



Southern Forest Resource Assessment

led by the USDA Forest Service's [Southern Region](#) and [Southern Research Station](#) in collaboration with the [USEPA](#), [US Fish & Wildlife](#), [TVA](#), and [state forestry agencies](#) of the Southern United States

Public Inputs on the Preliminary Questions

Assessing the long term vitality of the South's forest resources is a complex undertaking. To focus our efforts, we drafted a set of [preliminary assessment questions](#) in June 1999 for public review, organized around five broad categories. The categories and original questions are listed below. Links next to each preliminary question take you a page which reports the suggestions, concerns and issues submitted by the public about that question. Listed last is a section for questions or suggestions about the overall assessment or its process. All of the inputs were considered in constructing the [proposed questions](#). Please see the [Methods Page](#) for details on how the original comments were summarized and reported.

- I. [Landscapes/Terrestrial Ecosystems](#)
- II. [Social and Economic Factors](#)
- III. [Timber Markets and Forest Management](#)
- IV. [Forest Extent, Conditions, and Health](#)
- V. [Watersheds, Aquatic/Riparian Ecosystems, and Forested Wetlands](#)

▲ Landscapes/Terrestrial Ecosystems



comments
on this

1. What is the history, status, and likely future of terrestrial wildlife habitat types in the South?



comments
on this

2. What conditions will be needed to sustain plant and animal habitat associations in the South?



comments
on this

3. What are the likely effects of expanding human populations, urbanization and infrastructure development on habitats, animals, and plants?



comments
on this

4. How has forest management and access shaped terrestrial ecosystems in the South?



comments
on this

General comments on this category

▲ Social/Economic Factors



comments
on this

1. How have land uses changed in the South and how might changes in the future affect the forest land base?



comments
on this

2. What is the demographic profile and attitudes of Southern citizens toward forests and their management and how have they changed?



comments
on this

3. How do current policies, regulations, and laws (for example, Best Management Practices) affect forest resources and their management?



comments
on this

4. What motivates private forest landowners to manage their forest land and how are their management objectives formed?



comments
on this

5. What role do forests play in employment and local economies in the South?



comments
on this

6. What are the supplies of and demands for forest based recreation and other uses of forests in the South?



comments
on this

General comments on this category

Timber Markets and Forest Management



comments
on this

1. What are the demands for and supplies of wood products in the South?



comments
on this

2. What are the status and trends of forest management practices in the South?



comments
on this

3. How might new technologies influence timber harvesting and conditions of forests?



comments
on this

4. What are the management approaches of various forest ownership classes in the South?



comments
on this

General comments on this category

▲ Forest Extent, Conditions, and Health



comments
on this

1. What is the history, status, and likely future of Southern forests (area, ownership, and location)?



comments
on this

2. What is the history, status, and likely future of the structure of forests in the South (age, species composition, stand size, stand origin, fragmentation)?



comments
on this

3. What factors (insects, disease, fire exclusion, environmental stressors) have and could continue to influence the overall health of the South's forests?



comments
on this

General comments on this category

▲ Watersheds, Aquatic/Riparian Ecosystems, and Forested Wetlands



comments
on this

1. What is the history, status, and likely future of water quality in Southern forested watersheds?



comments
on this

2. What is the history, status, and likely future of forested wetlands in the South?



comments
on this

3. How have forest management activities and other forest uses influenced water quality and aquatic habitat in forested watersheds?



comments
on this

4. What are the implementation rates and effectiveness of BMP's in the South?



comments
on this

5. What is the history, status, and likely future of aquatic habitats and species in the South?



comments
on this

General comments on this category

Study or Assessment Process



comments
on this

1. Assessment methodology



comments
on this

2. Scope of assessment analysis



comments
on this

3. Project data management



comments
on this

4. Public involvement process



**comments
on this**

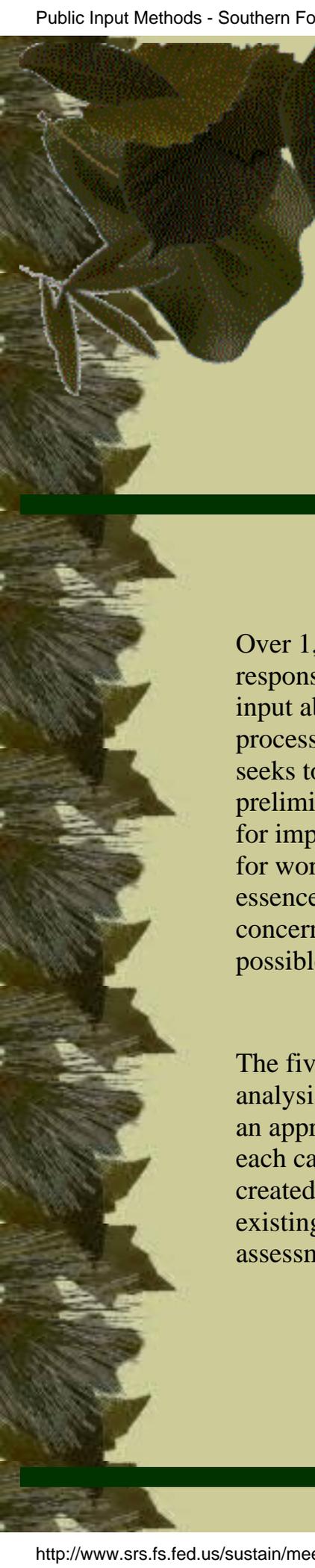
5. Sub-regional focus areas



[Proposed Questions](#) | [Assessment Home](#) | [SRS Home](#)

modified: 22-DEC-1999

webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

led by the USDA Forest Service's [Southern Region](#) and [Southern Research Station](#) in collaboration with the [USEPA](#), [US Fish & Wildlife](#), [TVA](#), and [state forestry agencies](#) of the Southern United States

Public Inputs Methods

Over 1,800 individual public meeting comments (inputs) and 204 response letters were received in response to our asking for your input about the preliminary Assessment questions. The analysis process we conducted is called Content Analysis. Content Analysis seeks to capture the your issues or concerns about a particular preliminary question or category subject area, and your suggestions for improvements. We capture your concerns in full – that is, word for word, the best sentences or paragraphs that best explain the essence of a particular statement or emotion. We capture your concern in “full-text”, in order to eliminate as much bias as possible.

