District, formerly the Armuchee-Cohutta Ranger District.

The IDT completed an initial field assessment of stands across the District in areas where vegetation management was identified as an objective in the Forest Plan. Using this field information in combination with existing data for these stands, the IDT identified 18,475 acres of potential vegetation management activities which were designed to meet 14 Forest Plan objectives. The objectives emphasized forest health, restoration of forest

ecosystems, and creation of declining natural communities needed to support viable populations of native and desired non-native plants, wildlife and fisheries.

A public meeting was held in April 2006 where the 18,475-acre Large Scale Assessment was presented. The focus of the meeting was to explain the “plan to project” process, the focus on vegetation objectives, and the need to identify treatments to moved ecosystems to healthy conditions. Presentations were provided on examples of existing conditions, desired conditions and a process to initiate actions to implement the Forest Plan. Attendees were asked to provide comments, ask questions and identify their interest in field trips to the District to view vegetation conditions.

Three field trips were held on the District to discuss the various objectives and potential effects of silvicultural treatments. Field trips were also made to the Forest Service research units at Bent Creek Experimental Forest and Coweeta Hydrologic Laboratory to address specific public concerns of silviculture of Appalachian hardwoods, riparian area management, and water quality impacts.

Through a collaborative process, which included several additional meetings and field trips, the Forest decided to move forward with objectives that our partners in collaboration identified as the most critical for implementation. The activities associated with these objectives, an estimated 10,364 acres, were presented to the public in a scoping notice as the Armuchee-Cohutta Thinning and Restoration Projects in December 2006. Table 4-1 displays public involvement opportunities of the project.

Table 4-1. Public Involvement Opportunities – Armuchee Ridges Project

Date	Topic / Location / Meeting Site/ # Attending	Subject
4/13/2006	Public Meeting held in Dalton, present large scale assessment	Information meeting to present concept of large scale assessment of vegetation objectives on Armuchee-Cohutta District, time frames, objectives, build public participation
5/18/2006	Field Trip w/public on Cohutta side of District, four stops on National Forest	Field trip to four stops, examples of LMP objectives at sites with existing and/or desired conditions – pine thinning, riparian hardwood restoration, NNIS control, woodland creation
6/20/2006	Field Trip w/public on Cohutta side of District, four stops on National Forest	Field trip to 4 stops, examples of LMP objectives at sites with existing and/or desired conditions – high elevation early successional (critical bird habitat), canopy gap habitat, natural canopy gap on wilderness edge
7/18/2006	Public Meeting – Discussion of LMP objectives, possible treatments, held at Chatsworth, GA	Open public meeting @ Forest Service office (all day), discussion of LMP objectives analyzed in large scale assessment, consideration of support, non-support, opportunities for consensus & collaboration
8/10/2006	Public field trip to Asheville, NC – Bent Creek Research Unit – Southern Appalachian oak silviculture	Public field trip on Bent Creek research sites with Dr. David Loftis & Mr. Henry McNab; topics visited included site quality, oak regeneration, silvicultural treatments in mountains
8/22/2006	Public field trip to Otto, NC – Coweeta Research Unit – Water Quality, Long-Term Productivity	Public field trip on Coweeta research sites with Dr. Jim Vose, Mr. Barry Clinton and Dr. Kitty Elliott; topics included riparian management, silvicultural treatment impacts on water quality, hemlock woolly adelgid impacts and treatments
9/25/2006	Dalton – Pre-scoping public meeting @ Dalton College Continuing Ed Center	Public information meeting hosted by FS - question/answer; present results of LSA analysis, discussion of objectives to be considered in scoping of proposed action
12/20/2006	Scoping Notice issued for Armuchee-Cohutta Thinning and Restoration Projects	NEPA process initiated; proposed action mailed to public mailing list, posted on Forest Web site

2/16/2007	Scoping Period Ends for Project	Public comment period on scoping notice for Armuchee-Cohutta project ends
2/26/2007	Public Field Trip to longleaf sites on Armuchee	Public field trip conducted by FS to longleaf sites on Armuchee area, (1) mature mixed longleaf-hardwood site with existing longleaf, (2) longleaf regeneration site planted by FS, and (3) pine-oak stand proposed for longleaf-hardwood restoration
5/31/2007	Dalton – Dalton College – Public Meeting to discuss scoping	Public meeting to present scoping comments analysis; discussion of proposed action, project time frame, proposed dates for issuance of Draft EA
9/21/2007	Draft Environmental Analysis for Armuchee Ridges Thinning & Restoration project released for comment period	Draft Environmental Analysis released to public for 30 day comment period – issued hard copy to mailing list as requested; posted on Forest Website, legal notice posted in The Daily Citizen newspaper in Dalton, GA
10/23/2007	Comment Period extended	District Ranger issues letter extending comment period for an additional 30 days to end on November 26, 2007
10/26/2007	30 day comment period on Draft EA ends	Thirty day comment period on Armuchee Ridges Thinning & Restoration period closes
02/07/2008	Field trip with Georgia Forest Watch	Field trip conducted at request of Georgia Forest Watch to proposed action stands, respond to questions regarding stand classification, proposed treatments (oak oak/pine, longleaf restoration) and actions proposed in riparian corridors, also questions on monitoring plan