

# *Appendix H*

## **Response to Initial Scoping Comments**

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#### Public Comments and Scoping Responses

Five individuals or groups presented comments in the form of letters. One comment received supported the management decisions by the Forest Service. The other four comments came from Missouri Heartwood, specifically Mr. Devin M. Scherübel, Mr. Bryan Bird of the Forest Conservation Council, Ray Vaughan of Wildlaw, and Thomas Mann of Mississippi Dept. of Wildlife, Fisheries, and Parks. These comments were opposed to this project. Missouri Heartwood and Wildlaw opposed the management actions in Analysis Unit 22 altogether, while the Forest Conservation Council supported a “no-harvest, restoration-only alternative”.

All of these comments were examined carefully and used by the Interdisciplinary Team, with internal comments, to develop issues and concerns relating to the project area. An outline of the public comments, and the issues they raised is listed below. Following the table is an explanation of the issues and how they are addressed in this project. A listing of the comments and scoping responses presented by the public are also included in this appendix.

#	Subject	Issue #	Comment
1	Site specificity Identification	1	Concern that soils in the project area be identified in a site-specific manner with field data showing where each soil type is, what its condition is and how these proposed activities will impact it. (2)
2	Site specificity Erosion	1	Concern that site-specific data and information on soils, past soil loss, current sediment load in the streams, and realistic estimations of future sedimentation of streams in and below the project area be collected and used for any decision. (2)
3	Mitigation	1	Concern that impacts to soils are not adequately identified and mitigated (3)
4	Productivity	1	There is a concern that harvest activities may reduce productivity from impacts to soil such as changes in nutrient levels and compaction. (3)
5	Microorganisms	1	Concern that harvest will result in the loss of microorganisms. (3)
6	Aquatic Species	2	Concern that aquatic species be adequately surveyed in and below the project such that adverse impacts to them can be avoided. (2)
7	Sedimentation	2	There is concern that management actions (timber harvest, road construction, prescribed fire), alone or in combination with all other actions within the analyzed watershed, may result in sediment loads that would negatively affect beneficial uses, which may include healthy aquatic

			communities, recreation, and livestock or human consumption.
8	Herbicide	1, 2	Concern about herbicide activity and its effects on soil and water. (2)
9	Ground Water	2	Concern related to the effects on caves, springs, and groundwater resulting from logging. (2)
10	Best Mgnt. Practices	2	There is a concern that best management practices be followed and monitored. (3)
11	Water Quality	2	There is a concern about streamside habitat quality and impacts to aquatic species after a harvest. (3)
12	Herbicides	2, 5, 6, 7, 11	Concern that herbicides will affect non-target species, water supplies, and human health.(3)
13	Air Quality	3	Concern of air quality degradation as a result of prescribed burning.(3)
14	Diversity	4	Concern about the need to maintain and enhance natural and native forest types and tree species in this project area.(2)
15	Plant Community	4	Concern about site specific data and information showing that the tree type favored on each site is the type that existed on each site naturally and historically.(2)
16	Harvesting	4	Concern that timber harvesting methods will be used which have the least amount of impacts to soils, water quality, groundwater, wildlife, and plant diversity.(2)
17	Harvesting	4	Concern that timber harvesting methods not be limited to even-aged management methods only, that selective, uneven-aged methods be fully considered.(2)
18	Even-aged Mangement	4	Concern that use of even-aged methods comply with NFMA requirements regarding optimal methods analysis.(2)
19	Prescribed Burning	4, 5	Concern that prescribed burning occur only in pine stands where such activity is natural and historically documented for that forest type and that it not occur in hardwood and mixed stands where burns were naturally and historically infrequent.(2)
20	Prescribed Burning	4, 5	Concern that prescribed burning operation not automatically be tied to logging proposals such that proper prescribed burning in Longleaf areas will not occur unless (i.e., is held hostage to) timber harvesting is approved. (2)
21	Old Growth	4	Concern for old growth and trees suitable as possible old growth within the next 10-20 years. Old growth issues must be considered.(2)
22	CTL equipment	4	Concern that cut-to-length equipment be used for this logging. Forest Service and other studies show that CTL can accomplish the same work with much less impact to soils and nearby waterways.(2)
23	Understory	4	Concern that the project will impact herbaceous understory in such a way that it may never recover.(3)
24	Uneven-aged	4	Concern that uneven-aged management alternatives need to

	Management		be considered.(3)
25	Hardwoods	4	Concern that oak/hickory loss needs to be addressed.(3)
26	Old Growth	4	Concern that old growth and later seral stands are not analyzed.(3)
27	Fragmentation	4, 6, 7	Concern the project lead to loss of biodiversity and Fragmentation.(3)
28	Fragmentation	4, 6, 7	Concern about the impact of predation and parasitism of forest interior birds. Concern about fragmentation and Neotropical migrants.(3)
29	PETS	6, 7	Concern that information and decisions about impact to PETS species be based on site-specific data and information in the project area and on the District as a whole.(2)
30	PETS	6, 7	Concern that all potentially impacted PETS species have their populations (both project site specific and district wide) determined through actual surveys and that such data be made available in the EA and BE.(2)
31	Biological Evaluations	6, 7	Concern that any BE be prepared with site-specific data and information, not just with generic modeling or consideration of broad habitat types, and that the BE be fully completed before publication of the draft EA and included for public review.(2)
32	Biodiversity	6, 7	Concern the project does not consider biodiversity in terms of existing conditions and the condition that would result after the alternative has been implemented. Concern that project has not analyzed site-specific and cumulative effects on biodiversity.(3)
33	Species Viability	6, 7	Concerned the project will jeopardize the viability of species that find optimal habitat in interior forests, natural disturbed areas, and mature and old growth forests.(1)
34	Dead Trees		Concern that habitat in the form of standing and fallen dead trees are reduced resulting in reduced biodiversity.(3)
35	Fragmentation	6, 7	Concern that fragmentation may impede free movement and isolate populations.(3)
36	Migratory Birds	6, 7	Concern about the loss of birds during the breeding season as a result of harvest activities and that the Forest Service may be in violation of the migratory Bird Treaty Act.(3)
37	Reptiles and Amphibians	6, 7	Concern relating to declining reptile and amphibian populations.(3)
38	Indiana Bat	6, 7	Concern about the effect of the project on the Indiana bat.(3)
39	Economics	8	Concern about the economics of the proposed project and that the final decision fully identify and consider not just the economics of the timber harvest but also the economics of recreational impacts, wildlife impacts and water quality impacts.(2)
40	Economics	8	Concern that the Forest Service will not abide by the legal requirements to maximize economic benefits.(2)

41	Economics	8	Concern about the economic value of unlogged forests. (1)
42	Economics	8	Concerned the project will damage social and economic uses and values associated with natural forests (including forests that are affected by beneficial natural disturbance) for the benefit of the timber industry.
43	Timbersale	8	Concerned the analysis need to address the need for the timbersale (1, 3)
44	Economics	8	Concern the Forest Service offers sales at below cost, affect the economics of local landowners.(3)
45	Economics	8, 9	Concern about the economic impacts on recreation.(3)
46	Recreation	9	Concern that the impacts to recreation be fully documented and supported by site-specific data and information.(2)
47	Harvesting	9	Concern that timber harvesting is given preference over recreational uses.(2)
48	Visual Quality Objectives	9	Concern that visual quality is not considered other than to say that VQO's will remain the same on paper as they are now. NEPA requires that the real visual impacts be fully identified and considered.(2)
49	Logging impacts	9	Concern that impacts to recreation from active logging operations are downplayed and considered inconsequential merely because they are temporary. District needs verifiable information that recreational users are not adversely impacted by logging operations before such impacts are dismissed.(2)
50	Landscape	9	Concern the project did not adequately consider the project within a sensitive landscape context.
51	Historic Sites	10	Concern that all historic and archeological sites be adequately surveyed and considered prior to any proposed decision on this project.(2)
52		Other	Concerned the project requires further analysis with an EIS.(2)
53		Other	Concerned logging is an inappropriate use of public lands.(2)
54		Other	Concerned about the increase mortality from road kills.(3)
55		Other	Concern about the effects the project will have on other stands in times of high winds.(3)
56		Other	Concern that uninventoried roads be identified and that open roads exceed the Forest Plan standards.
57	Carbon	Other	Concern about nutrient levels and carbon holding capacities.(3)
58	Cumulative Affects	Other	Concern that the EA lacks the proper indirect and cumulative effects analysis required by NEPA. The EA attempts to limit its discussion to Forest Service lands only.
59	Wildlife	4	Concern the analysis needs to address the impacts of increased mortality due to "road kills" and other logging-related activities.
60		Other	Concern that a no-harvest, restoration-only alternative be developed.

61	Wildlife	4	Concern management objectives are too often geared to one species instead of managing for conservation of plant communities and ecosystems. (4)
62	Vegetation	4	Concern there is too much evenaged management. (4)
63	Prescribed Burn	5	Concern controlled burns are not conducted during the seasons when they would most naturally and historically occur. i.e the growing season. (4)
64	Herbicides	11	Concern herbicides are too often used as a replacement for naturally fire controlled vegetation. (4)
65	Riparian	2	Concern riparian buffer strips are not wide enough. (4)
66	Genetics	4	Concern the use of genetic superior trees may be harmful to future problems such as disease and insects.(4)
67	Prescribed fire	5	Concern funding for prescribed burns is directly linked to the timber sale in the project area.(4)
68	Rotation	4	Concern rotation lengths are not long enough. (4)

(1) Forest Conservation Council; (2) Wildlaw; (3) Heartwood, (4) Mississippi Dept. of Wildlife, Fisheries, and Parks.

## Explanation of the Issues and How They Are Addressed in this Project

The numbers assigned in the second column of the table above relate to the issues defined by the Interdisciplinary Team. These issues are stated below, followed by an explanation of how the issues raised by the public were evaluated and responded to for Analysis Unit 22.

**Issue 1.** Soil Productivity

**Issue 2.** Water Quality

**Issue 3.** Air Quality

**Issue 4.** Vegetation

**Issue 5.** Forest Health

**Issue 6.** Threatened, Endangered, and Sensitive Species

**Issue 7.** Management Indicator Species

**Issue 8.** Economics

**Issue 9.** Recreation

**Issue 10.** Heritage Resources

**Issue 11.** Public Health and Safety

**Issue 12.** Civil Rights and Environmental Justice

### **Comment:**

**4. Concern that harvest activities may reduce productivity from impacts to soil such as changes in nutrient levels and compaction.**

**Current Condition:** Prior to the commencement of logging operations, a prework meeting is held with the timber purchaser. During this meeting, skid trails, log roads, and decking areas are reviewed and approved by the Timber Sale Administrator. Whenever possible, skidding and decking would be limited to designated routes on ridge tops and gentle side slopes to protect sensitive soils and soils with a high erosion hazard.

**Response:** Due to the fragile nature and erosion hazard of most soils in this forest, excessive rutting and compaction would occur if logging were done when the soils are wet. For this reason, harvesting activities may be restricted during the wet season (November 30 through March 1). For those pine beetle spots that are located in the floodplains, harvesting restrictions are to operate during the dry months of July through September. Further restrictions might be needed if rainfall is excessive during the logging season.

To ameliorate compaction and impede soil erosion, all skid trails, bunching areas, temporary roads, and most Level D roads in these areas would be revegetated and closed either by the purchaser at completion of logging, or by the Forest Service. Roads would be opened, revegetated, and reblocked if additional use by the Forest Service is necessary. All revegetation would be accomplished with a seed mixture that would not only serve to control erosion and revegetate the site, but would also benefit wildlife by serving as a temporary source of high quality forage. Specific seed mixtures would be applied based on the soils present and the time of year the work takes place.

**Comment:**

- 1. Concern that soils in the project area be identified in a site-specific manner with field data showing where each soil type is, what its condition is and how these proposed activities will impact it.**
- 2. Concern that site-specific data and information on soils, past soil loss, current sediment load in the streams, and realistic estimations of future sedimentation of streams in and below the project area be collected and used for any decision.**
- 3. Concern that impacts to soils are not adequately identified and mitigated.**

**Current Condition:** A soil survey for Amite County, Mississippi was completed by the USDA Natural Resource Conservation Service, and issued in a report, which is considered the standard for land management planning. The Forest Service has soil maps of Federal ownership on the Homochitto National Forest.

**Response:** Maps were produced and used during analysis, which show the relationship of soil types to stands and proposed treatments. Tabular presentation of summary data is believed to be the best means to clearly display the soils that will be impacted. This summary information is presented in Table 3.1 in Chapter 3 of the Environmental Assessment. Additional tables were generated from soils information found in the Soil Resource Inventory Report. Maps are on file at the Homochitto Ranger District office. They were intended as an analysis tool and rather than

for public presentation but do display soils by location. A soil type map for this analysis unit is located in Appendix A.

**Comments:**

**6. Concern that aquatic species be adequately surveyed in and below the project such that adverse impacts to them can be avoided.**

**11. There is a concern about streamside habitat quality and impacts to aquatic species after a harvest.**

**Current Condition:** The analysis includes extensive discussions on the diversity and quality of the aquatic habitat and a cumulative effects analysis of this project and other activities within the project area. The Homochitto National Forest has six stream surveys that have been measured two to three times in the past. These streams are representative of the aquatic habitat and the resource activity levels common to most streams found on the Forest. The district also has a cumulative effects analysis model developed specifically for streams in Mississippi. As projects have been analyzed in these watersheds, the field data has been compared with the model predictions. This data strongly supports the validity of the model and other factors such as the analysis of the cumulative impacts on soil productivity.

In 1996, Johnson and McWhirter completed the most recent stream study, which is incorporated into Chapter 3 and in Appendix J. This study occurred during and immediately after a period of elevated activity within the watershed, which could potentially lead to increased sedimentation, turbidity, chemical and temperature changes, and flows. The presence of management indicator species indicates that this did not occur. Site specific stream and aquatic habitat information gathered on streams of the Homochitto over an extended period indicate that the water quality has remained high and the quality and biological integrity of the streams are good to excellent. Only one exception has been found in a stream in Adams County damaged by saltwater intrusion. This is not the result of vegetative management, but of past saltwater disposal practices associated with oil extraction several decades ago. The legal standards have been changed and this potential no longer exists.

The potential for erosion due to harvest and its effects on stream flow changes is also not a reasonable consideration. Studies sited in the Environmental Impact Statement for Vegetative Management in the Piedmont/Coastal Plain (pg. IV, 101-102) determined that even under the maximum regeneration alternative in the Forest Plan (which provides for regenerating 25% of the acres, and places no limits on thinning), that there would be only approximately 2% to 7% increase in downstream water yield (page 16, Chapter 3). The difference in flow during extended periods of high precipitation would be much lower.

Stream monitoring is an ongoing program. Twelve streams were surveyed on the Homochitto this year including the six, long term base data streams. The results are currently being tabulated.

**Response:** The benchmark for determining whether cumulative effects are occurring on streams as a result of direct or cumulative effects associated with vegetation management on National Forest lands, along with other activities both on and off the Forest, is the presence or absence of aquatic management indicator species. The streams within the Analysis Unit 22 project area were found to retain similar characteristics to those of Red Prong/Brushy Creek and other streams studied on the District. The baseline aquatic habitat studies confirm that management indicator species are being maintained.

The water quality model computed for this project also indicated that potential impacts from this project and surrounding land uses would not have an adverse or cumulative effect. Based upon this model and verification of the model as noted above, it is reasonable to expect that the potential for direct and cumulative effects are accurately predicted and would not occur. The basis for this is that information cited in the Vegetative Management EIS indicates that the affects of activities diminish rapidly in the first one to two years and return to baseline by the end of a three-year period. By combining Best Management Practices with filter strips, effective unit layout and harvest administration, and revegetation of disturbed areas, water quality is protected. (Chapter 3, Appendix J)

**Comments:**

**10. There is a concern that best management practices be followed and monitored.**

**Current Condition:** The Forest Plan incorporates or extends “Best Management Practices” as well as a large number of additional standard mitigations. Site-specific mitigations are required where standard mitigations do not provide for adequate protection.

Substantial mitigation is incorporated on a site-specific basis in the methods of cut, thinning standards, stream-side management zone enhancements and inclusion management discussions provided in Chapter 1. Beyond these, standards and guidelines provided in the Forest Plan appear to provide adequate protection.

We monitor by a variety of means, including project layout and carrying administration, and even regularly scheduled program reviews.

**Response:** Appendix B, “Standards and Guidelines/Mitigation Measures,” has been updated and changes had been made to it to make it specific to the Analysis Unit 22 project. Also, for more information on specific resources, refer to sections throughout Chapter 3 of this EA. Chapter 1 includes a section titled, “Mitigation Measures and Monitoring.” The mitigations required in the Forest Plan are discussed and incorporated by reference.

**Comments:**

- 7. Concern that management actions (timber harvest, road construction, prescribed fire), alone or in combination with all other actions within the analyzed watershed, may result in sediment loads that would negatively affect beneficial uses, which may include healthy aquatic communities, recreation, and livestock or human consumption.**

**Current Condition:** The water quality in the project area is generally good, as discussed in Chapter 3 of the Environmental Assessment.

The watersheds within the project area were analyzed using a computer model developed specifically for Mississippi (Appendix J). The model analyzes the direct and cumulative effects of this project, integrating past, current, and expected future uses of both Forest Service and private land within the watershed. The model indicated that outputs were below the threshold where adverse direct or cumulative effects would be expected to occur. These drainages were completely cut over in the 1920s. Much of the private forestland has been cut over the past 25 years. When viewed within the combination perspective of past harvest activities and positive results from base-line aquatic habitat studies, the validity of the model appears to be strongly confirmed.

**Response:** In order to have an adverse or cumulatively adverse impact, proposed and projected activities would have to result in an effect on habitat that would reduce populations or diversity of species. This has not occurred as a result of past, more intensive vegetative management activities and streams on the district have maintained good to excellent biological diversity (Chapter 3, Appendix J, previous scoping and final comment responses). The water quality model indicates that this project, along with other anticipated activities within the analysis area would not have an adverse effect.

The cumulative effects model applied to past, present, and anticipated future activities indicated a buffer between projected effects and the threshold at which adverse impacts would occur. If siltation and water quality were the only considerations, then additional alternatives with higher levels of disturbance could be considered, and still maintain the standard. There appears to be little potential that water quality will degrade to the extent that species richness or diversity would be affected.

The base-line aquatic habitat studies in streams such as the Brushy Creek drainage also tend to confirm the effectiveness of the water quality mitigations currently being applied. By combining Best Management Practices with filter strips, effective unit layout and harvest administration, and revegetation of disturbed areas, water quality is protected. The Forest Service closely monitors the quality of the activities done on the land. While maintaining base-line measurements of water quality does provide the decision maker with additional information, it represents only a measure of the effectiveness of mitigation applied on the ground. This mitigation represents pro-active prevention rather than effects monitoring. Mitigation such as this is discussed throughout Chapter 3 of the Environmental Assessment for this project. A general listing of standard mitigations and monitoring appropriate to this project are also listed in Appendix B. Soil protection and water quality are discussed at several appropriate locations in Chapter 3. This information is incorporated into that discussion.

**Comments:**

- 18. Concern that use of even-aged methods comply with NFMA requirements regarding optimal methods analysis.**
- 24. Concern that uneven-aged management alternatives need to be considered.**
- 62. Concern there is too much even-aged Management.**

**Current Conditions:** The Forest Plan calls for the use of even-aged management in all working groups (3-3). It also identifies uneven-aged management as appropriate for demonstrations and in situations where management objectives are best met by this regeneration practice. (Forest Plan, Amendment 13)

For each of the issues mentioned (soil, watersheds, fish, and wildlife), mitigation, monitoring, and cumulative effects analysis are done, and all aspects of protection are considered before a project even begins. It is the goal of the Forest Service to practice multiple-use by properly managing for all resources.

**Response:** Uneven-aged management was considered. (Chapter 2) Although often confused with a harvest method, uneven-aged management is a regeneration regime, which establishes regeneration in gaps created by removal of single trees or groups of trees. Five stands were identified for regeneration in the proposed action. Seven additional areas were proposed in the Alternative 2, which emphasized early seral components. Neither the Interdisciplinary Team nor any member of the public proposed additional areas for consideration.