The five category areas define the basic subject areas for the analysis. The preliminary assessment questions are arranged under an appropriate category. We assigned a letter-abbreviation code to each category and a number-abbreviation to each question. We also created a category for comments not directly attributable to an existing subject category, such as suggestions regarding the entire assessment process or data management concerns.



[Public Input Home](#) | [Assessment Home](#)

modified: 22-DEC-1999
contact: [William Angelus](#)





Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of terrestrial wildlife habitat types in the South?"

1. What are the effects of forest management activities on hard mast production, and how do those effects impact wildlife? What animals, plants and organisms depend on mature forests? What are the effects on threatened and endangered species?
2. What food sources are available in pine plantations? What management techniques change the food sources available? How does herbicide spraying affect available food, water and existing wildlife? How does close spacing of trees affect the availability of food? To what degree is hard mast being lost and what are the consequences of this loss?
3. Forest Service contracts in the Suches Forest in NW Georgia have called for the clearing of a small parcel of land which contains a rare concentration of Yellow and Pink Lady Slippers.
4. The Assessment should exercise caution in speculating the "likely future" of wildlife habitat types. Past trends are not necessarily good indicators of the future. Policies on industry lands, for example, have undergone many changes only recently regarding management intensity, use of Streamside Management Zones and other BMPs, reduction in harvest area size, clearcutting timber stands adjacent to other recently clearcut stands, resulting in higher habitat diversity rates. These and other considerations define a future path for the Southern forests much different than the past. These changes often result in positive reaction in wildlife populations, stemming from

improved habitat and habitat diversity.

5. The Assessment should recognize human influence on ecosystems of the southern forests beginning prior to European settlement. Modern archeological evidence suggests native Americans shaped the southern forest ecosystems to a significant extent using their own methods of "forest management," primarily through extensive use of fire.
6. What have been the effects of historic land use (logging, fire, and conversion to urban and agricultural uses)? On wildlife populations and habitat? How might wildlife populations and habitat be effected long term by current harvesting trends? How are habitats for rare, threatened, and endangered species being effected?
7. The management history of southern forests should be carefully documented in the study including discussion of the use of fire, logging and other human impacts. This history should be correlated with the development of wildlife populations and their habitats during the same period of time, and should be an integral part of making any determination of sustainability of forest ecosystems.
8. Our forests already suffer from actions--clearcutting being just one example--which are: reducing the diversity of the natural forests; depleting and restructuring the forest inventory at such a rate as to radically alter the process of coexistence among the varied plant and animal species within the forest ecosystem.
9. Wildlife is usually thought of as game species, with some emphasis on federal endangered species but only because the Endangered Species Act (ESA) forces action. There is little emphasis on other non-game species. We have several disappearing plant communities but you would think we have only one in the South by all the attention given o the Longleaf Pine Ecosystem. American Beech - Southern Magnolia and similar hardwood dominated plant communities, which have many associated herbeceous species, will have fewer species and less diversity in the forest and more monocultures with massive type conversion occurring in entire NF's like Sam Houston National Forest (SHNF).
10. The FS does not allow for enough snags, den trees, and coarse woody debris in SHNF, especially large diameter specimen of these important structural features. As a result reintroduction of Louisiana Black Bear and protection and restoration of cavity nesters is hindered or stopped.
11. The timber companies are starting to regularly put bottomland hardwoods on 40 year rotations. This means there will be little if

any acorn crop to feed squirrels and other wildlife. Bottomlands are now starting to be intensively managed just like pine plantations and will suffer the same degradation in biodiversity.

12. The study must gather site-specific information about how intensive clearcutting and resulting pine plantations are impacting specific watersheds as well as impacting plant, animal, and human communities.
13. Is current forest management contributing to the extinction of species?
14. Some high priority areas of information needed by monitoring include: Population numbers (density and size)--presence/absence across landscape, demographic characteristics, genetic diversity and population structure, Standardized habitat classifications (including microhabitat structure).
15. Develop and improve basic life history knowledge and demographic information related to habitat. Identify problematic invasive species (both flora and fauna) and assess damage and map distribution (gather information on invasives' life history and affected habitats). Examine relationships and synergistic effects of infectious diseases, UV-B, climate change and contaminants on herpetofauna.
16. Identify critical habitats and habitat requirements for herp species.
17. Conduct trend analysis and PVA's for different habitat types.
18. A growing body of ecologists warns that logging over broad landscapes poses serious ecological risks that can be very costly to reverse.
19. First identify the habitat required for each of the plants and animals including man which have occupied the study area across time to the present and which ones are no longer here and answer the question, why.
20. I urge the Forest Service and other to take a long look at the region's natural history. The history will show a much wider diversity of trees, plants, birds, fish and other animals in the region. But the constant development over the past two centuries has dwindled the region's resources and biodiversity.
21. What incentives exist to protect endangered species? Will an agency be assessing the effectiveness of preservation of such species on private lands?
22. In relation to their ecological sustainability, what are the history, status and potential future of terrestrial wildlife habitats.
23. Areas have already been established by both public and private

institutions as well as individuals in making sure wildlife habitat is provided. It is very important that such areas, in place today, are included into the formula in determining the future of the South's ecosystems.

24. (This question should read) What is the history, status, and what do historical trends indicate for the future of terrestrial wildlife habitat types in the South?
25. The American chestnut met its demise in the Southern Appalachians in the 1930's. The oaks and hickories which occupied a small portion of the canopy but which were smoldering as sprouts in the understory took over much of the chestnut's former territory. It needs to be recognized that oaks and hickories have taken the place of chestnuts in providing foods that is vital for many game and non-game species. Pine plantations combined with herbiciding and/or fire prevents oaks and hickories from existing in the overstory. The mast component in pine or mixed stands is being eliminated.
26. In every local ecosystem around the world, microorganisms, higher plants, invertebrates and vertebrates coexist with labyrinthine interdependence, partners in creating and sustaining the physical environment of atmospheric gases and soil composition and chemicals. Individual ecosystems work as integrated wholes, not as species in the company of but isolated from other species. Science can not tell us which species we can "afford" to lose--which of our vanishing species are crucial to the survival of the forest ecosystem.
27. As the assessment investigates "historic" conditions, it will be important to avoid point-in-time estimates of vegetative conditions and instead concentrate on the range of natural variability.
28. What future habitat changes will occur as a result of changes in plant (tree) species distribution and frequency caused by clear-cutting and conversion to monoculture plantations or species of higher economic value? Project these changes into the future with increased consumption under various consumption (demand) scenarios.
29. Future habitat changes that will occur as a result of changes in plant species distribution and frequency, particularly with regard to tree species, attendant to clearcutting and conversion to monoculture plantations.
30. Significant attention must be given to the impact of intensive timber management or harvest regimes on endangered species. (i.e. how will the rapid loss of diverse forests impact the survival potential of these species).

31. Effects on wildlife, both endangered species and species assemblages in southern forests.
32. The study must examine whether the current level of demand, as well as projections of future demand, will impair the ecological integrity of the southern region and its habitats, such as native forest and aquatic ecosystems.
33. How have the forests recovered in those areas deforested in the 1800's? What was the species diversity of flora and fauna then compared to the diversity in the "recovered" forests?
34. What aquatic flora and fauna exist in this region now? Compare the current occurrence of RTE aquatic flora and fauna to the known past occurrences. Which species populations can be or have been effected or extirpated due to increased siltation, oxygen content or other variable that can be altered by logging activities?
35. What are the ecosystem size requirements of the RTE species in the region? Are these size requirements being met or is clearcutting and agriculture putting these ecosystems size requirements in jeopardy? Using various cutting and land conversion predictions (i.e.. No change, 50% increase, 100% increase), determine if or when habitats of required sizes will not longer exist.
36. The temporal scale of the "history" being considered should be clearly stated and should the time scale of the projections. This will allow for the clarification of the limits of the conclusions which can be drawn from this data.
37. Major threats are: modern commercial forest management practices, urban/suburban sprawl, game management practices, conversion to agriculture & ranching, and invasive exotics. Terrestrial wildlife habitat types suffer and have suffered tremendously since European colonization, with some habitats completely wiped out (canebrakes in bottomlands, pristine bottomlands with towering trees and open forest floor, and vast Longleaf Pine forests).
38. Given the continuing trend toward monoculture forests in the South (loblolly pines, etc.), the likely future of terrestrial wildlife habitat types is dim, indeed. Southern forests should be managed for diversity of tree and shrub species, with a preponderance of the forests left largely alone in order to attain old-growth status.
39. The projected future for all of our forest habitats will depend on our intelligent integration of truly sustainable practices in our forestry and all other industries. The Fragmentation of habitat

due to encroachment from population expansion and the unsustainable use of our forest using outdated forestry practices is the greatest threat to the biotic diversity and integrity in the South. We see the problem with the narrow concept: either the environment or the job market will suffer. In order to have the best possible society we need to see them as one and the same. Healthy environment is the only way to have healthy economy.

40. I see the best way to ensure healthy genetic exchange is to create core wilderness areas surrounded with graded buffer zones (graded least intensive use to most as you move away from the cores). Along with substantial cores, we need then to create corridors based on ecological not political boundaries.
41. How has the introduction of exotic species effected the landscape and terrestrial systems?
42. Preservation of species diversity is of increasing importance the more the Southeast becomes built up. Forest preservation as habitat for endangered, rare and threatened species is a key issue that your study should address.
43. Excess clearing of these forests allow the forest cycle to start at the basics, or a pine monoculture phase, which will result in decreased biodiversity.
44. What future habitat changes will occur as a result of changes in plant (tree) species distribution and frequency caused by clearcutting and conversion to monoculture plantations or species of higher economic value. Project these changes into the future with increased consumption under various consumption (demand) scenarios. What is the cumulative effect of shortened rotations and increased clearcutting to feed growing demands for paper and chip board on species of plants and animals that depend on mature forested habitats?
45. How have all forms of impact shaped terrestrial ecosystems in the South?
46. We need to impose a moratorium on all uses of public land in Georgia, except low-impact recreation. The main issue here is the loss of biodiversity. When old-growth forest is cut, even if it is replanted, longleaf pines and hardwoods are replaced by slash pine plantations, which support as little diversity of animals and understory plants as a field of cabbages. As a result, we are rapidly losing endangered species of plants and animals.
47. As more forests are sacrificed to chip mills and clear cuts, biological communities have become increasingly fragmented. A region-wide management plan that recognizes habitat value and the need for buffers and corridors connecting them should be a priority.