Uneven-aged management did not appear to fulfill the purpose and need or achieve the desired future condition for this project area. This was fully disclosed in the discussion related to eliminating uneven-aged management from detailed analysis.

**Comments:**

- 23. Concern the project will impact herbaceous understory in such a way that it may never recover.**
- 50. Concern the project did not adequately consider the project within a sensitive landscape context.**

**Current Condition:** There are no threatened or endangered species of plants known or believed to reside on the Homochitto National Forest according to the USDI Fish and Wildlife Service and the database of the Mississippi Natural Heritage Program. In addition, as documented in the Biological Evaluation, site-specific inventories were conducted of selected habitats within Analysis Unit 22. This survey found occurrences of several plant species found on the District's locally rare list of plant species. In addition, one plant, fetid trillium, which appears on the Regional Forester's sensitive list, was found, a second Alabama grapefern may exist.

Factors that will influence herbaceous understories in the project area include prescribed burning, harvest equipment use, and increased light as a result of thinning or regeneration. In

areas where activities are proposed, approximately 1-5% of a stand will have moderate-severe ground disturbance, mainly in the form of skidtrails. The remaining areas and their understory will remain relatively undisturbed. In addition, only about 28% of the analysis unit will receive vegetative management. Understories in the remaining 72% of the analysis unit will have no effect from this project.

Fire has been a dominant factor in understory plant development over much of the southern coastal plain since the last ice age. Native understory plants historically appropriate in areas suitable and proposed for burning are adapted to fire as a component of the forest community.

Expanded protection of streamside zones limits disturbance to the riparian zones and mesic hardwood slopes, which are the most favorable habitats for the fetid trillium and most other sensitive plants.

The entire land area, which is now the Homochitto National Forest, was harvested within a 10 to 20 year period prior to acquisition. Many of the flatter areas were farm or pastureland. Native plant communities of historical record have returned. In prehistory times, the project recovered from ice age climate changes, continuous fire, insect attack and wind events, which resulted in thinning and regeneration level disturbances. Plants have natural strategies to maintain presence and reestablish communities after disturbance. Re-growth from root stock and distribution of seed by wind, birds and animals are examples.

**Response:** There is no potential that the herbaceous understory will be impacted in a way that it will never recover. The fact that the native communities are adapted to fire, that a total of 28% of the analysis unit will be disturbed and less than 8% will be regenerated. The demonstrated past recoveries from much more severe disturbances preclude this as a viable potential.

This project uses a landscape approach towards protecting special or sensitive habitats and their components. Examples are protection of up to 20% of regeneration areas, including the expanded streamside zones. In fact, these are the landscapes that have the highest probability of supporting sensitive components on our forest. Also, regeneration limits and other constraints set in the Forest Plan to provide for late seral components, protect special areas and allow re-growth of mature forest conditions on an “even flow” basis so that stand and understory conditions are reestablished, are inherently landscape management practices. These practices are integrated into all alternatives of for this project analysis except the “No Action” Alternative, which doesn’t consider the landscape relationships of fire as a natural component and relies only upon the natural occurrence of insect infestations, wind and natural fire to provide the disturbance relationships always present in large blocks of unmanaged forests.

Factors that will influence herbaceous understories in the project area include prescribed burning, heavy equipment use, and increased light as a result of thinning or regeneration. Approximately 5-10% of a stand will have moderate-severe ground disturbance, mainly in the form of skidtrails. Several special interest plants are confirmed to have habitat within this analysis area but have not been physically identified. Proper management within the streamside zones, reserve areas within the stand, and standard mitigation should allow a majority of the

individuals of these species, if present, to continue to survive despite timber harvest activities in the area.

**Comment:**

**25. Concern that oak/hickory loss needs to be addressed.**

**Current Condition:** Currently, oak and hickory species make up a large percentage of the hardwood stands within Analysis Unit 22. Approximately 79 acres within Analysis Unit 22 project area are made up of pine/hardwood or hardwood stands.

The respondent stated in their comments that many areas with certain slopes and aspects will never have a substantial oak/hickory component.

**Response:** The “No Action” alternative, would not fulfill the restoration of the oak/hickory component as it supports the production of soft mast species which out-compete shade-intolerant hard mast species. Basic silviculture and forest management texts (e.g.: Smith) outline the replacement of shade intolerant species, to include oak and hickory with shade tolerant species such as beech and magnolia, in the absence of disturbance.

The action alternatives establish a desired future condition for areas outside our established burning areas as pine/hardwood and thin pines to a basal area of 60 square feet to provide growing space. As stated in Chapter 1, one aspect of thinning in these stands is to release hard mast producers such as quality oaks and hickories.

The long-term maintenance of oaks and hickories is low intensity in appropriate sites such as north slopes of ridges and riparian areas. Fire is planned where it can effectively employed without long-term soil damage or threat to private lands. This project is intended to respond to this concern.

**Comment:**

**26. Concern that old growth and late seral stands are not evaluated.**

**21. Concern for old growth and trees suitable as possible old growth within the next 10-20 years.**

**Current Condition:** One of the desired future conditions for this project is to provide a relatively high degree of age class and site diversity to increase forest heterogeneity and ecosystem stability (LRMP p4-5) (EA Chapter 1).

[The Homochitto National Forest is required to] “provide a minimum of 25 acres to be managed for large size class trees, 18-26 inches diameter at breast height, per 1,000 acres (2½% of each compartment). This late seral forest component will be identified for each compartment and in total for the management area will comprise at least 2½% of regulated acreage. This component will be identified in stand size units. In order of preference, these stands will be selected from the (1) pine-hardwood, (2) hardwood, or (3) pine forest types. Where available, 5% of the

hardwood and pine-hardwood forest types will be identified as this late seral component.”  
(Forest Plan 4-6)

**Response:** Late seral components are addressed in this analysis. Late seral stands have been identified for Analysis Unit 22. The location of these late seral stands is indicated on a map included in Appendix A. These late seral stands identified within the project area exceed the minimum level required in the Forest Plan (4-6). Roughly 12% of Analysis Unit 22 has been designated as late seral stands. Each compartment analyzed contains at least 2.5% in late seral stands.

**Comments:**

- 27. Concern the project leads to loss of biodiversity and fragmentation.**
- 28. Concern about the impact of predation and parasitism of forest interior birds.  
Concern about fragmentation and Neotropical migrants.**
- 35. Concern that fragmentation may impede free movement and isolate populations.**
- 61. Concern management objectives are too often geared to one species instead of  
managing for conservation of plant communities and ecosystems.**

**Current Condition:** Fragmentation is a complex issue. All forests have a natural level of diversity, both within and between stands. From a dictionary definition standpoint, any disturbance that alters a completely homogeneous area can be considered fragmentation. However, from a biological standpoint these variations are not necessarily considered fragmented, but are generally termed “diversity.” When the Homochitto National Forest was purchased as cutover land, it was essentially 191,000 acres of early seral land with minimal fragmentation. However, it lacked the diverse (fragmented) conditions that support the large populations of diverse flora and fauna that the Forest hosts today. Therefore, from a biological perspective, fragmentation is evaluated as it relates to habitat. A variation (diversity) in a stand, such as a small opening, does not represent fragmentation unless it changes the habitat or species relationships to the extent that the use of the area is changed, or it isolates a species or group, eliminating the potential for free and easy genetic exchange.

At the time the Forest Plan was written, more than 85% of the stands were 50 years or older. For a primarily loblolly pine forest, this represents a mid to late seral condition which was relatively unfragmented, and which also had minimal diversity. One of the objectives of the Forest Plan was to increase age class diversity for a better balance between late and early seral conditions. Larger populations of species favored by early seral conditions, disturbance, or mixed habitats were expected and were an objective of the plan.

Variation or diversity resulting from planned management activities is dropping on the Homochitto National Forest. In the late 1980s, more than 3,000 acres were regenerated annually, primarily by the clearcut harvest method. At the current time, regeneration from planned harvests is typically less than 1,000 acres per year. Developing stands entering the sawtimber classes will exceed acres being reset to early seral habitat if this trend continues.

The number of open roads is also decreasing. New roads are rare. Because of the unique character of the Homochitto National Forest's landform, trails and logging roads created during settlement times and by early logging were present on nearly every ridge. Road activities for timber sale support has remained unchanged because thinning has been substituted for regeneration in order to address declining health concerns. The primary change is in the number of roads open to vehicular traffic. Large numbers of ridge roads once open as jeep trails are now closed between entries. Many are used only once in 20 to 30 years. In between uses, the forest encroaches on these roads within a relatively short time frame. While they are visible on the ground, they have little effect of the forest distribution structure.

In recent years, the largest numbers of small openings have been caused by wind, insect, and disease factors. For example, in 1995, nearly 3,000 openings of various sizes were created by southern pine beetle activity. More than 5,000 acres of pine and pine/hardwood habitat was stands that were affected to the point that some level of site preparation or planting was needed to insure rapid recovery of the forest and its ecosystems. Infestations affected pine and pine/hardwood stands, and some stands were impacted by several large openings to the extent that they do not provide optimal habitat for species such as the red-cockaded woodpecker and the pine warbler, which are the management indicator species for these previously diverse, but suitable pine stands.

**Response:** The analysis provides extensive discussion related to fragmentation, both in Chapter 3 and in Appendix J. The Analysis Unit 22 Project Area is already highly diverse in age class and land use due to the extensive privately owned land that surrounds the Project Area. Forestry is the predominate use of this area. This Environmental Analysis addresses fragmentation as it pertains to National Forest lands only. Within the Project area management activities strive to occur in concentrated areas. Table 2-6 in Chapter 2 of this Environmental analysis describes the affects of harvesting on fragmentation with each action alternative. In the current proposal, the regeneration areas are located as close to other young forest stands as is possible while complying with regulations in the Forest Plan. This would also assist organisms with movement from one stand to another as stands mature. The clusters of early seral stands would eventually become late succession stands of the future, insuring forest fragmentation will be minimized in the future.

Neotropical bird communities are determined by local habitat factors as well as landscape composition. On the Homochitto National Forest, large forested tracts 40 years and older are maintained as breeding areas for Neotropical species requiring forested ecosystems. Under the proposed action and alternative 3, this would reduce the unfragmented forests greater than 40 years in age from approximately 857 acres to approximately 762 acres, which is still a large tract of unbroken forest. Recent discussions about habitat fragmentation effecting Neotropical migrants comes mainly from research done in the Midwest where the forest was truly fragmented, i.e., trees surrounded by corn fields. Recent research in the southeast concerning the effects of regeneration areas within forested blocks has not confirmed the midwestern data. Southern research has found that as long as the forest is not taken out of production, i.e., urban development, it would not be susceptible to non-interior forest competitors such as brown cowbirds. Regeneration stands within the analysis unit are not taken out of production and the time a stand is susceptible to fragmentation issues is negligible.

Each opening, regardless of size and duration does cause some change or variability in the forest. From a biological system standpoint, the benchmarks for considering an opening to be fragmentation are isolating habitat or rendering the habitat block less satisfactory for maintaining viable populations. Where these benchmarks do not occur, variations in habitat are considered diversity. Diversity extends the range of habitats and associated species over an area, creating more diverse and stable community groups. Current environmental and management laws task the Forest Service with maintaining diverse habitats and species. This condition is considered beneficial.

An estimated 12 percent of early seral stands can be found within this project area. Therefore, when considering the fragmentation effect of this project as it relates to scale, there remains sufficient area to meet management indicator species habitat needs.

When viewed in the contest of distribution of similar habitats, this project does not lead to the isolation of groups. In fact there is more than a mile of direct interface with similar habitats in adjacent watersheds or compartments, eliminating the possibility that populations living within the block of mature pine stands will become genetically isolated.

Finally, diversity within this block is relatively low and there is little edge between early and late seral habitats. These are areas where ground nesters such as turkey and quail nest. Early diets for young birds include large numbers of insects that are more prevalent in grassy areas. Beneficial edge will be created along with grassy conditions that will support diverse populations. There is no indication that this project will cause biological fragmentation.

**34. Comment: Concern that habitat in the form of standing and fallen dead trees are reduced resulting in reduced biodiversity.**

**Current Condition:** Snags are home and feeding habitat to a wide variety of wildlife. Insects and grubs reside in decaying wood, and are a favored meal by the Louisiana Black bear and many species of birds. Amphibians and reptiles, such as the Scarlet snake, reside under the bark of both standing and fallen trees.

**Response:** During harvest operations, snags within stands may be removed for safety reasons. In regeneration stands, standard mitigation is to leave two snags per acre or green trees will be left for future snag recruitment. Stand inclusions contain the required amount of snags for each stand and the regeneration area may contain some snags as well. This equates to about ½ acre den tree clumps per 20 acres of regeneration. In addition, large trees along perennial stream banks are allowed to decay naturally and fall into or near streams. These mitigations will provide habitat for a wide variety of organisms, which feed from and reside within dead trees.

The South was primarily a fire ecology, with extended intervening periods of warm moist conditions. Snags fall rapidly and once on the ground rot or were historically consumed by fire. Therefore, snags and deadfall were not long-term components of southern forests as they are of

western and northern forests. Since this component was short term, dependence on this type habitat is not as great. The snag policy appears adequate for this component.

**Comments:**

- 32. Concern the project does not consider biodiversity in terms of existing conditions and the condition that would result after the alternative has been implemented, and that project has not analyzed site-specific and cumulative effects on biodiversity.**
- 29. Concern that information and decisions about impacts to PETS species be based on site-specific data and information in the project area and on the District as a whole.**
- 30. Concern that all potentially impacted PETS species have their populations (both project site specific and district wide) determined through actual surveys and that such data be made available in the EA and BE.**

**Current Condition:** Every vegetation management project on the Homochitto National Forest undergoes a biological review, which is published as a Biological Evaluation (BE), part of the planning record. Before a BE is undertaken, the analysis unit is examined to determine actual and potential habitat for not only PETS species (which we are legally mandated to consider), but also those species of local concern which were nominated by the Mississippi Natural Heritage Program as having an SRANK (state rank) of at least S3. These species are considered because of our wish to head off future listing of species as endangered or threatened by insuring that viable populations continue to exist on the National Forest.

Many of these species of local concern, as well as many of the PETS, occur in specific habitats that are not areas in which vegetation manipulation is occurring. For instance, *Stewartia malacodendron* and *Schisandra glabra* are two plant species of special concern that occur on mesic, north-facing slopes and moist streamside areas. These species can have their continued viability assured by utilizing expanded Streamside Management Zones (beyond that called for in the Forest Plan). Neither species is of Regional or National conservation concern, but they are indicators of sensitive habitats on the Homochitto National Forest, so we take every effort to insure their continued viability here.

Not every acre of the Forest is habitat for sensitive species. Most have such specific habitat requirements that their occurrence can be predicted based on habitat characteristics. The areas proposed for even-aged regeneration in the Analysis Unit 22 project consist of older loblolly pine growing on ridgetops. No known PETS or state sensitive species (with the exception of Bachman's sparrow and red cockaded-woodpecker) are known to occur in this habitat. These two species can utilize these upland pine forests only if the hardwood midstory has been controlled and frequent prescribed burning has taken place. Again, habitat determines the presence of the species.

The Forest Service to ignore sensitive species. A botanical survey of likely sites was conducted as part of the inventory for this project. Numerous studies and inventories have been conducted which relate directly to management indicator species for each habitat type. This represents base data for the analysis unit and the district as a whole. Each sensitive species, both plant and animal, is fully evaluated during the planning process to insure the continued survival of the species.

**Response:** The District has and considers extensive base data for nearly all management indicator species appropriate to our habitat. This data has been summarized throughout the Environmental Assessment and its appendices.

A BE is always completed before publication of the Environmental Assessment. In addition, if any new data comes to light, the BE may be amended or revised even after publication of the Environmental Assessment in order to protect the species and habitats of concern. Most times, simply restricting management activity in sensitive habitats can do this.

Not all species occur on every acre of the forest, so we use predictive analysis to determine what may be present, based upon the availability of special habitats. If we cannot confirm the presence of a species due to conditions such as time of year, drought, or other issues, we assume that the species *is* present, and plan for it as though it were. This provides protection of these specialty habitats whether the species is present or not. As an example, providing increased protection for streamside management zones (Chapter 1) protects primary *Stewartia malacodendron* and *Schisandra glabra* habitat, and to a large extent removes these and associated species from potential impact. If we avoid habitat for a sensitive species, further analysis is not necessary.

Further discussion can be found in the Chapters 1 and 3 of the Environmental Assessment, Appendix F, and Appendix B.

**Comments:**

- 8. Concern about herbicide activity and its effects on soil and water.**
- 12. Concern that herbicides will affect non-target species, water supplies, and human health.**
- 64. Concern herbicides are too often used as a replacement for naturally fire controlled vegetation.**

**Current Condition:** The herbicides the Homochitto National Forest applies do not accumulate. The six most used are Accord, Garlon 3A, Garlon 4, Arsenal, Velpar L, and Oust. Half-lives for these products are short, and each of these products degrades through biological activity or a combination of light and biological action. Garlon is typical of this class of herbicide. The half-life for Garlon is 30 to 60 days. Therefore, this herbicide has an effects range of less than 6 months for any measurable impact. Effects on humans are also low. The LD 50 for male rats is 1581 mg/kg. If applied to a 200 pound man, the individual would have to eat 4.8 ounces, or more than half a pint of pure active ingredient to have the same effect. Garlon does not bioaccumulate such that exposures would build up or be cumulative.

Herbicides are applied according to labeling information and the site-specific analysis done for the projects. This labeling and analysis are used to choose the herbicide, rate, and application method for the site. They are also used to select measures to protect human and wildlife health, non-target vegetation, water, soil, and threatened, endangered, proposed, and sensitive species.

Site conditions may require stricter constraints than those on the label, but labeling standards are never relaxed.

Herbicides are applied at the lowest rate effective in meeting project objectives, and according to guidelines for protecting human and wildlife health. The Forest Plan as amended provides that no herbicides be applied within 30 feet of wetlands, lakes or intermittent or perennial springs and streams. All herbicides have at least some affinity for soil. Those with a strong affinity, such as Accord are essentially deactivated by contact with soil or even if mixed with muddy water. Only that material applied directly to vegetation has an effect. Garlon exhibits little ground activity. Arsenal and Velpar have lower affinity to the colloids in soils and are considered ground active. Arsenal is applied at a rate of only 1% for injection and 0.25% for foliar spray or herbaceous weed control. At these low rates, non-target areas or vegetation are not measurably affected.

Herbicides and their effects were extensively studied and discussed in the Vegetative Management EIS. Maximum rates found in the Record of Decision for this document were found not to have significant adverse direct or cumulative effects. Soils on the Homochitto, including those in this project area, are typically more dense than many found across the Region. The holding potential is typically higher than most soils considered in the Vegetative Management EIS. The district has extensive experience with the use of Accord, Garlon, Arsenal, Velpar, and Oust. Monitoring of application through contract administration indicate that non-target vegetation is not being lost and trees are not dieing in the stream-side zones or filter strips.

**Response:** The Forest Service has no control over the amount and type of herbicide applied by private industry. However, we do consider activities on adjacent lands during our analysis. (Appendix J) We do not expect forestry activities adjacent to units where herbicides are proposed for a period of several “half lives” of planned activities. Within the over-all project watershed there is a small amount of row crop activity, but based upon the percentages involved and distance, they do not appear to be a human health or aquatic habitat factor.

The time of year that herbicides work best is in the growing season of its intended target. For the most part these growing seasons coincide directly with the fire season where fuel levels are dry enough to cause danger or damage to the public. Herbicides, when used as an alternative to fire and in specified quantities imitate fire by selectively removing vegetation.

Based upon the discussion of application rates, soil characteristics and rapid decomposition provided above, in Chapter 3, and in Appendix E, and mitigations that are effective in protecting vegetation next to treatment areas, there appears to be no potential for direct adverse effects and no potential for cumulative effects with other treatment areas or activities on adjacent lands.