48. Next to real estate development there can be no greater destructive activity on our forests than large free standing chip mills which clear cut large "sourcing areas" of 50-100 miles radius which are then often turned into pine plantations. The effects on biodiversity are devastating. Chip mills are examples of the "cut and run" philosophy long associated with the timber industry in America.
49. We live during a time of one of the greatest extinctions of geologic history so any needless destruction of biologic diversity should be considered unacceptable.
50. Native southern hardwood forests get replaced by monoculture pine plantations, destroying biological diversity.
51. The local biological diversity is destroyed and is far from returning.
52. Please quantify the value of non-commercial tree, plant, wildlife, fungal life, insect life and other components of intact forest ecosystems. Please quantify the value of intact native forest ecosystems in preventing flooding, providing clean water, ground water recharge, clean air, wildlife habitat, fisheries, climate amelioration, prevention of desertification, and provision of hunting, recreation, and aesthetic relief from civilization overload.
53. What has been the trend of neotropical songbird losses in the last 1000 years and what are projections into the future? What incentives, programs educational resources, and laws would be needed to halt fragmentation induced species loss? What are the implications of fragmentation trends to Threatened and Endangered and sensitive species?
54. The temporal scale of the "history" being considered should be clearly stated and should the time scale of the projections. This will allow for the clarification of the limits of the conclusions which can be drawn from this
55. Bleak. Major threats are: modern commercial forest management practices, urban/suburban sprawl, game management practices, conversion to agriculture & ranching, and invasive exotics. Terrestrial wildlife habitat types suffer and have suffered tremendously since European colonization, with some habitats completely wiped out (canebrakes in bottomlands, pristine bottomlands with towering trees and open forest floor, and vast Longleaf Pine forests.
56. Given the continuing trend toward monocultural forests in the South (loblolly pines, etc.), the likely future of terrestrial wildlife habitat types is dim indeed. Southern forests should be managed for diversity of tree and shrub species, with a

preponderance of the forests left largely alone in order to attain old-growth status.

57. The projected future for all of our forest habitats will depend on our intelligent integration of truly sustainable practices in our forestry and all other industries. The Fragmentation of habitat due to encroachment from population expansion and the unsustainable use of our forest using outdated forestry practices (veiled with thinly disguised rhetorical semantics -such as even age management and managing for edge habitat)is the greatest threat to the biotic diversity and integrity in the South. We continue often to see the problem with the narrow concept:either the environment or the job market will suffer. In order to have the best possible society we need to see them as one and the same. Healty environment is the only way to have a healthy economy.
58. What is the whole effect of the shorter growth time before harvest and clear-cutting on mature forest dependent species? What will the effect of loss of private forest have on the small amount of public forest land? What methods encourages private owners to manage their forest long term and for greater
59. How can an historically complete biological diversity survive the destruction of logging, grazing and ORV uses?
60. Use historic data as much as possible to tease out how we got to where we are - fire loss, urbanization, etc.
61. Document the increase/decrease of hardwood forests over the last 10 years and impact on wildlife.
62. What timeframe (history) is being addressed in this study? 10,000 years? 100 years? 50 years?
63. The assessment team needs to document what is happening on the ground at this point in time.
64. What is the age distribution of forest?
65. What era/time period will be sustained?
66. Under status, look at recovery programs ongoing RCW, Gopher tortoise. Look at how managed forests play a role in recovery effort.
67. History – extensive; status – poor to fair; future – bleak. Due to new age timber management.
68. Will past and future agrarian practices be considered in the assessment?
69. What timeframe will be used as data baseline? Pre-human data would show ``original" forest types.
70. It is important to develop an understanding of how our current

forest landscape got to be the way it is - e.g., fire management, select cuts, clear cuts, reforestation, etc. Given study timeframes, consider using wildlife communities rather than individual species as the basis for analysis.

71. Can you identify potential at-risk communities/species regardless of t/e species listing?
72. How have all forms of impact shaped terrestrial ecosystems in the South?
73. What types of habitats do threatened and endangered species need?
74. What is happening to lands that aren't being managed for fear (real or perceived) of taking an endangered species?
75. Forest management on federal forestlands is compromising biodiversity.
76. Can the assessment team address the biodiversity differences between pine plantations and native forests?
77. How has the increase or decrease of timber harvest on state and federal lands affected biodiversity on these lands?
78. Need to replant clearcuts in the same fashion that bottomland hardwood forests are being replanted, with a lot of diversity.
79. Examine decline and diversity of plant and animal life.
80. Study should document improvement diversity of animal life with active forest management.
81. In studying diversity, there should be accepted standard for measurement.
82. They are in the process of and starting to totally destroy ecosystems in the area – large timber companies and private landowners.
83. Forest health is a big concern. A recent USGS/Biological Resources Division report said that over 50% of U.S. ecosystems (or ecosystem types - commenter was unsure) are in trouble. What can be done to reverse this, especially relative to forest ecosystems (aquatic and terrestrial).
84. What are the impacts of declining biodiversity in the South and their cause?
85. Evaluate relationships between forest age and biodiversity
86. A continued rate of decline in biodiversity, compounded annually, devastating unless managed better.
87. Consider the implementation of some type of wildlife subsidy to encourage landowners with small acreages to maintain for high biodiversity.

88. What type of management can a small tract landowner do on his property for biodiversity that is economically feasible?
89. Recognizing the linkage and positive impacts for habitat diversity.
90. Address biodiversity in as rich and thorough a way as possible.
91. Look at effects of large monotypic stands on biodiversity of species (landscape level).
92. Look at diversity of habitat quality in managed and unmanaged forestry as it relates to land-use history.
93. Further decline in biodiversity is inevitable in the current political/economic regime.
94. Future generations will see reduced biodiversity of all native habitats
95. What is the minimum threshold of sustainable habitat for plants and animals?
96. Look at need for wildlife corridors between large tracts of habitat.
97. Concerned that co-op efforts underway to help with wildlife habitat— Gopher Tortoise, RCW, are documented.
98. What is wildlife habitat? Define. How will wildlife habitat be categorized?
99. Assessment addresses habitat type. Will it also address communities and associations? How will these be defined? What of indicator species?
100. Can examples be cited of past timber removals and how long it took for the forest to recover adequately to support wildlife?
101. Oaks and hickories have largely replaced chestnuts. What are we doing to preserve and enhance those hard-mast producing tree species that are so important to wildlife. Given the length of time it takes many hard-mast producing trees to reach maturity (40-60 years for many), some current forest management practices (e.g., short rotations for chip mills, hardwood conversion to pine) are decidedly counterproductive from a wildlife standpoint.
102. Consider management objectives of special interest groups such as hunting clubs that focus on wildlife.
103. Are we gaining more game species (e.g., deer, hog, bear) with our timber harvesting practices? Are they native or non-native?
104. What are the effects of herbicide spray on wildlife in terms of stress and long-term health?
105. The term “terrestrial wildlife habitat types” bothers me in that it

implies an excluding of wetland types. This I believe is a mistake – inclusion or at least a blurring of the lines must be done during this assessment. Historically, most of the valued or assessable Southern forests have been cut or depleted. Of the ancient forest that is left, I hope we have enough for a specimen renewal. The quantities and in some cases the quality of our ecosystems are gone forever, so we should preserve or restore a working specimen of each ecosystem community. This will mean that we shall need new laws and rules for preserving these specimen communities and their possible usage.



[Question as revised in response to these comments](#)

[Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What conditions will be needed to sustain plant and animal habitat associations in the South?"

1. Recent research shows that a corridor system, natural areas left between intensively managed forest stands, attracts over 100 species of breeding birds. Research shows that overall small mammal abundance is not affected by timber harvesting. In herptofauna (reptiles and amphibians) studies in South Carolina, 61 out of 63 coastal plain species use intensively managed forest landscapes.
2. What animals utilize woody debris? To what degree does woody debris help control erosion and nutrient cycling?
3. The amount of lands which are in forest but are not available to provide our nations wood supply (parks, greenways, refuges, etc) should be broken out into a separate category.
4. The Assessment should use caution defining "conditions...needed to sustain plant and animal habitat association." It should recognize the dynamic nature of healthy plant and animal habitats. The idea of a "balance of nature" is a myth. New scientific evidence suggests healthy ecosystems thrive on change. The Assessment, therefore, should not assume the existence of some ideal static conditions needed to sustain plant and animal habitats. Also, the Assessment should recognize forest lands that are already engaged in habitat programs, such as the State Natural Heritage Programs, the SFI Special Places Program, formal agreements and Memorandums of Understanding between large forest landowners and

government agencies and nonprofit organizations to conserve habitats for endangered, threatened and nonthreatened plants and animals.

5. The second question in the Landscapes/Terrestrial Ecosystems section should include plant communities (Wildlife Habitat). Many of the Landscape scaled ecosystems have size requirements, in terms of viability, for the community and the wildlife dependant on that community, (e.g. Carolina Flying Squirrel).
6. What long term plans or management conditions are needed to maintain the current biodiversity of the forest? How can this be balanced with recreational and timber product demands?
7. Conditions needed to sustain plant and animal habitat associations is obvious, old growth with its matrix of disturbance affected areas. Natural disturbances should be allowed to play their natural ecosystem process functions. These natural disturbances are signs of a healthy forest, not a sick one. They provide the matrix of mature forest with patches of younger forest and diversity of plants and animals. We need coarse woody debris (large diameter), snags (large diameter), den trees (large diameter), multi-storied canopy (herbaceous layer, grass layer, shrub layer, understory layer, midstory layer, overstory layer), untouched riparian zones (ephemeral, intermittent, and perennial streams) that are wide and act as corridors, other wildlife corridors, protection of seepage areas, wetlands, shorelines, bottomlands, flatwoods, and protection of native grasslands that occur as inclusions like the blackland prairie that is found in SHNF.
8. Identify regional corridors and reserves, evaluate benefits of these areas to herpetofauna and evaluate threats to these areas.
9. Evaluate habitat threats across existing preserve boundaries. Monitor distribution and continuity of habitat and impacts on herpetofauna.
10. Consider the risks that would materialize if forest-management decisions should lead to catastrophic outcomes, such as a marked increase in flooding or in the risk of a species' extinction.
11. What is the ideal carry capacity of each of these associations, how may they be intermingled without conflict, and what limits to growth should be placed on these associations?
12. At what scale should wildlife habitat types and plant and animal habitat associations be delineated for the purposes of sustaining ecosystems and diversity?