**Comment:**

**33. The concern that the project will jeopardize the viability of species that find optimal habitat in interior forests, natural disturbed areas, and mature and old growth forests.**

**Current Condition:** The National Forest Management Act, by law, requires the Forest Service to use Management Indicator Species to monitor the viability of species in their habitat. The Management Indicator Species for Analysis Unit 22 as presented in the Forest Plan are described in Table 3.13 of the EA. NFMA intends use of management indicator species, in part, to ensure that national forests are managed to “maintain viable populations of existing native and desirable non-native vertebrate species.” The Homochitto National Forest has substantial data on MIS which include sighting data for red-cockaded woodpecker, six stream studies that have been analyzed two to three times since their beginning, listening points for MIS birds, and a bobwhite quail study which is currently in progress. In addition, white-tailed deer and the Eastern wild turkey are also considered management indicator species. In the past, hunter success records indicating reasonable harvest levels have proven that current forest practices have resulted in steady population levels of those species.

**Response:** Tables 3.15 and 3.16 represent changes in acres associated with alternatives as well as providing base-line data for management indicator species in Table 3.12 and 3.13. It is not in the best interest of the Forest Service to ignore species viability, which can also mean keeping species from being listed as threatened or endangered. We also recognize in this analysis that attempts to benefit species using early seral stages would ultimately be done at the expense of those species utilizing older forest stands. It is difficult to satisfy the needs of all wildlife at the same time. As a result, our goal is to attempt to balance the needs of all, giving special consideration to those species most at risk of extinction/extirpation. The question of species viability is answered in the discussion of management indicator species found in Chapter 3

**Comment:**

**36. Concern about the loss of birds during the breeding season as a result of harvest activities and that the Forest Service may be in violation of the Migratory Bird Treaty Act.**

**Current Condition:** To address growing concerns about the viability of bird populations, Neotropical migrants in particular, the Forest Service developed, in 1996, a Migratory and Resident Landbird Conservation Strategy for implementation on southern national forests. This strategy identifies priority species based on population trend data compiled from a variety of sources by Partners In Flight (a network of agencies, organizations, and individuals dedicated to conservation of Neotropical migrants). The strategy also sets in motion a plan for monitoring long-term trends of bird populations on southern national forests.

National Forests in Mississippi contain over 1,000 monitoring points in a full range of habitats. The Homochitto Ranger District currently has more than 240 points, which extend across all habitats on the District. Some of these points are located in and around Analysis Unit 22. Monitoring of these points began in 1999 at the Forest level but has been in place since the early 1990s on the District. Also, extensive research has been conducted and continues on the District.

Data is forwarded to a regional database. This intensive effort documents trends of songbirds associated with a wide range of habitats.

The Migratory Bird Treaty Act was directed primarily at direct take of certain bird species, in order to protect populations of these species. Land management agencies have relief from this act based upon court decisions related to land management activities on public lands. Further, this project is expected to benefit populations of qualifying species that are regionally and nationally in decline.

**Response:** The Migratory Bird Treaty Act does not apply to this project. However, of concern is the health of our migratory bird populations. Logging during nesting season physically disturbs nests and alters behavior of nesting adult Neotropical birds, thus impacting reproductive success. Although hard data is not available, we estimate that in most cases this nesting failure would be nearly complete within affected areas. This assumption is based upon observations of researchers studying nesting productivity of forest birds (Dr. Keith Ouchley, Louisiana State Univ., personal communication). However, this represents one year's lost reproduction for several pairs of each species, none of which are high priority species as determined by the Partners in Flight Program. The adult birds would survive and may attempt re-nesting later in the season or may survive to nest the following season.

In Analysis Unit 22, the total acres that would be thinned or regenerated represents less than 1% of the total Homochitto National Forest area. Based upon the typical timber harvest program for the Homochitto National Forest, approximately 4% of the total Forest area is disturbed annually. However, only 20% of the total logging season typically occurs from April 15th to June 15th. This represents less than 0.2% of the total Homochitto National Forest that is disturbed annually during the peak nesting season.

With logging activities disturbing less than 1% of the total area from April 15th to June 15th, this translates into a similar proportion of breeding productivity lost due to the cumulative effects of logging on the Homochitto National Forest. Based upon this, population effects from this action (both individually and cumulatively) would be small and viable populations of all native birds can be maintained without eliminating logging during the nesting season. Potentially, habitat improvements would result in long-term population increases as described in Chapter 3. Long term breeding bird listening point surveys tend to confirm this relationship and support this rationale.

**Comment:**

**37. Concern relating to declining reptile and amphibian populations.**

**Current Condition:** There is a worldwide concern for declining reptile populations. The cause is currently unknown.

**Response:** Worldwide declines have occurred with or without harvest. This decline appears to have other primary factors, indicating that there is no cause and effect relationship to this project. There are no locally proposed, threatened, endangered, or sensitive species identified. This concern is out of the scope of this analysis.

**Comment:**

**38. Concern about the effects of the project on the Indiana bat.**

**Current Condition:** Both the USDI Fish and Wildlife Service and the Mississippi Natural Heritage Program consider the Indiana bat (*Myotis sodalis*) not potentially present on the Homochitto National Forest. The only known occurrence of an Indiana bat in Mississippi was Tishomingo County, which is located in the extreme northeast corner of the state. It was found in an abandoned chalk mine.

**Response:** The Interdisciplinary Team did consider the Indiana bat when developing the proposed actions, but, based upon knowledge of the current situation, the conditions for considering impacts to the Indiana bat do not exist here. Therefore, analysis of the effects of the proposed actions upon the Indiana bat is unfounded.

**Comments:**

**13. Concern of air quality degradation as a result of prescribed burning.**

**57. Concern about nutrient levels and carbon holding capacities.**

**Current Condition:** There is no evidence that suggests prescribed burning of understories results in net changes to northern biomass sinks, liberating CO<sub>2</sub> to the atmosphere, and affecting global warming. The prescribed burning process is sometimes confused with biomass burning where associated land-use changes (deforestation) are taking place. In those cases (slash and burn agriculture in the tropics, for example), burning liberates carbon dioxide from the forested biomass, the land use changes to cropland and results in a net loss of carbon dioxide. While burning associated with land-use changes (deforestation) will result in net increases of CO<sub>2</sub> liberated to the atmosphere (due to the reduction in net biomass sinks), burning alone will only result in gross CO<sub>2</sub> liberated, which then reaccumulates.

Biomass incorporates carbon dioxide during the process of photosynthesis, and releases carbon dioxide during the process of microbial respiration or rapid oxidation during pyrolysis. While trees, as part of forested ecosystems, act as sinks (both northern and tropical) for carbon dioxide,

they also act as sources for carbon dioxide. Growth in an aggrading, young tree/forest results in a net sequestering or accumulation of carbon dioxide. As a tree matures, biomass accumulation slows and eventually results in a net loss of carbon dioxide as decomposition of biomass increases. A properly applied prescribed burn need not release more CO<sub>2</sub> than normal decomposition over the long term.

This cyclic process maintains equilibrium on a large temporal and spatial scale, as long as land use remains relatively constant (as is the case with National Forest management). That is, as long as forested lands remain as forested lands, net carbon dioxide evolved from forested ecosystems remains zero, with or without fire.

It is important to distinguish between net and gross carbon dioxide evolved from the forest. An old stand of oak with many decomposing logs, may result in being a source of increased carbon dioxide as a gross measurement, with or without fire. But over time, new plants replace fallen trees, and act as sinks and sequester carbon dioxide. Fire, though more dramatic than decomposition, results in gross levels of carbon dioxide. After the fire, litter and other dead biomass begin to accumulate, and living biomass increases, and the area acts as a sink for organic matter. The charcoal and soot from burning (stable over geological time), may represent a significant sink for carbon, and it has been suggested that burning, as a net ecological process, may result in atmospheric reductions of carbon dioxide (Andreae 1991, Fearnside 1991). Thus, the effects of understory burning from this project do not represent a long-term increase in equilibrium levels.

**Response:** Only the impacts of prescribed burning for site preparation and reforestation are considered within this analysis. Prescribed burning for wildlife habitat management and fuel reduction are identified as a future activity, but outside the cumulative effects range of this project. The impacts of prescribed woods burning will be evaluated as a separate project when the decision is “ripe.” Therefore, is considered outside the scope of this project.

However, several factors warrant discussion. While forests are a recognized “carbon sink,” the additions of carbon from fossil consumption of fuels and the loss of forest to development and agriculture are internationally identified as the areas of concern. In this respect, the Homochitto National Forest’s prescribed burning program and the output of smoke as a result of this program is so small and infrequent in relation to the global effects of fire on global warming. The Forest Service conducts all prescribed burning according to the Environmental Protection Agency’s Interim Air Quality Policy on Wildland and Prescribed Fires, which “advocates the use of prescribed fire while ensuring protection of air quality and public health” (Unknown 1998). Furthermore, the Environmental Protection Agency recognizes “that fire is essential to effective ecosystem management and that an increase in carefully conducted prescribed burning can improve the quality of fire-dependent wildlands” (Unknown 1998).

**Comments:**

- 39. Concern about the economics of the proposed project and that the final decision fully identify and consider not just the economics of the timber harvest but also the economics of recreational, wildlife, and water quality impacts.**
- 40. Concern that the Forest Service will not abide by the legal requirements to maximize economic benefits.**
- 41. Concern about the economic value of unlogged forests.**
- 42. Concern the project will damage social and economic uses and values associated with natural forests (including forests that are affected by beneficial natural disturbance) for the benefit of the timber industry.**
- 45. Concern about the economic impacts on recreation.**

**Current Condition:** Forest industry is not subsidized by this project or other projects on the Homochitto National Forest. No aspect of this project is below cost. Purchasers pay market value for wood products based on an open bid process, which is available for public review. Prices for National Forest timber are often higher than prices for equal volumes of private timber because of higher product quality.

More than 60% of this analysis unit is economically mature and appropriate for harvest if “supply side” economics was applied as the primary decision factor. The purpose of this project is to meet desired future conditions for forest health, ecosystem restoration wildlife, and recreation. The economics of timber production would become a deciding factor only if the project were expected to result in deficit costs. At that point, under current guidelines, it would likely result in a “No Action” decision rather than harvest. A maximum cut alternative, which would have resulted in increased direct returns, was documented but considered unreasonable because of impacts on non-market, unquantified resources such as water quality, habitat levels by age class and forest type, and other issues raised through scoping and final comments. This is documented above and in the appendices.

The economics of recreation is fully considered. The primary recreation activity in this project area is hunting. Chapter 3 indicates that populations of game species are likely to be maintained based upon available habitat units.

A number of unquantified, “externalized” values of standing forests were cited for retaining standing forests. Externalized costs of harvesting were cited which ranged from the value of water outputs to pollination increased recreation, and carbon sequestering. A general discussion is provided to represent the range of benefits and costs:

**Carbon Sequestering:**

Loss of carbon sequestering was cited as an externalized cost of timber harvest. Carbon sequestering is reduced all throughout Mississippi due to increased development and agriculture. Current agricultural practices, the use of fossil fuels and the increase of development have all contributed increased free carbon added to the biosphere equilibrium. Reforestation does not add to this long-term effect, because forests re-grow and recapture any carbon released. In fact, current research indicates that carbon sequestering is being reduced by deforestation, which is the conversion of forests to development and agriculture.

At the same time, new landfill requirements are increasing long-term sequestering of carbon in these facilities. This area may be the most rapidly expanding component of sequestering in the United States at the current time. (Skog and Nicholson) Wood stored in construction and buildings is also sequestered. To extend this logic to a “reduced global warming” alternative, the entire forest would be harvested. The wood could be ground, pelletized and blown into mineshafts where coal has been removed, sequestering this carbon for geologic periods. With this carbon removed from the free carbon equilibrium, a new forest would be planted and grow to sequester carbon released from the use of fossil fuels. This would maximize the public benefit of carbon sequestering, but not necessarily the total public benefit. This alternative is considered unreasonable and in conflict with numerous public laws. It would negate nearly all purposes and needs identified for this project area, and is out of the scope of the reasonable alternatives that can be considered for this project, but clearly demonstrates that “standing forests” or unharvested and regenerated forests are not necessarily the most advantageous to global warming as the respondent appears to imply. Similar mixed relationships exist with the other unquantified economic values sited as unquantified benefits.

**Recreation:**

For each positive benefit cited by the respondent, such as increased recreation, there are also externalized costs. Recreation was sited as a benefit of standing forests. No costs were associated with this activity. However, there are extensive costs to such benefits as global warming, carbon sequestering, public health, safety and other important considerations. Examples are: increased use of fossil fuels to travel to the forest (global warming); vehicle accidents with deaths and injuries, for individuals traveling to recreation sites (which are far greater than logging accidents cited by the respondent), hunting accidents; littering and dump sites which require clean-up at public expense; illegal acts on public lands such as theft, vandalism and arson, loss of forest lands to improved roads, damage and erosion on forest roads from extensive recreation use, particularly in wet weather; heart attacks during strenuous recreation, to name a few. Serious accidents result in lost time in the workplace which leads to reduced national productivity and reduced competitive position in world markets. These externalized costs exist, even though not identified by the respondent.

**Response:** The discussion related to economics does discuss returns associated with harvest of timber, and identifies the level of forest product outputs. It also identifies returns to local governments and the potential for jobs associated with the project. Values associated with unquantified benefits are discussed on an equal basis. This is well documented in the Environmental Assessment and other responses to scoping and final comments. No alternative considered to be reasonable maximizes commercial forest product outputs. This project does not emphasize “supply side” economics, but simply describes the economic benefits that result from maintaining healthy forests and diverse wildlife habitats. Recreation and other resource values are maintained at appropriate levels.

Just as with other effects, the Committee for Environmental quality guidelines for considering cumulative effects applies to economic effects. While these very involved relationships can be analyzed out to dozens of iterations, the obligation is to analyze measurable effects of this specific project. That has been done to the extent reasonable and

additional discussion or alternatives are not appropriate. The study of supply economics of the various multiple uses, to include water, wildlife and recreation lies at the Forest Planning level, rather than with the individual project. This has been done and this project tiers to and complies with the Forest Plan. Analysis at the level implied by the responded is out of the scope of this analysis and is not further addressed.

**Comment:**

**43. Concern that the analysis needs to address the need for the timber sale.**

**Current Condition:** Many stands within the analysis unit are overstocked and/or mature. As a result of field inventory, they were identified as appropriate for silvicultural treatment in accordance with management guidelines, which can be found in a variety of Forest Service handbooks, manuals, and the Forest Plan. Silvicultural treatments could be applied by mechanical means, to include felling all trees, chipping and scattering the debris and replanting. This would transfer all costs directly to the taxpayer (see following concern and response) without a return on the public's long-term investment in forest management. It would also conflict with the Forest and Rangeland Renewable Resources Planning Act, which mandates that efforts be made to maximize utilization in the form of forest consumer products.

There are numerous indirect and externalized benefits associated with meeting vegetation management needs through the use of timber sales. For example, in southwest Mississippi, approximately 70% of the land is timberland, and more than 22% of the forestland in the seven-county area is owned by forest industry. Therefore, forestry plays an important role in the economics of the region. Much of the forestland in the seven county area is under active forest management by industry and consulting foresters.

In the last ten years, the average unemployment was 10.6% in the seven counties, ranging from a low of 8.4% in Amite County to a high of 20.9% in Jefferson County. The region is one of chronic unemployment with double-digit rates being the norm. The United States average unemployment over the last ten years was 6.7%. All the counties, except Adams and Lincoln, have an out-migration of workers from the rural areas to more urban counties.

Timber production is an important base of the local economy. Local communities benefit from the taxes generated by timber activities. These benefits include social services, such as law enforcement activities, safe drinking water, road maintenance, construction, and reconstruction of roads and public school systems. These services contribute to an enhanced standard of living to the public within the area.

Stumpage value alone misrepresents the true value of timber to the economy. Basic economic theory recognizes that the source of all world and national wealth can be attributed to the two basic resource industries -- agriculture and mining. All incomes are derived from multiplication of raw materials values through the economic process. Accepted contributions are that 4% of the gross national product is derived from harvesting

forest products. Manufacturing of finished products into various wood products represents added value and stimulates additional income to communities.

Even though direct manufacturing jobs are decreasing in the United States economy (15% in 1988), more than 60 million service jobs are directly dependent upon manufacturing. Typical examples for the Forest industry would be homebuilders and home building materials supply stores. Not all of the income produced at each level is consumed by the basic needs of food, clothing and shelter. Each of these 60 million jobs, in turn, generates the demand for additional manufacturing and service jobs. A portion of the discretionary income is returned to the rural communities where raw materials are produced as individuals visit these areas to participate in outdoor recreation.

**Response:** The “Proposed Action,” and Alt. 2 and 3 all provide for meeting the desired future condition through the use of a commercial timber sale. Non-commercial mean transfers substantial direct cost to the public and forgoes large deposits to the treasury, which are in turn, shared with the local community.

A non-sale alternative was discussed by the interdisciplinary team, but considered unreasonable taxpayer burden. It would also forgo many of the economic benefits to the community and the Nation. In light of various laws and regulations governing management of the National Forests and their timber resources, non-commercial treatments achieving identified needs were considered inappropriate. Therefore, the sale of timber is appropriate to meet wildlife habitat and forest health needs within the project area and commercial sale appears to be the appropriate means to accomplish this need. The public realizes substantial subsidiary benefits from public timber sales, as discussed within the environmental assessment and it’s appendices. The sale of timber is needed to achieve these benefits.

**Comment:**

**44. Concern that the Forest Service offers sales at below cost, affecting the economics of local landowners.**

**Current Condition:** This is a multi-sided issue, which can be demonstrated by a general discussion of supply and demand relationships. The wood product market is international. Processing facilities are established based on supply within a timbershed. Increasing supply reduces prices in the short term, but results in the construction of additional facilities as profit opportunities are recognized. Increased demand from the additional facilities raises the price. Decreasing supplies results in returning facilities, which balances demand, returning prices to prior levels. In the interim, only minor fluctuations can occur, based on the market value of sawn lumber on the regional, national or international market. Therefore, there can be short-run windfalls and losses during times of changes in supply, but no long-term change beyond the wider market.

At times, reducing supply can have a negative effect, and there are recent examples. Harvests from National Forest lands have dropped dramatically in some parts of the western United States, and many of the mills closed. Now the Forest Service and private owners are experiencing difficulty in finding timber purchasers. The supply has dropped below the level where economy of scale supports modern processing facilities within reasonable transport range. Landowners cannot benefit from competitive bidding. Also, in recent years, some markets have moved to the Pacific Rim and tropical areas. This has prompted concern throughout the environmental community as rain forests have been converted to agriculture and plantation management. This is an example of how constraining supply does not necessarily result in long-term price increases. It may actually reduce local prices in an international market, and transfer environmental impacts to locations where standards aren't enforced. Maintaining an even, reliable flow from any given timbershed may actually stabilize and sustain prices on private lands. Withholding timber from a substantial portion of the timber shed, such as the Homochitto National Forest, could result in a negative impact on private timber values in the area surrounding the Forest.

In the case of the timbershed surrounding the Homochitto National Forest, there is a current balance of supply and production facilities. National Forest timber sells at or above normal market averages. During periods when a number of public sales are offered, private prices may fluctuate, but this is unlikely to result in lower long-term values of timber on private land.

Another local factor is the number of commercial forest acres within the timbershed. Georgia Pacific and International Paper have sufficient holdings to minimize the need to purchase from private owners and to buy on the open market only at lower prices. This is likely to have a greater effect on long-term private timber prices than an even flow of public forest products.

**Response:** General discussions of market relationships may provide background perspective, but site-specific relationships for the local area are appropriate for the analysis of impacts. The Forest Service does not harvest timber specifically for the purpose of market supply. Growth occurs in forest stands as a natural process. In the current situation, where forested lands are limited by roads, homes, farming, and other development, and the public demands protection from natural events such as wildfires, the historic ecological dynamics no longer operate. Periodic vegetative management, including timber harvest, is necessary to maintain forest health, native ecosystems, and wildlife habitat. The Forest Service sells timber at market value, and does not undercut private values. This project is a continuation of long-term management and does not represent a change in outputs from the Homochitto National Forest. Local markets should remain stable. Only Alternative 1, No Action, if applied to a number of projects would be expected to affect local prices. There could potentially be short-term increase in price followed by closure of facilities sufficient to re-stabilize price.

The discussion related to effects on private timber owners is largely out of the scope of this document. To summarize, forest products are a legally recognized multiple use of public lands. A variety of laws govern sale and utilization to avoid waste of public property. When specific habitat and forest health issues are identified and environmental issues addressed

associated with vegetative management practices, if meeting the desired condition involves the cutting of public timber, then congress has essentially directed that these trees be sold to provide economic and resource availability benefits to the public. There would be no expected long-term adverse impact on local private timber prices.