13. Assessment should document the acreage in State Natural Heritage Programs, the SFI Special Places Program, Fish and Wildlife Service Refuges, state and national parks, private conservation areas, etc. These reserved areas provide important habitats for species of special concern.
14. Moreover, we suggest that the baseline used to determine future sustainability include lost or degraded habitats that could be restored, as well as currently existing forested acreage. We are particularly concerned about the preservation of large, contiguous tracts of late-successional natural forest linked by forested corridors.
15. Accord special consideration to the protection of sensitive areas and important habitat thereby reversing the trend towards an increasing number of threatened and endangered species.
16. What conditions will be needed to promote ecologically sustainable ecosystems incorporating the plant and animal habitat associations that they contained at the time of European settlement.
17. What conditions will be needed to sustain the plant and animal habitats uniquely associated with the longleaf pine ecosystem?
18. The Assessment should document the acreage in State Natural Heritage Programs, the SFI Special Places Program, Fish and Wildlife Refuges, state and national parks and private conservation areas. It should also look at areas set aside within National Forests and other public lands.
19. The Southern Assessment should recognize and document the acreage in State Natural Heritage Programs, the SFI Special Places Program, Fish and Wildlife Service Refuges, state and national parks, private conservation areas, etc.
20. The Assessment should document the dependence of many forest species on disturbance. In addition, the Assessment should report the relationship between many species and the presence of early successional stages of forest development.
21. Though there is great concern by some individuals and non-governmental agencies that the southern landscape is losing "old growth" forests, there appears to be little evidence that there are species obligated to old growth southern pine, mixed pine-hardwood habitats. The Assessment should critically assess the needs of threatened and endangered species to determine actual habitat and management needs.
22. Include documentation of State Natural Heritage programs, Sustainable Forestry Initiative program, fish and wildlife refuges, state and national parks, private conservation areas, etc.

These areas provide habitat for wildlife and plants.

23. What conditions are required to sustain plant and animal habitat associations in the South?
24. You should examine and document the acreage set aside in state natural heritage programs, the SFI Special Places program, US Fish and Wildlife Service refuges, state and national parks, and private conservation areas, etc. These areas provide important habitats for species of special concern.
25. What habitat changes will occur and what conditions will be needed to restore and sustain species on public and private land, and what incentives exist or could be created to encourage the restoration of species?
26. In the first year after clearcutting, there is a drastic reduction in total numbers of birds and a nearly complete turnover in species. Neotropical migratory songbirds, such as the warbler and wood thrush, depend on interior forest ecosystems for their survival.
27. Studies of salamanders have confirmed that dramatic changes result from even small clearcuts. Soil moisture is altered. Full exposure to sunlight kills certain soil biota, earthworms, flora and microflora that have developed over generations in symbiosis with the forest. Scientists now realize that the ubiquitous subsoil fungi are essential for the daily survival of higher plants. Countless fungal filaments are in close symbiosis with plant roots, making essential minerals available, without which the plants would perish.
28. An unexpected finding from the experiment, however, is the even large forest patches are less sturdy than might be imagined. The reason is the so called edge effect. Habitats deep in the forest enjoy a degree of protection from external perturbation, whereas those at the boundary between forest and grassland, for instance, are exposed to winds, dramatically varying microclimates over short distances, incursions by nonforest animals and human hunters, and other inimical circumstances. The result: species of animals and plants are vulnerable to extinction for as much as a half a mile into the forest. The edge effect is therefore important even for large tracts of forest. When an ecological community becomes isolated, through habitat fragmentation, the species most at risk are those which are least mobile, that is, the well adapted species. Trapped in isolated patches, these small local populations become vulnerable to occasional catastrophes such as disease, fires or a shortage of nutrients. One by one, the isolated populations become locally extinct, until eventually they disappear from very large regions or vanish completely in the slow march to oblivion. "Because

extinctions occur generations after fragmentation, they are a debt that becomes due in the future."

29. Some authorities claim that clearcutting is beneficial to wildlife. Others say that 1) only a few species such as deer and gamebirds are encouraged by clearcutting; 2) that many others, especially endangered ones do not fare well in clearcut environments, and 3) that five years after a clearcut, it becomes a brushy thicket, a "virtual desert for wildlife" for the next twenty-five years. Is it fair to say that clearcutting is beneficial for wildlife?
30. Is there a point at which the cumulative effects of industrial cutting have adverse effects on certain species? Or on the entire southern ecosystem? Is it possible that today's actions--i.e. increasing areas of industrial harvesting--will have effects that will not be visible until 20, 30, or 50 years later?
31. We believe that the most resolute conservation practices on all public lands would not be enough to ensure viable habitats that would sustain vigorous populations of native species in the future. We need well thought-out conservation plans that will include conservation easements on private lands to stem the tide of urban sprawl. We need far-sighted sustainable development planners in urban areas.
32. If "sustainability" is to be used ecologically, then something like a "no net loss" of habitat types will have to be considered.
33. Study should include wildlife impact from forest fragmentation through logging at many sites (i.e. increased edge effect and loss of interior forest), loss of habitat types (i.e. of distinct communities: hemlock groves, fir-spruce forest) and loss of mature (old growth) forest with its diversity/richness of understory and herbaceous vegetation.
34. What conditions will be needed to restore and sustain species to their rightful and suitable habitats on public and private land?
35. A determination of minimum species habitat, both in terms of quality and quantity, required for the long-term of healthy populations of existing fish and wildlife species, including habitat necessary foraging, reproduction, and migration. This information should be used to determine the amount of lands (acreage) that, in the absence of the implementation of constraints on the harvest of timber on private lands, needs to be incorporated within federal ownership (i.e. National Forests, National Parks, National Wildlife Refuges, Wilderness Areas, or other types of federal public lands) to ensure healthy populations of existing fish and wildlife.
36. Because it is the vegetation which maintains nutrients in the soil it is important to assess how different types of foresting have on

reducing the amounts of these important nutrients in the soil. If an area is clear-cut, how much soil, and important chemicals, like nitrogen, is lost to that area? What water systems will they go into? How long does it take for them to be replenished? How will the reduced amount of nutrients reduce future growth rates? And what effects does this have on the surrounding water sources, and populations?

37. I think that forests are valuable in their natural states and efforts should be supported to increase natural areas. Keeping forests healthy is beneficial to our local economies, as well as our air and water qualities.
38. The effects on habitat, native animals and native plants will almost always be negative, i.e., long-term population declines. We need a renewed commitment to land preservation through fee acquisition and other preservation methods; we need a new commitment to closing and revegetation roads; and we need a renewed commitment toward managing forests not to create and maintain more edge habitat, but for maintaining healthy populations of forest-interior species. Edge habitat may greatly benefit a few weedy species such as skunks and white-tailed deer, but area-sensitive species such as ovenbirds and wood thrushes need large, unbroken blocks of habitat. Expanding urbanization and its associated road-building and strip malls will only hurt native animals.
39. Areas of exceptional beauty such as glades with a tumbling trout stream or with exceptional flora should be spared for the public's enjoyment.
40. Areas of exceptional watershed and or aquifer value should not be cut in any way.
41. What conditions will be needed to restore and sustain species to their rightful and suitable habitats on public and private land?
42. The federal government should acquire more land.
43. True sustainability can only be measured when all of the facts are measured accurately. I know that the factory forestry industry is exerting tremendous financial pressures on your department and it's scientists. Design a study that will expose the waste and the mining of resources to the detriment of our grandchildren.
44. What are the impacts of loss of mast production on deer populations who then must eat woody browse affecting regeneration of hardwoods. What are the impacts of the loss of understory diversity on browse demands of deer and other species. Is the problem of deer browse on seedlings even greater because of ecosystem simplification? What is the cumulative

- regional impact of declining age classes of hard mast producing species on wildlife populations?
45. Because it is the vegetation which maintains the nutrients in the soil it is important to assess how different types of foresting have on reducing the amounts of these important nutrients in the soil. If an area is clear cut, how much soil, and important chemicals, like nitrogen, are lost to that area? What water systems will they go into? How long does it take for them to be replenished? How will the reduced amount of nutrients reduce future growth rates? And what effects does this have on the surrounding water sources, and populations? Obviously selective foresting is a much better option than clear cutting that allows for this type of degradation.
 46. Many of the best scientists are working on these issues. I see the best way to ensure healthy genetic exchange is to create core wilderness areas surrounded with graded buffer zones (graded least intensive use to most as you move away from the cores). Along with substantial cores, we need then to create corridors based on ecological not political boundaries. The South has the potential to be on the cutting edge of sustainable forestry practices but the way we see profit must change to recognize the true cost of continuing with the destructive methods currently in use - destructive to the people and the biotic communities to which they belong.
 47. As land is taken out of production to be conserved, is there any measure of how many acres are affected? What are the impacts of this shift? Are any invertebrates listed for examination or consideration?
 48. Is the number of state natural areas and timber industry special areas decreasing or increasing? Will the assessment team be looking at this?
 49. Number of acres owned by protection groups such as TNC, state Heritage agencies and their objectives.
 50. Document acres of land that are set aside as natural area. Show a picture – GIS.
 51. Critical habitat designations of T&E species - how does it fit into forest scenario?
 52. Examine impact of tax law on fragmentation.
 53. Can the number of acres that are being conserved be determined in order to look at the effect on future harvests?
 54. Number of acres set aside for rare/endangered species.
 55. Management of all natural resources is negatively affected by an increase in the human population.

56. Effects of easements and legacy programs to connect public and private lands for a more contiguous ecosystem.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999

webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the likely effects of expanding human populations, urbanization and infrastructure development on habitats, animals, and plants?"

1. Loss of forests and habitats to development, farming or other non-forest lands should be documented.
2. The Assessment should note that land use changes from expanding human populations, urbanization and infrastructure development are the most common cause of deforestation and plant and animal habitat loss.
3. Explosive growth and incompatible development, vandalism, littering, trash dumping, illegal use of hiking trails by horses, bicycles, motorcycles, and ATV's and other problems brought on by encroaching urbanization.
4. Increase the number of trees in urban and agricultural areas.
5. What are the potential effects of the expanding human population. Urbanization, and infrastructure development on habitats, animals and plants?
6. What is the impact of urbanization, suburbanization in particular, on the availability of forestland?
7. What do historical trends indicate will be the likely effects of expanding human populations, urbanization and infrastructure development on habitats, animals, and plants?
8. What human activities have had the greatest negative impacts on terrestrial ecosystems in the south?

9. Study effects of expanding human population on habitats and regional forest area conversion. Fine-tuning of the aggregate data, both spatially and chronologically, may be important.
10. The loss of native forest ecosystems and habitats through direct removal by timber harvest and replacement by monoculture stands, as well as by urbanization and development.
11. What is the effect on the State's forest resource of having so many loggers and industries in a concentrated area? Are the loggers and industries dependent on the local resource or are they dependent on forest resources in more distant areas? Is the increased employment in the Western Tennessee Basin occurring at the expense of forests and jobs in other areas of Tennessee? Track where the industries' supply of logs and ships is originating; determine if the sourcing area is expanding, remaining stable or contracting. Determine if the drain caused by the Western Tennessee Basin demand is making the supply of logs less available to businesses in the remote drain areas.
12. In our nation, the dollars of economic growth, building and development often take precedence over prudent and balanced natural eco-systems management. Expanding populations, and patterns of development do not show promising trends here--and the Southern forests are at risk because of it.
13. In the examination of urbanization, will the links between wildlife that can exploit these areas and those species that can't exploit these areas be addressed?
14. Heavy logging is especially damaging to the survival of bird populations. You have an opportunity to make sure that the sustainability of these forests is protected by closely examining the ecological impacts.
15. I think it's critical that the agencies address Habitat protection: what changes will occur as a result of changes in tree (plant) species distribution and conversion to monoculture plantations caused by clearcutting?
16. If we start chopping down trees in order to build new house complexes there are serious environmental issues that we are hurting. First of all, there would be no more trees to help reduce the amount of CO2 in the atmosphere, and also the lack of trees will cause climate change, creating a more desertic habitat for both people and animals. We are going to be destroying the homes and habitats of many different species of birds and squirrels and other animals that depend on those trees to live. We have to think if it is worth ruining a whole ecosystem in order to expand our territorial needs of expansion. We are not going to affect us right away, but our

children surly will!