**58. Comment: Concern that the EA lacks the proper indirect and cumulative effects analysis required by NEPA. The EA attempts to limit its discussion to Forest Service lands only.**

**Current Condition:** Negative effects of federal and most private activities on soil, water, and air in the planning area from harvest activities that occurred over five years ago have essentially ceased. The cumulative effects to issues such as soil, water, air, visual and cultural resources are expected to be very similar to the actions that have occurred over the past ten years. Within the past 10 years, no observable degradation of the Analysis Unit 22 project area has been identified.

**Response:** The District does not concur with this comment. Cumulative Effects are indeed discussed within this EA. They are handled on an individual issue basis. Each issue in Chapter 3 contains discussion of the cumulative effects. For example, the soils issue discusses harvest intensity and road building. The cumulative effects analysis to water quality discusses affects from siltation, burning, herbicide treatments, and timber harvesting, and included a model of verified accuracy. The respondent did not identify any resource areas where cumulative effects analysis was needed, and the interdisciplinary team could not identify areas where cumulative effects were not analyzed.

The Council of Environmental Quality handbook, “Considering Cumulative Effects,” provides instructions related to the appropriate duration and spatial extent of cumulative effects analysis. This is described as the “project impact zone.” Cumulative effects analysis area and duration vary by impact zone.

**Comment:**

**52. Concern the project requires further analysis with an EIS.**

**Current Condition:** The definition of an environmental assessment, according to 40 CFR 1508.9. is (a) a concise public document that serves to: “(1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. (2) Aid an agency’s compliance with the [NEPA] Act when no environmental impact statement is necessary.”

The test for significance is very specific in 40 CFR 1508.27 in terms of:

- (a) *Context.* This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.
- (b) *Intensity.* This refers to the severity of impact. There are a series of ten criteria that the decision maker must answer, and these answers will then lead the deciding officer to the conclusion as to whether or not an EIS is required. These ten criteria listed in 40 CRF 1508.27 and the classes of action listed in FSH 1909.15, 20.6 are what determine whether or not an EIS is required. A decision maker does not arbitrarily make the decision. This first thinning project has no impacts that significantly affect the quality of the human environment. The number of acres alone does not require an EIS document to be developed.

**Response:** There is no environmental relationship associated with this concern, where a cause and effect discussion of impacts is appropriate. The function of an environmental assessment is to determine whether or not an EIS is needed. The responsible official (District Ranger for this project) makes this determination based upon the analysis conducted in the environmental assessment and the criteria stated above. Unless the analysis identifies impacts that meet the above criteria, there would be no basis for an EIS. The responsible official provides a rationale in his decision, related to whether or not an EIS is needed.

**Comment:**

**53. Concern that logging is an inappropriate use of public land.**

**Current Condition:** The laws that established the eastern National Forests appear to include the intent of providing forest products to the public as one of the multiple-use benefits. NFMA and the Multiple-use Sustained Yield Act have defined forest products as an appropriate use of Forest Service lands.

**Response:** Logging and providing forest products appears to be the intent of several current laws governing National Forest management. Therefore, the question of appropriateness has been established by law. The questioning of laws set forth by congress is out of the scope of this analysis.

**Comment:**

**55. Concern about the effects the project will have on other stands in times of high winds.**

**Current Condition:** High winds, and blowdown as a result of these high winds, are most prevalent in stands in which trees are greatly spaced as in the modified seed tree or shelterwood methods of even-aged regeneration. Thinnings or intermediate cuttings are spaced closer to regulate the distribution of growing space for the benefit of the existing crop and reduce the threat of potential blowdown and southern pine beetle infestation (Smith 1986).

Long-term records indicate that the potential for loss to winds is much lower than the potential for loss to wind. Southern pine beetle epidemics occur, on average, every 6 to 10 years on the Homochitto Ranger District. The approximate total volume harvested during the last southern pine beetle epidemic was 80 million board feet. Outside of epidemic conditions, typical salvage volumes average between 3 million to 5 million board feet per year. This equals roughly 10 million board feet per year.

Wind losses in a mature forest are also substantial. A tornado in the early 1990s resulted in the loss of 9 million board feet. Several losses of 4 million board feet have occurred prior to that. However, the long-term losses are typically 2 million board feet or less. Also, thinning is not relevant to most wind losses, because they are associated with tornado events. These winds are sufficiently intense that trees in their path are blown down, whether thinned or not. Once tornado losses are deducted, wind loss, when compared to southern pine beetle losses, are very small.

After thinning, crowns tend to expand to fill openings. Root systems also expand. After about 3 years trees reestablish wind firmness and are less subject to blowdown. There is a very short window of risk associated with typical thinnings.

**Response:** Blowdown as a result of high winds is most prevalent in stands in which trees are greatly spaced as in the seed-tree or shelterwood methods of even-aged regeneration. Thinnings or intermediate cuttings are spaced closer to regulate the distribution of growing space for the benefit of the existing crop (Smith 1986) and reduce the threat of potential blowdown and southern pine beetle infestation. In Analysis Unit 22, trees will be thinned to a basal area of 70 to 80 square feet per acre. This will maintain a close enough spacing so as to reduce the threat of high winds.

One stand scheduled for regeneration in the Analysis Unit 22 Project Area is to be regenerated by the modified seed tree method; these trees would be spaced further than a thinning in order to encourage regeneration. The majority of the seed source or the seed trees retained will be included in clumps. If the need for more scattered individual seed trees in between clumps is needed, these trees should be big enough and strongly rooted enough to survive any threat of blowdown. No other stands are at risk of blowdown as a result of the treatments in Analysis Unit 22, or at least no more than present conditions. Any risk is considered acceptable when compared to the reduced potential for southern pine beetle losses.

**Comment:**

**56. Concern that uninventoried roads be identified and that open roads exceed the Forest Plan standards.**

**Current Condition:** The National Forest inherited a substantial network of roads when it was acquired in the 1930s. These roads were constructed during the settlement era or when the area was logged prior to the 1930s. and have had intermittent use since the National Forest acquired

them in the 1930s. These roads are occupy most ridgetops and are maintained or reconstructed periodically to meet access needs during management activities.

The district has closed all known old roads except those designated as open to provide public access to public and private lands within the forest and maintained at Level 3 for this purpose. The district has no control over county roads and roads on private land within the forest, but do not have roads that duplicate existing public access.

The respondent did not cite or provide any suggestions of any roads that should be closed.

**Response:** The District responded to this concern in the 1980s, and roads not needed for daily public access are closed. Many roads within this project area are Level D roads that are currently closed and will remain closed except for project use. Apparently this was a general, non-specific concern and the respondent did not know of a road that should be closed.

Construction of new roads in this project is limited to right-of-way access. This project level analysis deals specifically with vegetative management issues that affect habitat and native ecosystems and forest health and is limited to the Analysis Unit area. Transportation and public access needs are evaluated each time an analysis unit is entered. Unlike public domain lands of the west, eastern National Forests were purchased from willing sellers. Many tracts have substantial “in-holdings.” A large number of state and county roads serve these in-holdings. There is no legal means of denying access to private lands, which was often established during settlement times.

**Comment:**

**14. Concern about the need to maintain and enhance natural and native forest types and tree species in this project area.**

**Current Condition:** Current forested areas within the Homochitto National Forest have changed since a survey conducted in 1909; a survey which identified primarily longleaf pine in a fire maintained outhern pine forest. After logging operations of these historical longleaf pine forest were completed early in this century, species such as loblolly and shortleaf pine easily encroached on longleaf areas due to open seedbeds and fire suppression. These condition allowed loblolly pine to regenerate extensively due to its large production of seed and its rapid height growth within the first 10 years, which enables the terminal bud to get beyond the reach of most fires. Many species of plants and animals which depended on the longleaf pine forests and fire to maintain stable populations are today reduced to vestiges of their original populations.

**Response:** The Homochitto National Forest has recognized the restoration of native habitats as a desired activity. One of the objectives of this project is to restore the longleaf pine component to lands where it was historically a dominant tree species. Alternatives 2, 3, and 5 respond to this issue by planting longleaf pine seedlings.

**Comment:**

**16. Concern that timber harvesting methods will be used which have the least amount of impacts to soils, water quality, groundwater, wildlife, and plant diversity.**

**Current Condition:** The main separation of harvest methods is between even-aged management (clearcut, seed-tree, shelterwood) and uneven-aged management (single tree or group selection). With regard to the resources listed above, the following differences in impacts occur:

Soils and water quality: even-age methods expose more groundcover in the stands treated, and result in a larger sediment load in the streams adjacent to the regenerated stands for a short time following harvest. Uneven-aged methods use more roads, impact a larger percentage of the landscape, and cover the same ground repeatedly. While uneven-aged methods may cause a lower initial impact, the cumulative impact may be greater than even-aged management.

Groundwater: quantity – Research has shown approximately 3-7% more runoff water from stand undergoing even-aged management from up to three years following a regeneration treatment. This amount is statistically insignificant since it is lower than the periodic runoff on undisturbed land caused by storms. Quality – One of the major concern with ground water quality is the leaching of herbicides into the groundwater. The potential for such an impact would be greater in uneven-aged management since more acres would be treated, on a more frequent basis.

Wildlife and plant diversity: When managing for a wide variety of species, it is essential to provide habitat of many different types. An essential part of this is the creation and/or maintenance of early seral habitat for species dependant upon that ecosystem and those condition. Uneven-aged management does not produce any true early seral habitat except perhaps in log landings. Even-aged stands of varying ages provide a full range of early, mid, and late-seral habitat for a variety of animals and plants.

**Response:** All of the above resources, as well as others such as visual impacts, were taken into consideration when choosing the preferred harvest method for each stand. Full discussion of the potential impacts can be found in Chapter 3 of the Environmental Assessment.

**Comment:**

**17. Concern that timber-harvesting methods not be limited to even-aged management methods only, that selective, unevenaged methods be full considered.**

**Current Condition:** The Forest Plan identified even-aged management as the primary management regime suitable for the forest types on the Homochitto National Forest, but does provide for uneven-aged management where appropriate.

**Response:** The Forest Service fully responded to this concern. Uneven-aged management was considered but eliminated from further consideration because it would not meet the need for ensuring the forest health conditions needed to sustain healthy stands. This alternative does not meet direction outlined in the Forest Plan. The desired future condition calls for a steady-state

forest of relatively balanced age classes interspersed with patches of older seral stages and unregulated areas. The forest would be relatively intensively managed with small pine sawtimber-poles and large hardwood sawtimber the end product objective. Uneven-aged management would create a wide mix of age classes. This form of management leaves seed source and shade condition not suitable for regeneration without extensive and repeated site preparation. Since the majority of the regenerated stands in the Project Area are currently loblolly pine, it would be difficult to impossible to convert stands to mixed pine or mixed pine/hardwood which is a specific objective of this EA. This alternative was eliminated from further analysis because it would not support the purpose and need of promoting forest health and restoring longleaf pine. (see Chapter 1, Purpose and need).

**Comment:**

**46. Concern that the impacts to recreation be fully documented and supported by site-specific data and information.**

**47. Concern that timber harvesting is given preference over recreational uses.**

**49. Concern that impacts to recreation from active logging operations are downplayed and considered inconsequential merely because they are temporary.**

**Current Condition:** In the Analysis Unit 22, hunting is the primary dispersed recreational use, although horseback riding and off-road vehicle use are apparent in some areas adjacent to private inholdings. Currently, the National Forest does not charge fees for hunting use. The economic benefits are associated with money spent on supplies, equipment, food, and other items in support of hunting. Another value is the elevation of land values associated with the market for small recreational tracts that provide access to the National Forest. The primary factor that influences this recreational activity is hunter success. Current success rates are excellent for deer, squirrel, and turkey are recovering from a recent natural cycle of low populations. Chapter 3 contains substantial discussion related to each alternative and its potential to maintain current consumptive wildlife populations.

**Response:** Harvest activities enhance or maintain values associated with consumptive wildlife recreation. They also provide for a wider range of habitat diversity and support higher, over-all species richness. Harvest is not necessarily adverse to recreational uses such as hiking and horseback riding. The forests within Analysis Unit 22 are aging. When a southern pine beetle spot within a Texas wilderness area grew to more than 10,000 acres before it was suppressed, the over-all visual quality and recreational value of the area dropped substantially for the foreseeable future. The Homochitto National Forest has also experienced major pine beetle epidemics and windstorms, which leveled hundreds of acres. Thinning increases vigor and reduces southern pine beetle hazard in pine stands and, as applied in this project, will result in larger, more majestic hardwoods in areas that fall within the pine-hardwood working group.

Opening up site distances through the woods for improved viewing of landform and flowering trees and shrubs such as dogwood is considered a visual benefit as discussed below. Regeneration on a planned and controlled basis can limit the impact of natural catastrophes. Younger forests are more resistant to southern pine beetle losses and less susceptible to wind throw. By introducing thinning and regeneration, the action alternatives considered provide for

varying degrees of sustained hunting and non-consumptive recreational uses for the long term with minimized short-term, adverse impacts. The “No Action” alternative does not do this. The thinnings and regeneration are considered to benefit the economic value of recreation within Analysis Unit 22.

The Forest Service is often asked to compare the value of various forest commodity outputs such as timber to the value of recreation. Stated recreational values are based upon “value added” contributions of these developed through a Forest Service study. These estimates include not only user fees, but also the value of fuel used during recreation, recreational equipment, meals, jobs, and many other related factors. The dollar returns in stumpage do not provide an equal comparison.

Elementary economic science universally identifies only two basic sources of wealth: agriculture and mining. All income is “multiplied” from the production, manufacture, and use of products from these two basic sources. The timber industry nationally provides a direct contribution of approximately 4% of the gross national product. The Homochitto National Forest is a small but additive source of this basic raw material. The income from harvests is multiplied at many levels throughout our society. This income is used for food, clothing, and shelter. In fact, low cost forest products can reduce the cost of providing for basic necessities.

Numerous additional jobs are associated with marketing these products, or the manufacture of wood products or products which incorporate wood, such as homes. An example of spin-off benefits is a substantial portion of the appliance sales to furnish new or remodeled homes. Bullard (1989) found that while manufacturing accounted for only about 15% of the job market, an additional 60 million jobs were directly tied to distribution and marketing of manufactured goods. The discretionary income remaining after meeting basic needs supports a variety of human activities, including recreation in our National Forests and Parks, and is a contributor to the value of recreation.

Therefore, the value of timber removed to maintain the health of the Homochitto National Forest and its plant and animal communities contributes to unquantified benefits far beyond the millions of dollars provided in direct returns from stumpage each year. Because of the complexity, there are no models, which provide a full analysis of base resources from production, fully through the social/economic spectrum. Even though there are models, which project value, added relationships for more limited relationships such as recreation and specific consumer goods, the value of these activities is actually a resultant of the production of basic resources, including wood products from the National Forests.

**Comment:**

**9. Concern related to the effects on caves, springs, and groundwater, resulting from logging.**

**Current Condition:** This issue does not have a direct cause and effect relationship to the proposed actions in Analysis Unit 22 with respect to caves and subsurface flow through them. The Homochitto National Forest does not have the underlying rock layers to support cave formation. Therefore, an analysis of the effects on caves is out of the scope of this project.

There may be some effect on water yield due to the loss of pine overstory trees as a result of the proposed actions. Studies, which included some watersheds on the Homochitto National Forest, found that if a maximum number of acres were clearcut, this could result in a base level flow increase of 2%-5%. (See discussion, Chapter 3). The proposed action is only about 40% of maximum, and the study indicated that even at maximum levels, the difference could not be separated from seasonal and annual differences in rain amounts and patterns.

The respondent appears to relate this issue to the increased water yield associated with the removal of timber. Trees transpire large quantities of water, and replace decomposing litter with annual leaf and litter fall. This improves filtration into the soil and reduces the amount of water that actually leaves the watershed in the form of ground water.

Intermediate cuttings, such as thinnings, which are slated for Analysis Unit 22, would have very little effect upon subsurface water flow, as enough trees still remain (60 to 70 square feet per acre) to reduce this flow of water. Even increased water flow, as a result of reproduction treatments, would be short-lived as regeneration would return the site to current conditions more rapidly and limit long-term effects. A number of the soil and water issues identified above have a direct relationship with this project and could potentially have a very minor and indirect impact on water yields. However, in the absence of the ability to statistically measure the differences, the Committee for Environmental Quality handbook for "Considering Cumulative Effects," analysis is not generally extended beyond the extent of measurable impacts.

**Comment:**

**19. Concern that prescribed burning occur only in pine stands where such activity is natural and historically documented for that forest type and that it not occur in hardwood and mixed stands where burns were naturally and historically infrequent.**

**20. Concern that prescribed burning operation not automatically be tied to logging proposals such that proper prescribed burning in Longleaf areas will not occur unless timber harvesting is approved.**

**67. Concern funding for prescribed burns is directly linked to the timber sale in the project area.**

**Current Condition:** The district prescribed burning program is analyzed in a separate Environmental Assessment, and is mentioned in this project only to disclose the total management process proposed for this Analysis Unit. Timber sale funds are used to prescribe burn only when the fire is directly associated with the sale area, such as burning to remove slash or improve wildlife habitat, or when fire is used for site preparation of a harvested area before regeneration. Growing season burns coincidentally occur during the highest fire danger of the

year. Most of the areas prescribed for a burn do not have light grass fuels where this type of burn may work.

**Response:** In the absence of a timber sale, such as the selection of Alternative 1, prescribed fire would occur within the burning block and would be paid for through appropriated funds.

**Comment:**

**51. Concern that all historic and archeological sites be adequately surveyed and considered prior to any proposed decision on this project.**

**Current Condition:** A cultural resource survey has been completed in Analysis unit 22 for all areas proposed for action in any of the alternatives considered in detail. Recommendations on measures of protection for each site located were made by a Forest Service Archeologist and approved by the State Historic Preservation Officer.

**Response:** Five of the sties found contained sufficient evidence to warrant additional evaluation and will be protected from damage during implementation of any action in the project area. Further information can be found in Chapter 3 of this Environmental Assessment.

**Comment:**

**48. Concern that visual quality is not considered other than to say that VQO's will remain the same on paper as they are now.**

**Current Condition:** The large majority of the project area has a visual quality object of "maximum modification". Several areas along major travel routes such as county roads 101 and 192 have a visual quality objective of "modification". Current county roads within the project area include 191 and 192. Existing Forest Development Roads in the project area include 191B, 192A, and 165B. All these travelways are broken by openings from previous harvesting. According to the Forest Plan, the Forest Management Goals (Forest Plan, page 4-1 and 4-2) are to provide a visually acceptable landscape by maintaining or upgrading the existing visual condition. The Forest-wide Standards and Guidelines state that the Visual Resource Management relationship to visual quality include the systematic recognition that such values exist to varying degrees and can be protected and managed in conjunction with other National Forest resources (Forest Plan, page 4-2). For the desired future condition of the visual resource, the Forest Plan provides the following direction: "The most obvious change in the Forest will be in timber management. As timber production is increased, more activities will be evident and, consequently, more effects will be viewed. The Forest may take on a more 'managed' look. This condition will be enforced as management intensity and utilization are increased," (Forest Plan, page 4-79).

**Response:** Stand 14 in compartment 279 is the only regeneration stand under the proposed action to occur within a "modification" visual quality zone along a county road. This stand was changed to a seedtree regeneration stand after VQO analysis. Views along this travelway will contain significantly more trees than a standard regeneration harvest. Care will be taken so no openings greater than 75 acres will be viewed from the existing travelway. Openings along roadways will be made as narrow as possible.

The project will create pronounced long distance viewing opportunities. Immediately after harvesting operations under the "Proposed Action" and the other action alternatives, logged-over areas would be visually displeasing due to remaining debris, damage to understory vegetation, and road scars. Leaving clumps of reserve trees or feathering trees along the edges of

regeneration areas could mitigate the visual impacts associated with these cuts. Naturally occurring vegetation and planted trees would offset these stump and slash visibility in 3-5 years. Other measures to minimize visual impacts would include restrictions on slash depth, distance of slash from roadways, placement of loading areas from roadways, irregularly shaped cutting areas, and limiting road openings to less than ¼ mile.

**Comment:**

**63. Concern controlled burns are not conducted during the seasons when they would most naturally and historically occur. i.e the growing season.**

**Current Condition:** The district prescribed burning program is analyzed in a separate Environmental Assessment, and is mentioned in this project only to disclose the total management process proposed for this Analysis Unit. Growing season burns or naturally and historically occurring fires coincidentally occur during the highest fire danger of the year. Most of the areas prescribed for a burn do not have light grass fuels where this type of burn might potentially be used.

**Response:** Typically, the frequency and intensity of fires increases as conditions become drier and more fuels are present. This coincidentally occurs in the middle of the growing season. Fires that occur at this time are suppressed as a result of public outcry for safety. Prescribed burns are not implemented at this time because of the higher cost of containment and control. In addition, the Forest Service would be held liable for damaged public property by any fire escaping during times of high fire danger, as evidenced by several fires in the west in the past year.

**Comment:**

**65. Concern riparian buffer strips are not wide enough.**

**Current Condition:** For perennial drains, the buffer strip on both sides of the drain would be a minimum of one chain (66 feet) but would average three chains or about 198 feet. For intermittent drains, the buffer strip on both sides of the drain would be a minimum of one-half chain or 33 feet but would average two chains or 132 feet.

Typical streamside management zone boundaries will be located at the point of the side slope that provides a definite break between the ridge and the bottom of the slope. Actual width at any point along the drain will depend upon the landform at that point. Areas with steep ridges might be narrower than three chains or 198 feet. Areas that are broad and flat might go well beyond the three-chain average distance.

**Response:** The forest plan(amendment 6) provides the minimum buffer strip needed to adequately protect water and soil resources. The Homochitto National Forest has adhered to these standards. Several studies have shown that current buffer strip guidelines are adequate in protecting resources. (see discussion of mitigations, in Chpt. 1)

**Comment:**

**67. Concern the use of genetic superior trees may be harmful future crops of trees.**

**Current Condition:** The Homochitto National Forest, in the 1930's had two different management options. These options were to clear cut the area and let the stand grow up naturally from the existing seeds in the duff layer or remnant trees, or seedlings were planted from a seed source miles away and most likely from only a few trees. Today these stands are 60-70 years old with most trees in the stand having the same parent.

**Response:** Today, the seed source is not just taken from only 1 or 2 trees but a large variation within the zone the trees are to be planted. Genetic trees are indeed selected based on their phenotype and some observable genotype traits. These trees are typically selected far enough away from each other that the possibility of them having the same parentage is extremely low. As these seedlings mature, and become seed producers themselves, the probability that they will breed with adjacent trees with other agreeable traits increases. As a result of our efforts, we believe that genetic variation of stands within the Homochitto National Forest will improve vastly over the 60-70 year old trees now occupying some of the land.

**Comment:**

**68. Concern rotation length are not long enough.**

**Current Condition:** The Homochitto National Forest does not have many pure stands of longleaf pine. Current rotation lengths for mixed pine are 60 years, for longleaf pine 80 years, and for hardwoods, 90 years. There are no pure stands of longleaf pine in the project area but they are present and make up a large percentage of the mixed pine stands which are to be regenerated on the average of every 60 years.

**Response:** Currently the project area has approximately 50% of its mixed pine in the 60 year old and greater category. At this point, it should be obvious that the forest is already beyond the 60 year old rotation that the Forest Plan calls for. It will take many more cuts at 10 year intervals to get the project area into a 60year rotation cycle.

## **Other Issues Identified but determined to be outside the Scope of this Project**

The following issues were identified by the respondents but were determined to be outside the scope of the Analysis Unit 22 Environmental Assessment.

**Comment:**

**5. Concern that harvest will result in the loss of microorganisms.**

There are no management indicator species of microorganisms listed as threatened or endangered and are of special interest or concern identified on the Homochitto National Forest. There is no study showing that damage to microorganisms for timber harvest is non-reversible.

Microorganisms can be affected by fire, change in available light, change in plant conditions, change in absence of action, and temperature throughout the development of the stand either by artificial or natural methods. There is likely to be a change in microorganism population but not different from historical levels. The analysis of change to microorganism community would not have a bearing on the selection of actions. Therefore, the effects on microorganisms are not relevant to this analysis.

**Comment:**

**15. Concern about site-specific data and information showing that the tree type favored on each site is the type that existed on each site naturally and historically.**

Site-specific data is collected for various resources in accordance with Forest Service manuals and direction, which, in turn, are written to insure full compliance with the laws pertaining to National Forest management. Data from local and regional research programs provides additional information and is used by environmental science professionals within the Forest Service and contributing agencies and organizations. The analysis and the presentation of the analysis in the form of an Environmental Assessment or Environmental Impact Statement are completed according to laws and regulations, including analysis of cumulative impacts.

Requests from the public for clarification, such as including streams on the stand map, lead to modifications in the material presented for public review.

**Comment:**

**22. Concern that cut-to length equipment is not being used on the Homochitto National Forest.**

**Current Condition:** The basic relationships related to this recommendation were addressed under issues to utilize logging techniques that minimized impacts to soil and water values. The respondent should refer to these discussions. To summarize, the “Proposed Action” can be implemented utilizing logging practices common to this area and fully comply with all applicable standards and guides. In this case, cut-to-length logging is likely to result in a much higher impact.

This system is optimized on moderate terrain in evenly spaced stands of small- to medium-sized material. The forwarder is typically a skidder/bunk-trailer type of equipment that has limited on turning and maneuverability. Moderately wide access corridors are established every few rows (60-80 feet) to provide operation room and allow the forwarder to move to the loading area.

Systems may be able to cut larger trees, but most equipment is designed for commercial/production timber grown to shorter rotations. The larger timber on the Homochitto

Ranger District would discourage the use of this type of equipment. High daily production is required because the cutter/buncher and forwarder typically cost more than a million dollars. Scattered salvage rarely provides the production rates to support this equipment.

**Response:** When compared to the purpose and need for the Analysis Unit 22 Project, cut-to-length logging equipment is not satisfactory. By controlling log length, skidders can “snake” logs through the forest with minimum disturbance. A forwarder does not have this maneuverability. Healthier, standing timber would have to be cut in order to meet the access requirements for this equipment than the amount of timber that actually requires salvage. The harvest of timber is not the objective of this project. Removing damaged materials to protect forest health and restore recreation values is. Cutting access corridors is adverse to this purpose.

Side-slope operation of the forwarder through standing timber in order to access scattered materials is another concern. The bunk trailer, which carries a large number of trees, is wider than one or two trees pulled behind a skidder. It is likely to slide or shift or simply strike boarding trees and cause physical damage to residual trees. Also, sites on the Homochitto National Forest are some of the best in the nation, and trees well over 24 inches represent a high percentage of the damaged material. Known equipment in the United States is inefficient when handling this size log. This is considered an unreasonable harvest system for use with the Analysis Unit 22 Project and, therefore, is not further evaluated.

**Comment:**

**59. Concern tha analysis needs to address the impacts of increased mortality due to “road kills” and other logging-related activities.**

There is no feasible way to determine if road mortalities resulted from logging, as there is no feasible way to determine how many other deaths will occur or “what kind of death these creatures will suffer”. Animals die from disease, predation, or starvation, as they become less competitive with age. There is no means to determine whether deaths experienced result from normal population dynamics or from activities related to the Analysis Unit 12 Project. This issue is, therefore, out of the scope this project.

**Comment:**

**60. Concern that a no-harvest, restoration-only alternative be developed.**

**Current Condition:** A “no-harvest, restoration-only alternative” would not meet the direction provided by the Forest Plan to provide goods and services from the National Forest to the public at the local and National level under supply and demand conditions predicted in Chapter 2 of the Forest Plan.

**Response:** In response to public comments, an alternative was developed which would allow for cutting the current overstory trees and the restoration these areas without conducting a timber sale. To evaluate this option we assumed a cost of \$150 per thousand board feet to fell the trees, dispose of them with a whole-tree chipper, and spread the chips evenly through the stands. Multiplying this by the approximate 9,996 MBF in the “Proposed Action” produces a cost of \$1,499,400. This cost would fall entirely upon the tax payers of the United States, as would the cost of cultural treatments needed to meet the propose of the project.

These cultural treatments, such as site preparation and planting, are generally funded by the Knutson-Vandenburg Fund, which uses moneys from a timber sale to reforest the sale area. The Homochitto National Forest is not currently allocated that much money for ecosystem restoration on a project-by-project basis. Such an alternative may also be outside the intent of the law, since both the National Forest Management Act and the Resource Planning Act provide utilization language for timber harvested on the National Forests. For these reasons, this alternative was considered unreasonable and was eliminated from further analysis.

9-13-00  
Sunday

Mr. Gary W. Bennett:

I only wish my father Emerson (Jack) Brown could have lived to see a Forest Ranger here in our forest that would try and replace the natural growth of trees which were destroyed. It was very sad when I as a young child would hear my father lament over the process of removing the hardwood by cutting into & thick the bark so the ~~tree~~ would die.

I applaud your efforts to restore the natural Hardwood timber and of course this would help bring back the game species mentioned in your letter. Again I personally appreciate your efforts.

I plan, in a small way, to plant Hardwood & long leaf pine on property joining forest land at block # 7 in ~~to~~ to the south of Royal Chapel church about 30 acres.

Thanks  
Jerry Brown

# HEARTWOOD

DEDICATED TO THE HEALTH AND WELL-BEING OF THE HEARTLAND NATIVE FOREST

HOMOCHITTO RANGER DISTRICT Working Copy  
AUG 10 1999

Gary W. Bennett, District Ranger  
Homochitto district  
Route 1, Box 1  
Meadville, MS 39653

Dear Ranger, 07/28/00

Thank you for the opportunity to comment on the proposed Block 22 Analysis Area Project. Logging is an inappropriate use of public forests and is contrary to the public interest. Heartwood, therefore, opposed this use. Additionally, the Purpose and Need needs to indicate the true purpose and need for the project (i.e., to approve logging so that money can be illegally skimmed from the KV fund to support the Forest Service bureaucracy.) The Forest Service is so far out of control that many times it claims it does not have to obey the law, because there were no comments indicating the law should be followed. Therefore, we wish to raise the issue that of all laws that apply to the project need to be followed.

## PUBLIC OPINION

A scientific poll conducted for the Forest Service revealed that most Americans oppose logging, mining, and grazing on public forests. (Bruce Hammond, "Forest Service Values Poll Questions Results and Analysis." The question was, "Natural Resources in Public Forests and Grasslands Should be Made Available to Produce Consumer Goods." Forty-seven percent disagreed with 26 % strongly disagreeing. Seventeen percent had no opinion and 36% agreed. Statistically this represents a significant disagreement with the statement.) In May 1996, ICR Survey Research Group conducted a nation-wide public opinion survey for Lake Research. The survey found most Americans support "ending commercial logging . . . on all federal publicly owned lands." Several states also have conducted public opinion surveys which have found most people in that state do not want their National Forest logged. The most recent nationwide public opinion survey [Republican Pollster American Viewpoint conducted a national survey of 1,000 registered voters for the Heritage Forests Campaign from December 28, 1999 through January 2, 2000. All interviews were conducted by telephone. The margin of error for this study is ±3.2%.] asked, "In general, do you favor or oppose allowing logging, mining, and other industrial activities on National Forest lands?" Sixty percent (including 43% strongly) were opposed and only 31%, (including 10% strongly) were in favor. Another nationwide public opinion survey (National Survey conducted by Market Strategies, Inc. and Lake, Sosin, Snell, Perry and Associates, Inc. N=800 registered voters June 22-25, 1998. Market Strategies, Inc. has conducted polls for Newt Gingrich, Bob Dole, George Bush, and Gerald Ford.) asked: "There has been a national debate about whether the U.S. Forest Service should continue to sell timber from our national forests. Do you favor or oppose continuing to allow timber companies to log in our national forests? (IF Favor/Oppose ASK:) And do you STRONGLY (favor/oppose) this or just SOMEWHAT (favor/oppose) this?"

The results were: Strongly favor, 7%; Somewhat favor, 17%; Neither, 2%; Somewhat oppose, 19%; Strongly Oppose 50%; Don't Know, 5%, Refused, 0%. Note: Even voters in the west, by a 2-1 margin (62%/31%), oppose continuing to allow timber companies to log in National Forests. Opposition is 70% or more in other regions of the country.

In an interview, former Chief Thomas, referring to public opinion, stated: "For example, it was just about evenly split about whether we should harvest timber from national forests or not. That's an interesting fact for us to have at our disposal." The Forest Service should consider public opinion in its analysis as the National Forests belong to U.S. citizens, not the logging corporations. What do the words, "government of the people, by the people, and for the people" mean to the Forest Service? As former Chief Thomas stated on May 21, 1996, "These lands belong to the people and must be managed by democracy. If we don't have the people with us, we fail." As the Declaration of Independence states, "Governments are instituted among men, deriving their just powers from the consent of the governed, that whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it . . ."

Alternatives, which are not connected to logging, must be developed and considered to respond to the majority of Americans who do not want their National Forests cut down. In *Sierra Club v. U.S.D.A.*, 1997 WL 295308 (S. D. Ill. September 25, 1995) aff'd by order adopting opinion 116 F.3d 1482 (C.A. 7 (Ill) 1997), the Court ruled that while the Forest Service is allowed to log National Forests, the Forest Service is not required to cut down the public's forests. "The Forest

Heartwood Network Support • PO Box 7653, Columbia, MO 65205  
(573) 999-5790 • devin@heartwood.org • <http://www.heartwood.org>

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Service was created by and for the people. Hence, we communicate with and listen to the public . . . The results on the ground reflect . . . full and fair consideration of public opinion." The Forest Service Ethics and Course to the Future October 1994. The Forest Service should "serve the people" as it claims to do. Claiming that what the majority of Americans want is "beyond the scope of the analysis" is ignoring the public and subverting democracy. Additionally, defining the purpose and need so narrowly to exclude alternatives that do not cut down the public's forests is illegal. Since there is legislation in Congress to end logging on public lands, an alternative must be developed to manage the area in the manner prescribed in HR 1396, the National Forest Protection and Restoration Act. (More than 175 environmental and religious groups and businesses have endorsed the legislation. A list is available upon request.)

The no-action alternative does not adequately respond to the wishes of the majority of Americans who do not want their natural heritage converted into stumpland. The no-action alternative has almost no chance of being selected due to all the time and money invested in developing the project. For example, in an May 9, 1997, appeal resolution meeting, Hoosier National Forest Supervisor Ken Day stated, "I don't want to go through all these documents and then declare, all this work, and then say "Okay I'm gonna select a no-action alternative and not do anything afterwards.' Why do the analysis?"

In 1998, we did a nationwide FOIA request to find out how often the Forest Service selects the no-action alternative for a proposed timber sale. The results were:

- \* Number of proposed timber sales in the last 5 years with No-Action Alternative selected: 8
- \* Number of sales with No-Action Alternative selected since Michael Dombeck became Chief on January 6, 1997: 0
- \* Last time No-Action Alternative Selected: December 13, 1996
- \* Acres of timber proposed to be cut for which No-Action Alternative selected in last five years: 7,362
- \* Acres logged in the last five years (from TSPIRS reports): 4,168,282
- \* In the last five years, the Forest Service logged 567 times more acres than they selected the no action alternative for.
- \* "[The] Forest Service prepares 4,000 to 5,000 environmental assessments annually, of which about one-half are for timber sales. In FY 1997, Forest Service awarded contracts for 232,110 timber sales." USDA/OIG-A/08801-10-At 4.

If there is a range of alternatives that have projects other than logging, the Deciding Officer would have alternatives that respond to public will and provide projects for all the time and money invested in the analysis. If there is not an alternative with only non-logging projects, the Forest Service will have ended its inquiry at the beginning as there will be a pre-determined result of logging in the project area.

#### NEED FOR TIMBER SALE

The analysis needs to address the need for the timber sale. Just because the Forest Plan allows timber sales, one cannot conclude there is a need for the sale. The Forest Service must disclose site-specific monitoring data which demonstrates that there is a need for the sale. The need analysis must also address why natural processes will not create enough early successional habitat. If the analysis claims a need for early successional habitat, the analysis must demonstrate that there is a need for the type of habitat that the Forest Service creates as opposed to the type of early successional habitat that is created naturally. We also request that the MIS species for early successional habitat be changed to the only creature that truly requires the type of habitat (devastation) created in Forest Service timber sales: Forest Service bureaucrats.

#### BIODIVERSITY & FOREST FRAGMENTATION

The issue of biodiversity and forest fragmentation needs to be considered. In an interview, former Chief Jack Ward Thomas summed up why these issues are so important: "First don't let habitat situations get so bad that species get listed. That's playing Russian roulette. Once a species gets listed as threatened or endangered, it quickly slips out of anybody's hands and into the hands of the regulatory agency. That means you get ahead of the situation. You ask "How are we going to address this circumstance in a rationale, reasonable fashion, in a coordinated manner so that it is not necessary to list the plant

or animal?" . . . One would not want to repeat the exercises of the Pacific Northwest where nobody would face the issue and everybody continued to twist away from the inevitable. If you look at the history of that particular issue, solutions were proposed and rejected, back and forth. The social and economic impacts kept increasing with each ratchet. The earlier you can address these issues, the more chance it will be addressed rationally with minimal impact. The longer you wait, the more options you lose, and the more dramatic the effect becomes in the end." (Seeing the Forests and the Trees: An Interview with Jack Ward Thomas. "Wisconsin Natural Resources," April 1995.)

It is time to act to protect neotropical migrants and biodiversity in general. The longer the Forest Service waits, the worse the problem becomes.

Biodiversity and forest fragmentation must be addressed in regard to all species, not just birds. This includes, but is not limited to: mammals, invertebrates, plants, insects, micro-organisms, reptiles, and amphibians. The degree to which this area provides a biological corridor and its value should be considered. Sampling effects and minimum area requirements of all species should be addressed. The impact of cowbird parasitism and predation to forest interior birds should be prominently considered. The analysis of the impacts to forest interior birds needs to address nesting success. Some studies have documented forest interior birds in recently logged areas. The presence of these species in these areas normally indicate that the species are being harmed. Forest interior birds normally do not successfully reproduce in recently logged areas. These areas, in essence, have become ecological traps. The need for large tracts of forests should be considered. (Robbins, Chandler S., Deanna K. Dawson, and Barbara A. Dowell, "Habitat Area Requirements of Breeding Forest Birds of the Middle Atlantic States." Wildlife Monographs No. 103, July 1989.

Solheim, S. L., W.S. Alverson, and D.W. Waller, "Maintaining Biotic Diversity in National Forests: The Necessity for Large Blocks of Mature Forests." Technical Bulletin Vol. 4 No. 8, School of Natural Resources, the University of Michigan.

Robinson, Scott K. and David S. Wilcove, "Forest Fragmentation in the Temperate Zone and its Effects on Migratory Songbirds." Bird Conservation International 4:2330-249.)

A study published in Science contained these findings and recommendations for neotropical migrants:

"Nest predation and parasitism by cowbirds increased with forest fragmentation in nine midwestern landscapes that varied from 6 to 95 percent forest cover within a 10-kilometer radius of the study areas. Observed reproductive rates were low enough for some species in the most fragmented landscapes to suggest that their populations are sinks that depend for perpetuation on immigration from reproductive source populations in landscapes with more extensive cover.

"Our results suggest that a good regional conservation strategy for migrant songbirds in the midwest is to identify, maintain and restore the large tracts that are most likely to be population sources. Further loss or fragmentation of habitats could lead to a collapse of regional populations of some forest birds. Land managers should seek to minimize cowbird foraging opportunities within large, unfragmented sites. In more fragmented landscapes, the reduction of cowbird parasitism may require trapping and large scale restoration efforts, whereas reduction of local forest edges may reduce nest predation and increase mating success. . . . Increasing fragmentation of landscapes, however, could be contributing to the widespread population declines of several species."

(Robinson, Scott K., Frank R. Thompson III, Therese M. Donovan, Donald R. Whitehead, & John Faaborg, "Regional Forest Fragmentation and the Nesting Success of Migratory Birds." Science Vol. 267 March 31, 1995 pages 1987-1990.)

The analysis needs to consider these findings and recommendations. A follow-up study conducted in a heavily forested area concluded:

The conclusion is that some management practices (clearcuts, forest openings, and possibly regeneration openings) may cause a reduction in the reproductive success of birds nesting in adjacent forest. Rates of parasitism are significantly higher for many species in these contexts and daily nest mortality is also slightly higher. Cowbirds appear to be preferentially attracted to openings within the forest and then direct much of their nest-searching activity into forest adjacent to the openings.

It follows from this that the quality of a forest tract as a "source" will depend on the structure of the landscape within the forest tract. Tracts with many internal openings and edges will, in general, produce fewer young per nesting attempt than tracts with

few disturbances. Accordingly, management for viable populations of NTMB should involve minimizing the amount of internal opening and edge.

Whitehead, Donald R. "The Effect of Landscape Pattern and Timber and Wildlife Management Practices on the Reproductive Success of Neotropical Migrant Landbirds in South-central Indiana." November 1995. The following additional studies also need to be addressed: Winslow, Donald E., Patrick J. Doran, Donald Whitehead, Grant M. Greenberg, Matthew A. Koukol, Elizabeth A. Geils, R. Bernadette Slusher, & Thomas B. Ford, "The Reproductive Success of Forest-Dependent Songbirds in South-Central Indiana: Effects of Forest Management Practices" and Doran, Patrick J., Donald R. Whitehead, Donald E. Winslow, "Within-Landscape Patterns of Land Cover and the Nesting Success of Neotropical Migrant Birds in South Central Indiana."

The analysis needs to consider these findings.

The analysis needs to consider Desrochers, Andre, & Susan J. Hannon "Gap Crossing Decisions by Forest Songbirds during the Post-Fledging Period" *Conservation Biology*, Vol II, No. 5 October 1997, pp 1204.1210.

The issue of the impacts to herbaceous understory needs to be addressed. Research indicates herbaceous-understories never recover from logging. (Duffy, David and Albert J. Meier, "Do Appalachian Herbaceous Understories Ever Recover from Clearcutting?" *Conservation Biology* Vol. 6 No. 2 June 1992

The analysis needs to consider the degree to which the alternatives would impede the movement and dispersal of closed-canopy forest wildlife species between stands and larger regions. The analysis should present and quantify the degree of fragmentation within the project area that has already taken place and those that will occur as a result of the various alternatives. These patterns need to be compared to the historical patterns that existed prior to human disturbance.

Analysis needs to be conducted and presented to show the range of potential impacts for the following variables:

- total amount and distribution of late-successional and mature forest habitat.
- total amount and distribution of important wildlife habitats now uncommon due to past human activity (e.g., riparian forests, native grasslands, etc.).
- total amount and percentage of forest habitat compromised by edge effects.
- size distribution of habitat patches by seral stage and forest type.
- forest patch perimeter to edge ratios.
- amount and distribution of roadless area within and adjacent to the planning area.
- degree of connectivity between both individual forest stands and larger habitat blocks.
- degree of structural contrast between habitat patches.
- population viability analysis for species or feeding guilds most prone to fragmentation effects (e.g., area sensitive mammals, forest-dwelling songbirds).

Existing conditions regarding these variables must be considered within the historical ranges of natural variability (i.e., what was likely there before large-scale human alteration of the landscape).

The analysis must define and measure biodiversity both in terms of the existing condition and the condition that would result if each of the alternatives is implemented. The analysis must consider the vulnerability, reduction from historical abundance, and the regional importance of all species in the project area. The analysis must use the pre-settlement condition of the project area as a benchmark for comparison with the existing condition and proposed changes to the project area. The

analysis must consider the functional, structural, and compositional attributes of biodiversity. The analysis needs to evaluate the existing condition of biodiversity, and compare it with the natural range of variability.

The Project Area needs to be considered within a landscape context. The analysis needs to consider the importance of maintaining connectivity between both individual and larger habitat blocks. To adequately consider the impacts of the project on biodiversity at the landscape scale, the following analysis must be conducted for all of the alternatives:

- size distribution of habitat patches for all community types and forest seral stages.
- patch size diversity index.
- degree of connectivity maintained between habitat patches at various scales, particularly between those patches that are now uncommon in the landscape (e.g., late successional forests, roadless areas).
- vegetation mosaic patterns.
- cumulative effects at scale of watershed and regional ecosystem.
- comparison of landscape patterns created by development to those created by natural disturbance regimes for all the above variables.
- maintenance of uncommon or unique landscape elements (e.g., rare plant communities, natural ecotones, undistributed vegetation along environmental gradients, etc.).

Existing conditions regarding these variables need to be considered within the context of their historical ranges of natural variability (i.e., what was there before large-scale human alteration of the landscape?).

The analysis needs to consider the cumulative and site specific effects of logging on biodiversity. The analysis must consider impacts on the following levels of diversity: 1) regional landscape, 2) community-ecosystem, 3) population-species, and 4) genetic. The analysis area must be large enough to consider biodiversity on all these levels.

The regional landscape analysis needs to: 1) Identify the distribution, richness, and portions of patch (habitat) types and multipatch landscape types; 2) Consider the collective patterns of species distributions (richness, endemism); 3) Consider heterogeneity, connectivity, spatial lineage, patchiness, porosity, contrast, grain size, fragmentation, juxtaposition, patch size frequency distribution, perimeter area ratios, and the pattern of habitat layer distribution; and 4) Consider the disturbance processes (areal extent, frequency, or return interval, rotation period, predictability, intensity, severity, and seasonality), nutrient cycling rates, energy flow rates, rates of erosion and geomorphic and hydrologic processes, and human land-use trends.

The community-ecosystem analysis needs to: 1) Identify relative abundance, frequency, richness, evenness, and diversity of species and guilds; 2) Identify proportions of endemic, exotic, threatened, and endangered species; 3) Identify dominance-diversity curves, lifeform proportions, similarity coefficients, and C4:C3 plant species ratios. 4) Consider the substrate and soil variables, slope and aspect, vegetation biomass and physiognomy, foliage density and layering, horizontal patchiness, canopy openness and gap portions, abundance, density, density and distribution of key physical features (e.g., cliffs, sinkholes, and outcrops) and structural elements (snags and down logs), water and resources (mast) availability, and snow cover. 5) Consider the biomass and resource productivity, herbivory, parasitism, and predation rates, colonization and local extinction rates, patch dynamics (fine scale disturbance processes), nutrient cycling rates, and human intrusion rates.

The population-species analysis needs to: 1) Identify absolute or relative abundance, frequency, importance or cover value, biomass, and density. 2) Consider dispersion (micro-distribution), range (macro-distribution), population structure (sex and age ratio) habitat variables, and within-individual morphological variability. 3) Consider the demographic process (fertility, recruitment rate, survivorship, morality), metapopulation dynamics, population genetics, population fluctuations, physiology, growth rate (of individuals), acclimation, and adaptation.

The genetic analysis needs to: 1) Identify allelic diversity and presence of rare alleles, deleterious recessive, or karyotypic variants. 2) Consider the effective population size, heterozygosity, chromosomal or phenotypic polymorphism, generation overlap, and heritability. 3) Consider inbreeding depression, outbreeding rate, rate of genetic drift, gene flow, mutation rate, and selection intensity.

For all state and Federal threatened and endangered (including candidate species), sensitive species, species of concern, and rare species the analysis needs to: 1) Describe the desired future condition (habitat quality, quantity, and configuration needed to support the desired population levels), 2) Disclose any known or suspected limiting factors, 3) Define suitable habitat and the status of the habitat on the project area for the species, and 4) List management recommendations which would remove or mitigate any adverse effects.

All old growth opportunities should be evaluated independently of potential timber stands. Opportunities must be based on both landscape and structural characteristics. Any stand that meets either or both characteristics should be designated old growth. Riparian areas deserve priority for inclusion in old growth designations for watershed protection and wildlife benefits.

An alternative to manage this area for forest interior species (by changing its management prescription if needed) must be considered. Projects that reduce the fragmentation of the area should be considered.

The analysis needs to address the predation impact of logging. The analysis needs to consider the impact of increased populations of nest predators such as blue jays, raccoons, and black snakes. The analysis needs to also consider the impact of logging roads (both providing feeding areas and a source of calcium for cowbirds) on forest interior species.

The analysis must cumulatively consider whether interior species can escape extinction if the project area is not protected. The issue of how forest interior species such as the woodthrush can maintain a Minimum Viable Population without protecting this area needs to be addressed. The results of the USFWS suggests that forest management practices that promote the conservation of insectivorous birds are imperative to maintain forest productivity. Such management practices would emphasize strategies that maximize bird species diversity and the viability of their populations."

Marquis, Robert J. and Christopher J. Whelan, "Insectivorous Birds Increase Growth of White Oak Through Consumption of Leaf-Chewing Insects" *Ecology*, 75(7), 1994, pp. 2007-2014.

The issue of the impacts of roads needs to be addressed. The analysis needs to address the impacts of increased mortality due to road kills. The analysis needs to address the impacts from fragmentation and isolation of species with an aversion to roads.

The issue of the effects the project will have on other stands in times with high wind needs to be addressed. The analysis needs to address if the openings will funnel the wind to other trees that will result in blowdown. By the same token, the analysis needs to address if the trees left standing can survive high winds.

#### IMPACTS ON PLANTS & ANIMALS IN THE SALE AREA

The Forest Service misrepresents its project by using sanitized language, such as "harvest," to describe the proposed action. The reality of a timber sale is that the Forest Service kills thousands of creatures and many of these creatures suffer long and agonizing deaths. The analysis needs to disclose the true impact of the Forest Service converting our natural heritage into devastated stumpland. The Forest Service always claims that early successional species require the devastation of Forest Service timber sales. The Forest Service, however, neither provides any proof nor evidence of this claimed need or addresses the impacts to the species currently living in the area.

The analysis needs to disclose the impacts to the plants and animals currently living in the project area. For example, scientists estimate the Forest Service kills 250 million songbirds a year, many of whose population is declining. Most killed are defenseless nestlings. The Forest Service kills many other species when it cuts the sale. The analysis needs to estimate the number of each different species that will be killed when the sale is cut. The population trend of each species that will be killed needs to be disclosed. For species with a downward population trend, the analysis needs to disclose how killing all these creates will impact the trend. Population trends must be calculated from site-specific inventory and monitoring data, not computer models.

The analysis also needs to disclose what kind of death these defenseless creatures will suffer. Will they be instantly killed when the trees are cut or when they are ran over by logging equipment? Or will they suffer a slow and agonizing death from starvation, exposure, or dehydration? The analysis also needs to estimate how long the creatures will suffer before they die.

The Forest Service needs to develop alternatives and mitigation measures to minimize the death and suffering the logging causes. For example, the alternative/mitigation measure of not cutting in the nesting season needs to be developed and considered.

The analysis also needs to disclose the indirect impacts to the species that are not directly killed by the trees being cut down or run over by logging equipment. The analysis needs to disclose how many additional plants and animals will be die because of the major and sudden modification to their habitat. The analysis needs to disclose what kind of death these creatures will suffer. Will it be a quick and painless death? Or will the creatures suffer a long and agonizing death from starvation, dehydration, or exposure. The analysis needs to disclose how long these creatures will suffer before they die. The Forest Service needs to develop mitigation measures/alternatives to minimize the deaths and suffering. If the Forest Service claims that some of these species will just go some place else, the Forest Service needs to provide proof of this. For example, the Forest Service would need to provide site-specific data showing other areas are not already occupied by other members of the species. The analysis needs to address the humane and anti-cruelty laws. The analysis needs to disclose each law and indicate whether it would apply to a timber sale. (Please discuss both the Forest Service's and loggers compliance with the law.) Even if the Forest Service claims the laws do not apply to their logging, please disclose if all the animals in the sale area are being treated in the manner that would be considered humane under the laws. In the Response to Comments, please explain why you believe killing and causing pain and suffering to forest creatures is justified so that you can get the cut out.

#### MIGRATORY BIRD TREATY ACT

While the USFWS says it is not a criminal violation of the MBTA for the Forest Service to approve a timber sale, the USFWS says it is a crime for the loggers to kill birds. For example, the USFWS has stated: Federal Agencies are required to ensure that their decisions comply with the Migratory Bird Treaty Act (MBTA) (16 U.S. C. 703-712; Ch. 128; July 13, 1918; 40 Stat 755, as amended). The MBTA prohibits the take of migratory birds, nests, eggs and nestlings. The Federal list of migratory birds (50CRF10 April 15, 1985) includes nearly every native bird species found in the State of Idaho, including Northern flicker. The DEIS does not accurately represent MBTA requirements. The FEIS should reflect the analysis below.

The DEIS states: "Trees with unidentified but occupied nest may be felled during logging or thinning activities, destroying the nests. ... The proposed management activities comply with the MBTA." The MBTA prohibits the direct take of migratory birds, nestlings and eggs by persons. Actions undertaken by contractors of the Forest Service that include cutting occupied trees, resulting in the death of migratory birds, nestlings or eggs, are not in compliance with the MBTA. However, federal agencies are not considered "persons" under the MBTA, and federal employees are not liable for taking migratory birds while performing their official duties for federal actions within the authority of the federal agency. For instance, prescribed burn actions implemented by Forest personnel are in compliance with the MBTA, even if such actions result in the take of migratory birds, nestlings or eggs. In this case, however, contractors felling trees with nestlings or eggs would result in take of migratory birds, and persons that cut such trees are liable under the MBTA. If actions were done in the winter, or other times when nests are not occupied by nestlings or eggs, the action would be in compliance with the MBTA, because the MBTA addresses only direct take, but does not address habitat loss. The Service recommends the FEIS include project design, timing and implementation requirements to protect migratory birds and their habitats, and correctly describe liability associated with the take of birds, nestlings and eggs.

USFWS comments on the proposed Deadwood timber sale on the Boise NF. The analysis needs to address this and develop mitigation measures to assure the loggers will not violate the MBTA.

#### BASELINE DATA

Before carrying out the project, the Forest Service needs to obtain baseline data for all MIS species, forest interior birds, and reptiles and amphibians. This needs to be done with field surveys. See *Sierra Club v. Glickman*, 974 F.Supp. 905 (E.D.Tex. 1997). Survey methodologies must be disclosed. An adequate monitoring plan also needs to be in place. The Forest Service needs to conduct plant and animal surveys in all seasons. The analysis needs to disclose all the site-specific data that is being used for this project. For all the data, the analysis should reveal when it was gathered, who gathered it (including their

qualifications) and the methodologies used. We have been on many Forest Service tours of proposed timber sales when the Forest Service could not find the site. Thus, we are concerned that the people who gathered the data for the project area may have been in the wrong place and not known it. The analysis needs to disclose the technology used to determine the location when the site-specific data was gathered and provide proof that the data is for the correct area. The population trends of threatened, endangered, sensitive species, and MIS needs to be disclosed for the Ranger District, Forest and Region. The trends of threats to these species in each Ranger District, Forest and Region needs to be disclosed. The analysis needs to disclose and consider all the monitoring data that has been conducted in the project area. If there has been no monitoring done in the project area, the Forest Service should not be proposing any projects until it obtains monitoring data for the area. If there is no monitoring data for the area, the analysis needs to explain why the NFMA and NEPA's monitoring requirements are not being followed. Computer model projections cannot replace field monitoring and surveys.

#### PHYSICAL ENVIRONMENT

The issue of carbon holding capacity needs to be addressed. An older forest holds more carbon than a young forest. (Mark E., William K. Ferrell, Jerry F. Franklin, "Effects on Carbon Storage of Conversion of Old-Growth Forests to Young Forests." *Science*, Vol. 247, 9 February 1990, pp. 699-70.) The issue of the impact of increased nitrates needs to be addressed. As forests are forced to absorb ever higher levels of nitrates from the atmosphere, their systems become saturated. When forest disturbances occur (fires, logging, etc.) these nitrate levels are released into streams and into the air as gaseous nitrates. High levels of nitrates in the soil can lead to cation loss, acidification, with obvious long-term forest health implications. The issue of the impacts to soil and water quality needs to be addressed. The effects of soil compaction and vegetation/nutrient removal must be considered. The analysis needs to address the impacts of decreased water quality due to increasing rates of soil erosion and mass wasting events. The effects of sedimentation, nutrient removal, and increased temperatures resulting from logging must be considered. The analysis needs to address the cumulative impacts on aquatic communities, including fisheries. Some of the factors which need to be considered in the analysis of the cumulative effects include: 1) coarse particulates organic matter, 2) fine particulate matter, 3) algal abundance, 4) temperature extremes, 5) turbidity, 6) diurnal cycle of dissolved oxygen, 7) nutrient input into the stream, 8) amount of suspended solids, 9) stability of substrate and banks, 10) uniformity of water depth, 11) habitat heterogeneity, 12) flow extremes, 13) diversity of microhabitat velocities, 14) primary and secondary production, 15) abundance of shredders versus scrapers, 16) abundance of omnivores versus piscivores.

The analysis needs to identify all site-specific "Best Management Practices" for controlling non-point source pollution. The analysis needs to identify and consider any water quality monitoring done to demonstrate the adequacy of the Best Management Practices. The issue of all cumulative threats to water quality, including logging, illegal dumping, oil and gas leasing, wildlife openings upstream of the project area must be addressed. The analysis needs to identify all these threats. The analysis needs to identify and protect all riparian areas, wetlands, and floodplains. The issue of the nutritional value of the plants growing in the resulting openings needs to be addressed. Research in the Pacific Northwest and Alaska indicates that the nutritional value of plants in open areas, such as a clear-cuts, is significantly less than in a forest. Preliminary results from research being conducted on the Daniel Boone National Forest in Kentucky show the same thing for all forms of logging.

#### CAVES, SPRINGS, & GROUNDWATER

Timber sales increase water flow and sediment. Caves and springs many miles away can be adversely affected by logging 20 or more miles away and in different watersheds. For example, a timber sale could result in increased water entering a cave and in a major storm event, the increased water could result in a flood large enough to kill (i.e., drown) or harm creatures in the cave. Or it could kill someone exploring the cave. It could also adversely affect or kill creatures living in a cave or a spring by changing the temperature or increasing sediment. Thus, the analysis of effects must also consider groundwater and subsurface water flow.

#### ROADS

The analysis needs to determine if there are any roads in the project area that are not included in the Forest Transportation Plan inventory. If any roads are not in the inventory, they need to be permanently closed to the motorized travel by using permanent physical obstructions and by ripping, recontouring, and revegetating the road bed and prism. The Forest Service needs to determine if the number of open roads in the project area exceeds Forest Plan standards. If the standards are exceeded, the roads need to be permanently closed. If any road in the project area is already subject to a closure order, a site inspection needs to be conducted to determine if motorized use of the road is occurring. If such use is occurring, the Forest

Service needs to block the traffic with physical barriers and ripping, recontouring, and revegetating the road. Law enforcement must be employed to ensure appropriate compliance. The analysis needs to disclose the conditions and weight limits of all the roads and bridges that will be used to haul trees to the main roads. The analysis needs to disclose if any of these roads or bridges will need to be upgraded or repaired in order to carry out this project. The analysis also needs to disclose the amount of damage the logging trucks will do to existing roads and bridges, and the cumulative direct and indirect effects the transportation of logs will have on local residents and landowners.

#### INVERTEBRATES & MICRO ORGANISMS

The issue of impacts to the microorganisms such as fungi and bacteria in the soil needs to be addressed. Logging will kill off many of these. An inventory of these organisms needs to be done so the impacts could be determined. The impacts of compaction, vegetation removal and erosion must be considered.

#### DEAD & DECAYING WOOD

Forest Service research indicates dead and decaying wood accounts for about 25% of a forest's biodiversity. (Maser, Chris, James M. Trappe "The Seen and Unseen World of the Fallen Tree." General Technical Report PNW-164.) The impacts of removing trees on this component of the forest ecosystem needs to be considered. The Forest Service generally contends that trees are somehow wasted when they die. If the trees die, they need to be allowed to fulfill their function and be recycled back into the ecosystem. The no-action alternative needs to consider these values. According to the Forest Service: "Wildlife and fish need dead, hollow or fallen trees for food and family homes. Nationwide over 149 species of birds, 73 species of mammals, 93 species of amphibians and reptiles and nearly all fish use (dead trees) for food, nesting, or shelter. Only 31 bird species can make their own nest cavities in trees. Another 54 species of birds and other animals also use these holes. Loose bark on dead trees provides roosting colony sites for bats. Up to 167 pygmy nut-hatches have been known to roost simultaneously in a tree hole. Many species of turtles bask on fallen trees in or near water. Rhythmic drumming on dead trees is a ritual woodpeckers use to attract a mate. Ants living in dead wood eat thousands of forest insect pests which can harm living trees. Bass and trout hide under trees that have fallen into the water. The forest neighborhood continually changes and yet the way animals, plants, and people depend on each other remains the same, Even as a tree dies, it continues to give life to animal families and eventually to new trees and other plants, and the cycle begins again." US GPO 1990-0-792-461 The analysis needs to disclose how many standing and fallen dead trees would there be in a healthy natural forest of this size and the current status of this habitat component. The analysis needs to disclose the effects of the proposal on this important habitat.

#### FISH & WILDLIFE

Reptile and amphibian populations have been dropping dramatically throughout the world. The effects to these species needs to be evaluated. Baseline data needs to be gathered for the entire project area. A monitoring plan needs to be developed. Research indicates logging devastates salamander populations. (Petranka, James W., Matthew E. Eldridge, and Katherine E. Haley, "Effects of Timber Harvesting on Southern Appalachian Salamanders." Conservation Biology; Laura A. Herbeck, Larsen, David R. "Plethodontid salamander response to silvicultural practices in Missouri Ozark forests" Conservation Biology June 1999; Man Tech Environmental Research Services Corp., Corvallis, OR, "An Ecosystem Approach to Salmonid Conservation" [www.pond.net/~kris/Mantec.htm](http://www.pond.net/~kris/Mantec.htm); Recovery of Wild Salmonids in Western Oregon Forests: Oregon Forest Practices Act Rules and the Measures in the Oregon Plan for Salmon and Watersheds Technical Report 1999 Independent Multidisciplinary Science Team (Can be downloaded at [www.forestsscience.org/](http://www.forestsscience.org/).) This research needs to be considered.

The analysis needs to address the status of native fisheries & mussels and stream habitat quality compared with historic conditions in the project or adopting opinion 116 F.3d 1482 (C.A. 7 (III) 1997). The Court ruled that the Forest Service was required to analyze the impacts of the ATV/ORVs violating the law by going off the trails. Similarly, the Forest Service needs to analyze the effects of timber theft.

#### NEED FOR THE SALE

The issue of the need to cut timber from the sale area to meet society's needs for timber must be addressed. The alternative of private lands providing the timber needs to be considered. The issue of the impacts of local landowners having to compete with below-cost government timber needs to be considered. In a hearing for Kentucky Heartwood v. United States

Forest Service, Civil # 97-378 (E. D. KY, April 15, 1998), the timber industry put on witnesses who testified that the price of timber on private land had increased due to the reduction in logging on the Daniel Boone National Forest. The indirect effect of the unfair government competition triggering poor private forest management needs to be analyzed. The state's private forests can easily provide all of our timber needs. On a state and regional basis, the National Forest contributes an insignificant portion of the timber production. The best use of the area needs to be considered. The primary use of hardwoods from the Forest is pallets. The pallets are used only once and usually end up in a landfill. Pallets can be made from recycled plastic. There is a company in Missouri that makes pallets that can be reused 15-20 times. The analysis needs to compare the relative value of this area as a tree farm to make pallets that clog our landfills to wildlife habitat and recreation land. Such an analysis is needed to address the issue of what is the best use of this area. The Forest Service needs to consider and implement its "National Strategy for Waste Prevention and Recycling." The analysis needs to consider how this timber sale will promote waste of wood and fiber. The Forest Service cannot bury its head in the sand and say this is beyond the scope of the analysis. The Forest Service has a legal responsibility to provide leadership to waste reduction efforts. Ignoring the impacts of providing cheap, particularly below-cost, trees on reduction efforts is not providing leadership. The indirect effects of filling up landfills with pallets, wood products, and paper (which are acknowledged in the National Strategy for Waste Prevention and Recycling) must be considered. An alternative of using reusable pallets or pallets made from

recycled plastic needs to be considered. This alternative would respond to the issue of whether there is a need to cut this area and what the best use of the area is. An alternative of increasing the use of recycled paper also must be considered for the same reasons. The NFMA states: "recycled timber product materials are as much a part of our renewable forest resources as are the trees from which they originally came, and in order to extend our timber and timber fiber resources and reduce pressures for timber production from Federal lands, the Forest Service should expand its research in the use of recycled and waste timber product materials, develop techniques for the substitution of these secondary materials for primary materials, and promote and encourage the use of recycled timber product materials." (16 USC § 1600) The Forest Service should follow its mandate to provide a leadership role in waste reduction by printing all documents on both sides and using either alternative fiber or 100% post-consumer recycled paper. The issue of exports needs to be considered. Trees cut down east of the Mississippi can be exported to foreign countries. An alternative of banning exports needs to be considered.

#### RECREATION

According to the Explanatory Notes for the 1997 Forest Service Budget: 1) In FY 1994 the Forest Service hosted over 835 million visits on National Forests, compared to 300 million by the National Park Service and 40 million by Disney; 2) Recreational use of the forests is at an all time high, and RPA projections indicate that use will increase over 50 percent by 2040; 3) Over 2 million jobs are associated with the economic activity generated by recreation which is estimated to almost \$100 billion annually; and 4) Recreation fees to the Treasury were \$46 million last year. The timber program, by comparison, created 76 thousand jobs worth \$2.7 billion (National Summary Timber Sale Program Annual Report Fiscal Year 1994.) and cost the treasury \$278 million in 1994. (Forest Service Distribution of Timber Sale Receipts Fiscal Years 1992-94, General Accounting Office Report #GAO/RCED-95-237FS, September 1995.) A survey in the September 1996 issue of Conde Nast Traveler magazine readers says that the environment has become a "major issue" for many travelers. More than half of the respondents (218 readers responded) said that the environment has become a factor in their travel plans over the last ten years. Ninety-one percent expressed concerns over environmental conditions at their destinations, and 25% said they had been forced to change travel plans because of environmental problems. Almost 42% said they would have changed plans had they known in advance about problems they encountered. The analysis needs to consider this survey. The issue of impacts on recreation needs to be considered. The Forest Service should consider how the project, including the cumulative impact of other logging operations, will to pay the Deciding Officer's and other Forest Service employee's salaries and other administrative overhead. The no-action alternative needs to disclose its impact on Forest Service employment levels.

#### ECONOMIC IMPACTS

The Forest Service needs to address all the economic trade-offs and all the environmental externalities from the timber sale. The Forest Service needs to conduct an analysis that addresses the points of the Forest Service publication: "Assessing Economic Tradeoffs in Forest Management" PNW-GTR-403, August 1997. The Sky Did NOT Fall-The Pacific Northwest's Response to Logging Reductions by Ernie Niemi, Ed Whitelaw, and Andrew Johnston which can be downloaded at [www.pacriver.org/Publications/skyfalling.html](http://www.pacriver.org/Publications/skyfalling.html) needs to be considered.

Even-Aged Management

The Forest Service needs to fully develop and consider uneven-aged management alternatives. The 6th Circuit has ruled:

The National Forest Management Act mandates that the Service ensure that even-aged management practices be used in the national forests only when "consistent with the protection of soil, watershed, fish wildlife, recreation, and aesthetic resources, and the regeneration of timber resources." 16 U.S.C. § 1604(g)(F)(v). The National Forest Management Act thus contemplates that even-aged management techniques will be used only in exceptional circumstances. Yet, the defendants would utilize even-aged management logging as if it were the statutory rule, rather than the exception. *Sierra Club v. Thomas*, 105 F.3d 248 (6th Cir. January 21, 1997).

The Forest Service needs to consider true uneven-aged management (selection management). The Forest Service must not attempt to use "patch clear-cutting" in place of "group selection." Group selection does not use area regulation, it uses diameter distribution regulation. The Forest Service also needs to consider the research done in Illinois on Group Selection. [Robinson, Scott "Effects of Selective Logging on Forest Birds in the Trail of Tears State Forest, Southern Illinois.] The research identified group selection openings as "ecological traps." Many species were attracted to the openings, which appeared to be suitable habitat. These species, however, did not successfully reproduce due to predation and cowbird parasitism. The study concluded, "If land is to be logged, single tree selection at low volumes removed (<20%) and long (15-20 years) cutting intervals is the method that will have the least adverse impact on forest bird communities."

#### Herbicides & Pesticides

It is inappropriate to spray toxic chemicals on public lands as part of a timber sale. The Forest Service needs to fully develop and consider alternatives that do not use any herbicides. The Forest Service needs to consider the impact of the inert chemicals in the herbicides and pesticides. The Forest Service needs to consider the secondary impacts, including impacts to non-target species, water supplies, and human health, of the toxic chemicals.

The analysis needs to identify and consider all key plants in the area to be treated. The analysis must identify the effects of herbiciding on these plants and the cascading effects spraying will have on wildlife and the ecological community.

#### Biomass Burning

The issue of impacts of prescribed burning must be considered. Fire in the past has been considered as one of the best methods of not only vegetation control, but also of waste disposal. This practice must be reevaluated.

The global effects of fire on global warming must be considered. In a paper, Fung of the Goddard Institute of Space Studies, NASA concludes that the northern forests (as opposed to tropical) are also important in the carbon cycle and indeed are sinks for Carbon Dioxide. The analysis must consider the impacts of burning on global warming.

The issue of air quality degradation as a result of burning must be addressed. Burning is a chemical process that produces a plethora of noxious chemicals. Burning generates 323 pounds of particulates per acre containing, among other systemic poisons, a number of polyaromatic hydrocarbons (PAH) such as benzo-a-pyrene, benzofluoranthrene, methyl-cholanthrenes and many others are typical. All these are acknowledged carcinogens. [Dost, F.N. 1986. "An estimate of carcinogenic risk associated with polyaromatic hydrocarbons in smoke from prescribed burning in forestry." Pestic. Advis. Memoranda 402. Washington, DC: U.S. Dep. Agric., For. Serv. 16p.]

We feel that introduction of such large amounts of PAH is in violation of several provisions of the Clean Air Act. Since particulates do eventually precipitate, regardless of dilution, the willful act of prescribed burning violates the intentional adulteration provision of FDA and USDA regulations.

The issue of soil heating needs to be considered. Underburns have produced temperatures as high as 700°C [Martin, R.E. 1981. "Prescribed burning techniques to maintain or improve soil productivity." In (Hobbs, S.D.; Helgerson, O.T.; eds) Proc. Refor. of Skeletal Soils, Medford, OR, Nov. 1981, p. 66-70 (Avail from OR State Univ., For. Res. Lab, Corvallis, OR.) and slash burns up to 1260°C. [Barnett, D. 1984. Effects of fire on Coast Range sites. Siuslaw NF, Waldport, OR 122p.] Heating can kill soil biota, alter soil physics, consume organic matter, release site nutrients including heavy metals such as mercury.

The issue of loss of organic matter needs to be considered. Organic matter is vital to soil quality. [Jorgensen, J.R.; Wells, C.G. 1986. Foresters' primer in nutrient cycling. USDA For. Serv. Gen. Tech. Rep. SE-37, 42p.] The analysis must address the effects of burning on the consumption of Litter and Duff and the resulting degradation of soil quality.

The issue of loss of Nitrogen from burning needs to be considered. Nitrogen is very important in plant growth and has taken centuries to accumulate. [Pritchett, W.L.; Wells, C.G. 1978. "Logging and site preparation increase nutrient mobilization." In (T. Jibbin, T, ed) Proc. Sym. on Prin. on Main. Prod. on Prep. Sites, MS State Univ. p 98-110.] Half of the Nitrogen in the top 16-20 inches of soil is in the top 6 inches. [McKee, W.H. 1982. "Changes in soil fertility following prescribed burning on Coastal Plain pine sites." USDA For. Serv. Res. Pap. SE-234, 23 p.] Burning releases Nitrogen which is leached by rainfall and up to 50 percent is lost. [Feller, M.C. 1982. The ecological effects of slashburning with particular reference to British Columbia—a literature review. Prov. BC Ministry of Forests Pub. R28-81072.] The loss of Nitrogen from burning must be analyzed.

The issue of loss of other nutrients needs to be considered. Fire causes phosphorus, potassium, calcium and magnesium to be lost to the atmosphere by ash convection and leaching. [Jorgensen, J. R.; Wells, C.G. 1986 *ibid.*] The effects of the loss of nutrients needs to be analyzed.

The issue of erosion and sedimentation as a result of burning needs to be considered. Burning significantly increases erosion. [Ralston, C.W.; Hatchell, G.E. 1971. "Effects of prescribed burning on physical properties of soil. In Proc. Prescribed Burning Sym., Charleston, SC, April 1971, p 68-84 (Avail. from USDA Forest Service, SE Forest Experimental Station, Asheville, NC.) The effects of stormflows, channel erosion, surfac erosion and sediment yield must be analyzed.

The issue of mercury contamination needs to be considered. Soil heating and mineralization may release mercury from the soil; this issue must be analyzed.

#### Indiana Bat

The Federally Endangered Indiana bat needs to be considered. The analysis needs to consider all available research. The ESA requires the Forest Service to use "the best scientific and commercial data available" to fulfill its Section 7 obligations. The analysis needs to consider the summer habitat required by female Indiana bats for maternity roosts (e.g., roost trees, protection from disturbance, and foraging habitat). The analysis also needs to consider the summer roosting and foraging needs of male Indiana bats. The analysis on roosts needs to consider existing and potential roosts in upland and riparian areas and the issues of bats using the trees while the sale is being cut (which would result in their death by killing them when their roost is cut or being killed by an adjacent tree falling on them), loyalty to the roost trees, stress of finding new roosts, and the impacts of removing trees next to roosts or potential roosts (i.e., making the tree more susceptible to windthrow and changing the thermal dynamics). The analysis also needs to consider the email message from Dr. John Whitaker that we sent to the Forest on September 6, 1999. The analysis also needs to consider the impact the logging will have on opening the area which allows other species of bats and birds to compete with the Indiana bat for the insects. Likewise, the analysis needs to consider the issue of additional predators that the Indiana bat will be exposed to as a result of opening the canopy. The analysis also needs to consider if there are any hibernacula in the area. If so, the analysis needs to consider the impacts of the sale on the bats' summer, fall, spring, and winter habitat. The Forest Service also needs to consider the rulings in *House v. United States Forest Service*, 974 F.Supp. 1022 (E.D.Ky. 1997) and *Bensman v. United States Forest Service*, 984 F.Supp. 1242 (W.D.Mo. (1997)). These rulings specifically rejected all the Forest Service's standard claims about why the logging will not have any adverse effects on the Indiana bat and ruled that the timber sales in question will "take" the Indiana bat.

\*As a minimum these studies need to be addressed:

Callhan III, Edward, "Indiana bat Summer Habitat Requirements" Masters Thesis, University of Missouri, May 1993. (Callhan, 1993.)

Gardner, J.E., Garner, J.D., and Hoffmann, J.E. 1991 "Summer roost selection and roosting behavior of *Myotis sodalis* (Indiana bat) in Illinois.: Unpublished Report, Illinois Natural History Survey, Chamapaign, Illinois. (Gardner 1991)

Kiser, James D. and Charles L. Elliot "Foraging Habitat, Food Habits, and Roost Tree Characteristics of the Indiana Bat (*Myotis sodalis*) During Autumn in Jackson County, Kentucky."

Clawson, Richard L., "Report on the Status of Priority 1 Indiana bat Hibernacula, 1995."

Clawson, Richard L., "Indiana Bat Summer Habitat Patterns in Missouri" (Clawson 1996)

Kurta, Allen, and Kimberly Williams "Roosting Habitat, Microclimate, and Behavior of the Endangered Indiana Bat (*Myotis sodalis*) in Southern Michigan." Eastern Michigan University, October 1, 1992.

Rommé, Russell C., Karen Tyrel & Virgil Brack, Jr., "Literature Summary and Habitat Suitability Index Model, Components of Summer Habitat for the Indiana Bat, *Myotis sodalis*" March 20, 1995

Gardner, James E., Joyce Hofmann, and James D. Garner, "Summer Distribution of the Federally Endangered Indiana Bat (*Myotis sodalis*) in Illinois" Transactions of the Illinois State Academy of Science (1996), Volume 89, 3 and 4, pp. 187-196.

Oak/ Hickory

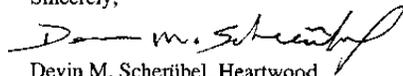
The issue of the loss of the oak/hickory component needs to be addressed. Research shows the best way to maintain the oak/hickory component is to refrain from logging. [Mills Jr., W.L., B.C. Fischer and T.W. Reisinger, "Upland Hardwood Silviculture: A review of the Literature." Purdue University Station Bulletin No. 527.] Many areas with certain slope and aspect will never have a substantial oak/hickory component.

Herbicides & Pesticides

It is inappropriate to spray toxic chemicals on public lands as part of a timber sale. The Forest Service needs to fully develop and consider alternatives that do not use any herbicides. The Forest Service needs to consider the impact of the inert chemicals in the herbicides and pesticides. The Forest Service needs to consider the secondary impacts, including impacts to non-target species, water supplies, and human health, of the toxic chemicals.

The analysis needs to identify and consider all key plants in the area to be treated. The analysis must identify the effects of herbiciding on these plants and the cascading effects spraying will have on wildlife and the ecological community.

Sincerely,



Devin M. Scherübel, Heartwood  
1027 E. Walnut, Columbia, MO 65201



The planned activities are likely to jeopardize the viability of species that find optimal habitat in interior forests, forests with well-developed structures, and forests naturally disturbed by physical and biological processes. For many of these species, the Forest Service has no up-to-date population data describing population numbers, locations, and trends, nor monitoring data on which the agency can rely to determine that the actions proposed in the context of the Block 22 Timber Sale will maintain numbers and distribution of these species sufficient for insuring long term viability.

It is essential that the analysis include an in depth treatment of cumulative effects especially in regards to soils, water quality, fragmentation, old growth, TWS, MBS, and neotropical migrant birds. All activities including past, present, and reasonably foreseeable future activities on each and every land ownership must be incorporated.

Finally, we request that a no-harvest, restoration only alternative, one emphasizing natural disturbance processes, be developed and given fair and adequate consideration. It is the duty of the Forest Service to develop a reasonable alternative that would exclude the harmful effects of commercial logging while encouraging natural recovery. The purpose and need of the project can be met more efficiently through means other than commercial timber harvest and these means must be given unbiased attention. Such a no-harvest, restoration alternative is **not** analogous to the no-action alternative.

Please consider these issues as you further develop environmental documentation related to the Block 22 Timber Sale. All further NEPA materials should be mailed to the address above. **Please remove our Western Office and John Talberth from your mailing list. Any combination of John Talberth, Forest Guardians, or Forest Conservation Council, P.O. Box 22488, Santa Fe, NM 87502 should be removed.**

Sincerely,



Bryan Bird  
Southeastern Regional Office

3-16 93 07:05 FROM:

TO: 601 384 2172

PAGE: 01



MISSISSIPPI  
DEPARTMENT OF WILDLIFE, FISHERIES AND PARKS

SAM POLLES, Ph.D.  
Executive Director

Date: 15 August 2000

From: Thomas M. Mann  
Zoologist, MS Natural Heritage Program  
MS Museum of Natural Science  
MS Dept. of Wildlife, Fisheries, & Parks  
2148 Riverside Dr.  
Jackson, MS 39202-1353

To: Gary W. Bennett  
District Ranger  
Homochitto Ranger District  
Route 1 Box 1  
Meadville, MS 39653

RE: Block 22 Analysis Area Proposed Actions

Dear Mr. Bennett:

This office offered comments to the USFS Planning Team Leader in March of 2000 on the proposed Forest Plan Revision. As some of the comments addressed (in a generic sense) some of the actions proposed for Block 22 (clearcutting, site-preparation/release with herbicides, prescribed burning programs), I have edited them somewhat and submit them below for your consideration.

Issue #1. Management Objectives and Scale-

USFS lands should primarily be managed for conservation of native plant communities and ecosystems, as determined by local soils, topography, drainage regime, and natural fire occurrence or absence. Rather than micro-management of habitat for RCWs, for example, substitute community appropriate macro-management techniques, and the creatures dependent upon these communities should flourish. The USFS cannot, of course, ignore cavity trees. But focus on proper management of the larger plant community types and ecosystems which support or potentially support such species should yield more cost-effective conservation of biodiversity over time. This approach contrasts with a focus on preservation of specific parcels known to contain individuals of listed animal, plant, and other special concern species.

A caveat-maximization of global biodiversity should not be confused with maximization of local diversity. Habitat management aimed at the latter may produce a large variety of common species in a relatively small area while losing uncommon species with more exacting habitat requirements. The USFS should be striving for maximization of indigenous regional biodiversity appropriate to the native plant community and other habitat types prevalent or predicted to be prevalent (under a more natural management regimen) on its holdings.

On some forests I believe there is too much concern for maintenance of early successional habitat (typically via clear-cutting) for various bird species that are regarded as of special concern. Early successional habitat is not a scarce commodity in Mississippi; it is, in fact, unnaturally common. If bird species favoring such habitat are in decline, it is not because of the dearth of such habitat. These comments, by the way, are not directed at the genuine need for better maintenance of open, "savannah" habitat beneath well-spaced pines, a natural habitat that is diminishing and is of genuine importance to many birds and other species.

Mississippi Museum of Natural Science • 2148 Riverside Drive • Jackson, Mississippi 39202-1353 • (601) 354-7303

4 pgs  
15 AUG 2000  
TO: MR. GARY BENNETT  
FR: T. MANN  
RE: BLOCK 22 COMMENTS

-16 93 07:05 FROM:

TO: 601 384 2172

PAGE: 02

Commitment to maintenance of plant communities native to Mississippi should result in rejection of even-aged management of woody dominants, at least on the scale prevalent today. To more closely approximate the age-structure expected in natural plant communities, even those dominated by *Pinus*, the USFS should adopt uneven-aged management strategies or apply even-aged techniques to much smaller patches, giving individual stands a representative mosaic of age-classes. Camille roared across southern Mississippi 30 years ago, and numerous tornados, fires, and southern pine beetle infestations have swept through the area since. Yet the USFS has many nice stands of mature loblolly, and a lesser acreage in longleaf, which date back to the cut-and-run devastation of private forestry in the 1930s. Consider the number of hurricanes experienced by the panhandle of Florida, yet the old growth longleaf at Tall Timbers still stands. Hurricane Hugo wrought great damage in the Francis Marion National Forest, but did not leave the soil naked and torn, vulnerable to erosion. My conclusion: these natural forces aren't, in general, competent to clear a forest of all of its mature trees on a scale comparable with that of USFS clear-cuts, and certainly not with that of private forestry, where square miles of standing inventory may be liquidated. The only natural analog with the latter is Mt. St. Helens, and it is not legitimately applicable here or in most other areas. The USFS should reject the catastrophist model of pine forest liquidation/regeneration and adopt a more steady-state model. See additional comments on clear-cutting below.

On a related topic, I have on numerous instances observed longleaf regeneration on sites not characterized by bare-mineral soil, but instead by thin or even thick duff or leaf litter. I will not argue that such regeneration is necessarily in densities meeting commercial specifications, but will argue that on USFS lands the bottom line should not be maximization of cellulose export, and that mechanical clearing of the land to expose mineral soil should not be an acceptable step in longleaf regeneration silviculture. Seasonally appropriate fire should be more than adequate to minimize the duff barrier.

#### Issue #2. Timing of Controlled Burns-

Controlled burns should be conducted primarily during the seasons when lightning would naturally initiate wildfire. The great preponderance of natural fires on the Kisatchie National Forest (Louisiana) start in the growing season. Only 11% start in the November through March period. Presently, the great preponderance of controlled burning on National Forest lands in Mississippi occurs during the non-growing season when natural fires are least likely to occur. Plant communities (species composition, relative abundance, phenology) respond very differently to growing season and dormant season burns. Given historical suppression of wildfire and prevalence of cool winter burns, fuel loads in many areas may be too great to risk immediate conversion to growing season burn regimes at all sites. In addition, pine feeder roots may be unusually shallow and thick beneath heavy litter layers, leaving mature trees unnaturally vulnerable to damage with fire. However, shifting the burn schedule toward that which is predicted to have obtained in nature should be a goal of the USFS on all lands thought to have supported fire climax communities in Mississippi, and funding adequate to conduct such burns should be available. In addition, planning on each forest where such burns should be undertaken must allow for seasonal demands on workers to fight fire elsewhere so that in the proper burning season in Mississippi sufficient manpower is available to conduct requisite burns at the appropriate frequency. This will doubtless require a substantial increase in funding and growing season manpower availability from the status quo. It is possible that EPA/USFS regulations regarding smoke production and dispersal may narrow burn windows so much that the USFS may find it logistically difficult or impossible to conduct most controlled burns during the natural burning season. If this is the case, perhaps MSDWF&P could formally petition the EPA /USFS to reconsider certain regulations regarded as unreasonably restrictive with respect to USFS goals of maintaining native plant communities.

#### Issue #3. Clear-cutting-

The use of clear-cutting on USFS lands in MS should be curtailed. Clear-cutting on National Forests is declining nationwide, exclusive of Mississippi, because of a policy discouraging its use unless necessary for stand regeneration. The supposed need for clear-cutting to regenerate pine stands is arguable, even on many stands which are to be converted from off-site species such as loblolly or slash pine to the longleaf pine thought to be dominant historically. At the least, clear-cut patch size should be greatly reduced, which would reduce erosion problems, and would more closely approximate natural canopy breaks resulting from wind-throw, bug spots, or disease. It is acknowledged that near-term conversion of stands from off-site species to longleaf may necessitate some use of tools foreign to nature. However, I would suggest that where longleaf maintains a presence on sites crowded with

other pine species, that rather than liquidating the entire stand to effect conversion through mechanical planting, that every effort should be used to cull non-longleaf from mixed pine sites and to use remaining longleaf as seed sources.

The impact of clearcutting/site preparation on the soil is not analogous to that of natural forces (hurricanes, tornados, fire) which may occasionally wreak havoc on standing timber (see also comments in Issue #1). Silvicultural problems associated with clearcutting include:

- accelerated erosion on generally highly erodible soils;
- exacerbation of post-cut problems with weedy species (native & non-native) which may lead to a supposed need for post-cut, post-plant herbicide application to release young pines;
- cogon grass and other exotics will more readily become established on bare, heavily disturbed soils;
- and,

clear-cutting and/or post-cut site preparation may trigger thick growth of suckers from hardwood stumps.

Issue #4. Herbicide usage, particularly broadcast usage, should be minimized- I am skeptical about the "need" for chemical release of regeneration plantings and foliar application of herbicide for midstory control in red-cockaded woodpecker stands. In nature, of course, shrub and hardwood control in new pine stands was achieved solely with fire. It is acknowledged that eradication of certain aggressively invasive exotic plant pests (cogon grass, for ex.) may require selective chemical applications, and this may also be true on woodpecker sites where fire has long been suppressed and fuel loads are extreme.

Some wildlife biologists within the MS Dept. of Wildlife, Fisheries, & Parks recently met with representatives of certain industrial forestry corporations to express serious concern about instances of what were regarded by our biologists as egregious abuses of herbicide application on industry stands. It is my understanding that these were release applications on young stands, and that virtually all non-pine vegetation was destroyed for several years. Consequently, the affected stands had negligible wildlife value and experienced greatly accelerated erosion rates. To my knowledge this sort of overkill has not been reported on USFS lands.

Before arrival of Europeans on this continent, nature managed to create habitat suitable for creatures such as the gopher tortoise and red-cockaded woodpecker, now rare enough to merit listing by the state and federal governments, and to "release" young pine trees with seasonally appropriate fire. Too often, I think, the USFS relies on herbicide as a sort of Band-Aid to control proliferation of woody stems/shrubs resulting from insufficient use of seasonally appropriate burning, and from disturbance of hardwood stems/roots during clearcutting and site preparation. There may also be a reluctance to accept significant deviation from commercial specifications with respect to pine stocking densities. Nature, of course, doubtless exhibited stands which were too thick (by commercial standards) and others which were too thin. As noted above (Issue #1), the mission of the USFS is not maximization of cellulose production; perhaps its foresters could learn to live with variation outside of commercial specifications.

There are a large number of special concern plant species and one federally endangered plant, *Isoetes louisianensis*, on National Forests in Mississippi, many of which could be negatively affected by broadcast application of herbicides.

National Forests are statutorily obligated to serve multiple uses. One use/function that has not been adequately articulated, but for which National Forests are particularly well-suited because of their geographic extent and because they are maintained, basically, in natural cover, is their potential role as de facto experimental controls (benchmarks for comparison) for the vast landscape manipulations prevalent virtually everywhere else, National Parks excepted. Use of herbicides for ROW maintenance, for release of favored species in industrial forestry, and even for maintenance of the immaculate suburban lawn, has increased exponentially in recent years. There are potentially long-term negative effects from this widespread application of herbicides to the landscape. Negative biological effects may be triggered by the active ingredients themselves, by incidentally produced byproducts of manufacture of 'inert' carriers, by unanticipated and untested synergistic reactions between different herbicides or between herbicides and naturally occurring compounds, or by natural degradation products of any of these

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TO: 601 384 2172

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substances. Accumulation of toxic substances on land or within streams (dependent upon solubility in water) is certainly a potential problem. It would be prudent to restrict herbicide usage within the national forests to problems for which it seems to be the only effective tool. This will forestall possible unforeseen negative impacts to wildlife, plants, streams and aquifers, and will permit valid comparisons with lands managed with herbicide as a significant tool.

Finally, herbicide treated areas (ROWs, planting release sites) are generally ugly. Esthetic considerations may seem trivial. However, I am personally convinced that as people become progressively desensitized to such visual blight, the less we expect of land managers and ourselves, and the worse things get. I often kid my fellow southerners that were it not for the 'yankee inholdings' (National Forests, Natchez Trace, Gulf Shores National Seashore) in Mississippi, and some significant tracts leased by hunting clubs, the state would present an almost unrelieved panorama of landscape despoilation, giving the lie to our view of ourselves as good stewards of the land. Absent a more focused, specific, conservation agenda, the preservation/conservation of natural vistas, the larger the better, will simultaneously conserve the myriad living components of ecosystems.

Issue #5. Riparian buffers-

These should be expanded to include buffer strips along perennial streams. These buffers must be adequate to prevent export of sediment in excess of what would be predicted from an intact forest in significant storm events.

Issue #6. Restocking with genetically superior trees-

The U.S. Forest Service should regard itself as a significant conservator of the longleaf pine genome, in particular. Over the lifespan of a species nature simultaneously selects for many survival attributes. There is no way a forester interested in developing a "superior tree" will consider more than a handful of such traits, among which will probably be growth rate and perhaps disease resistance. But all desirable traits cannot simultaneously be maximized. In fact, some traits that may be desirable in one year, or a decade, or perhaps over the lifetime of a particular tree may be unfavorable at other times, weather conditions, or locations. To avoid developing a line of super trees with a potential genetic Achilles Heel it would be best to drop the idea and procure seed from a large and randomly selected pool of trees.

Issue #7. Management of listed species (see also comments in Issue #1)-

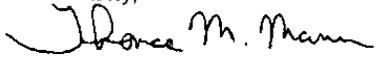
Funding for listed species management must not be coupled to monies obtained from harvests within compartments supporting such species. This particular issue has surfaced a number of times with respect to needed conduct of growing season burns in the compartment containing the world's last population of the Mississippi gopher frog (*Rana sevosia*) on the DeSoto Ranger District. The area supporting the frog does not need additional thinning of merchantable timber, but does need regular burning, and this burning program should not be held hostage to timber harvests.

Issue #8-Rotation length-

Rotation lengths have been increased, but longer spans are warranted, particularly at longleaf sites, to allow an ample inventory of trees (scattered throughout the forest) old enough to contract red-heart disease and thus become suitable for RCW cavities.

I appreciate the opportunity to offer these comments.

Sincerely,



Thomas M. Mann, Zoologist  
Mississippi Natural Heritage Program

HOMOCHITTO RANGER DISTRICT

WildLaw

AUG 14 2000

A Non-profit Environmental Law Firm

Alabama Office  
300-B Water Street, Suite 214  
Montgomery, AL 36104  
e-mail: wildlaw@aol.com

ADMINISTRATION	PLANNING
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OPERATIONS	ARCHAEOLOGY
FILE	CLUSTER OFFICE
MINERALS	
RECREATION	FILE
ENGINEERING	
WILDLIFE	
PRE-SALE/SILV	

August 10, 2000

Gary Bennett, District Ranger  
Homochitto National Forest  
Route 1, Box 1  
Meadville, MS 39653

Re: Scoping Comments on Proposed Block 22 Project

Dear Ranger Bennett:

On behalf of Wild South, a non-profit outdoor recreation and environmental organization, I am filing the following scoping comments on the proposed Block 22 project.

In this District's most recent projects, we have found it most disconcerting that a decision was made and a decision notice issued just days after the close of the comment period on the draft EA. What's the big rush on all these project the District is pumping out?

You will need to fully examine alternatives that protect old growth and potential old growth, that enhance hardwoods, that contemplate thinning only, that propose prescribed burning only, that consider doing this work without a commercial timber sale, and that do less logging.

We find it curious that you will clearcut pine/hardwood forests in order to restore them to "widely spaced mixed pine in order to maintain and increase pine and hardwood species on the sites." While logging Loblolly to restore Longleaf has some sense to it, we fail to see how logging pine/hardwood will increase pine and hardwood on the site. If you want to maintain pine and hardwood species on the site, why don't you just leave them there? How will you "increase" them if they are already there? Logging a stand to "restore" it to what it already is just make-work to get the cut out and is not forest health or restoration related.

What will be the impacts to hikers, hunters and other recreational users from this proposed logging? We expect you to fully explore the economic implications of this logging proposal and to use fair and fully supportable numbers for what the proposal's economic impacts will be to recreational uses. You must make sure that the benefits outweigh the costs, and you MUST be able to document that analysis in the draft EA. Forest Service figures show that recreation in the National Forests created over 33 times as many jobs as Forest Service logging

did in 1994. The figures also show that recreation contributed 38 times more to the economy than logging did. (National Summary Timber Sale Program Annual Report Fiscal Year 1994 and Explanatory Notes for the 1997 Forest Service Budget.)

For the issue of the use of herbicides and the water quality, please provide an identification of the type of herbicides planned for use, the concentration of herbicides, and site-specific mitigation measures to counteract the harmful effects. Wild South is concerned about the herbicide's activity in soils and water, whether it is selective, and how it will be applied. As for the herbicide's effects on water, please identify the location of the water table in those areas affected by herbicides and the streamside management zone to be implemented. It is disturbing to think of herbicide application on sandy soils with high permeability. As with all mitigation measures, please provide how these will be monitored to ensure the completion of such measures. For example, please include information as to ensure that mitigation measures will be included with the timber contracts and that "on-site" people from the timber company will be aware of mitigation measures. How will the Forest Service confirm that the mitigation measures are carried out by "on-site" folks?

Additional issues of public and legal concern that you did not identify in your scoping notice but that must be fully identified and considered in your NEPA process are:

1. Timber:

- Concern about the need to maintain and enhance natural and native forest types and tree species in this project area.
- Concern about data and information showing that the tree type favored on each site is the type that existed on each site naturally and historically.
- Concern that timber harvesting methods will be used which have the least amount of impact to soils, water quality, groundwater, wildlife and plant diversity.
- Concern that timber harvesting methods not be limited to even-aged management methods only, that selective, uneven-aged methods be fully considered.
- Concern that use of even-aged methods comply with NFMA requirements regarding optimal methods analysis.
- Concern that prescribed burning occur only in pine stands where such activity is natural and historically documented for that forest type and that it not occur in hardwood and mixed stands where burns were naturally and historically infrequent.
- Concern that prescribed burning operations not automatically be tied to logging proposals such that proper prescribed burning in Longleaf areas will not occur unless (i.e., is held hostage to) timber harvesting is approved. In Alabama, as you know, many prescribed burning proposals are issued separately from logging proposals so that the needed burning program is not used as an excuse to conduct more logging that may or may not be needed.
- Concern for old growth and trees suitable as possible old growth within the next 10-20 years. Old growth issues must be considered.
- Concern that cut-to-length equipment be used for this logging. Forest Service and other studies show that CTL can accomplish the same work with much less impact to soils and

nearby waterways.

2. Wildlife:

- Concern about adequate site-specific data and information on types and populations of MIS and PETS wildlife in the project area and in the District in general such that NFMA viability requirements can be shown and met.
- Concern that early successional habitat is being favored in this project and in the District in general.

3. Soil and Water:

- Concern that soils in the project area be identified in a site-specific manner with field data showing where each soil type is, what its condition is and how these proposed activities will impact it.
- Concern that site-specific data and information on soils, past soil loss, current sediment load in the streams, and realistic estimations of future sedimentation of streams in and below the project area be collected and used for any decision.
- Concern that aquatic species be adequately surveyed in and below the project such that adverse impacts to them can be avoided.

4. PETS Species:

- Concern that information and decisions about impacts to PETS species be based on site-specific data and information in the project area and on the District as a whole.
- Concern that all potentially impacted PETS species have their populations (both project site specific and district wide) determined through actual surveys and that such data be made available in the EA and BE.
- Concern that any BE be prepared with site-specific data and information, not just with generic modeling or consideration of broad habitat types, and that the BE be fully completed before publication of the draft EA and included for public review.

5. Recreation:

- Concern that the impacts to recreation be fully documented and supported by site-specific data and information.
- Concern that timber harvesting is given preference over recreational uses.
- Concern that visual quality is not considered other than to say that VQOs will remain the same on paper as they are now. NEPA requires that the real world visual impacts be fully identified and considered.
- Concern that impacts to recreation from active logging operations are downplayed and considered inconsequential merely because they are temporary. District needs verifiable information that recreational users are not adversely impacted by logging operations before such impacts are dismissed.

6. Other:

- Concern that all historic and archeological sites be adequately surveyed and considered prior to any proposed decision on this project.

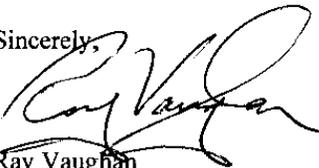
- Concern that impacts from roads and road reconstruction have not been adequately identified and assessed in this area or in the District at large. What information is there on the impacts (especially cumulative impacts) from road and forest fragmentation in the District on wildlife, water quality, soils and recreation?
- Concern about the economics of the proposed project and that the final decision fully identify and consider not just the economics of the timber harvest but also the economics of recreational impacts, wildlife impacts and water quality impacts.
- Concern that you will abide by the legal requirements to maximize economic benefits.

We have further concerns that past EAs from this District have not given proper consideration to cumulative impacts. Many of them have had a near total lack of cumulative impacts/effects analysis. Private lands cuts, which are numerous in the area, must be fully addressed and their impacts considered. How will this project interact with the numerous oil and gas projects on the Forest? There must be a full analysis of other past, present and reasonably foreseeable Forest Service projects in area.

We are also concerned that the EAs issued by your office are exceptionally thick and heavy with information. As you know, a large EA is a strong indication that a project will have significant impacts such that an EIS must be performed. Agencies should avoid preparing lengthy EAs except in unusual cases, where a proposal is so complex that a concise document cannot meet the goals of 40 C.F.R. § 1508.9 and where it is extremely difficult to determine whether the proposal could have significant environmental effects. In most cases, however, a lengthy EA indicates that an EIS is needed. The Council on Environmental Quality (CEQ), which administers and interprets NEPA, has noted that "in most cases, ... a lengthy EA indicates that an EIS is needed." 46 *Fed. Reg.* 18026, 18037 (1981). See *Curry v. United States Forest Service*, \_\_\_ F. Supp. \_\_\_, 1997 WL 784209 (W.D. Pa. Oct. 15, 1997). During your analysis, we suggest that you give strong consideration to the direct, indirect and cumulative impacts from this proposal and consider doing a full EIS on it and any related or similar projects in the District.

Thank you for the opportunity to comment on this proposal. Please make these comments part of the official record for this project. Also, please send me at the above address all future notices, announcements, draft and final EAs, decision notices and bid announcements, and contracts for this project. Thank you.

Sincerely,



Ray Vaughan  
Attorney for Wild South