17. No argument here. The effects on habitat, native animals and native plants will almost always be negative, i.e., long-term population declines. Of particular interest to many people are the effects of forest fragmentation of forest-interior songbirds and terrestrial wildlife such as turtles and salamanders. We need a renewed commitment to land preservation through fee acquisition and other preservation methods; we need a new commitment to closing and revegetating roads; and we need a renewed commitment toward managing forests not to create and maintain more edge habitat, but for maintaining healthy populations of forest-interior species. Edge habitat may greatly benefit a few weedy species such as skunks and white-tailed deer, but area-sensitive species such as ovenbirds and wood thrushes need large, unbroken blocks of habitat. Let's give it to them and make sure it's there tomorrow and the day after. Expanding urbanization and its associated road-building and strip malls will hurt such native animals.
18. Fragmentation will result in a compromised genetic structure which will over time weaken the stability and integrity of the biotic community. A new paradigm is needed which values and protects the habitats not only for the animals and plants but in recognition of how reliant we are on these systems for our own psychological and physical well being.
19. In our nation, the dollars of economic growth, building and development often take precedence over prudent and balanced natural eco-systems management. Expanding populations, and patterns of development do not show promising trends here--and the Southern forests are at risk because of it.
20. Humans do not know how to live with wild animals and need educational programs. Two weeks ago, a skunk that lived in our back yard was sent to "animal control" because he did what came naturally and sprayed the neighbors dog which was going after him. He never bothered anyone, just protected himself. Until people can learn to live with wild animals, we have to protect their habitat and limit the places where humans ca
21. How has the introduction of exotic species effected the landscape and tesrrestrial systems?
22. Urban/Suburban sprawl has become endemic.
23. Look at urban sprawl in the southeast.
24. How has urbanization affected forest lands and forest-dependent wildlife species?
25. How does population density affect the landscape? Rural

- development may produce less forest fragmentation than urban development.
26. Look at impact of sprawl on habitat.
 27. With urban sprawl, look at environmental impacts from industry.
 28. Impacts of cell towers, pipeline and utility right-of-ways.
 29. Don't limit impacts to urbanization – list plus/minus impacts for all uses.
 30. Give considerations on species adaptation (i.e. animals that adapt to urbanization).
 31. What role does active forest management play in countering the effects of urbanization? Impact of invasive species.
 32. Impacts by communities in attracting industries, when built there is a loss of habitat. Urban expansion – higher taxes causes fragmentation because a landowner has to divide up property.
 33. How can we as a society better plan for urbanization as it relates to plant and animal habitats?
 34. Impact of leaving habitat in forest cover vs. urban use.
 35. Increase in feral animals as the human population increases and the impacts of these animals on our plant and animal species.
 36. Increase in “welfare wildlife” - wildlife becoming more dependent on people as humans encroach on their habitat. Increased disease.
 37. Will the increase in human populations mean an increase in the anti-hunting sentiment, which in turn could lead to an increase in the deer population?
 38. How will an increase in endangered species through recovery efforts affect future urbanization and land use?
 39. As urbanization creep continues, how will the loss of rural areas affect forest-dependent species?
 40. Is there a way to address revitalization of inner cities instead of building out in outskirts? Address how urbanization effects forests directly and indirectly. Air and water pollution, etc. Multiplication of impacts - small patterns vs. large impacts.
 41. Increase in non-point source pollution (e.g., fertilization of lawns).
 42. Increase in non-native species.
 43. Increase in water use will decrease the water table.
 44. A decrease in detritus material entering water bodies from forested lands will decrease as forest lands decrease, thus affecting aquatic organisms that depend on this litter.

45. Increase in flooding as a result of timber harvest.
46. Increase in flooding as a result of increase in asphalt as related to development.
47. Lowering of the water table with increased water demands.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"How has forest management and access shaped terrestrial ecosystems in the South?"

1. Southern forests are becoming more fragmented due to both development and increased cutting. This fragmentation favors some species while harming others. What are the costs of increased fragmentation? How fragmented are Southern forests now? How is that likely to change? What are the effects of increased of increased fragmentation? Are there some animals that will be disproportionately affected? What policies decrease fragmentation? How will Threatened or Endangered species be affected by increased fragmentation?
2. Have a naturally regenerated category of lands split into two components; successional (abandoned agriculture) and regrowth (following harvest).
3. Lists of negative and positive impacts forest management, conversion and loss have on various species.
4. The Assessment should use caution in using the term "fragmentation." The term has been broadly used to criticize forest road construction. If the term is used at all, it should be carefully defines. The Assessment should only use scientifically based data to support its interpretation of forest fragmentation.
5. Are the current ecosystem management practices and forest access plans balanced in an approach that supports biodiversity and the long term needs of species?
6. There are highways and roads being expanded and is a source of further fragmentation in the forest. This means that generalist

plant and animals species will benefit while those who are specialists, are on the edge of their geographical distribution, those that depend on shade, those that depend on moisture, those that depend on non-fragmentation, and those that depend on old growth will disappear.

7. There has been massive type conversion on public lands and on private lands there has been mining of trees.
8. There is intensive management with 25 year rotations for sawtimber pine, 40 year rotations for hardwoods 10-15 year rotations for pulp pine, herbiciding, fertilizing, wood chipping, use of tops and limbs of trees so there is even a dearth of small coarse woody debris much less large coarse woody debris, logging with no replanting or natural reseeding, massive roading, huge areas on public lands crisscrossed with ORV trails and erosion impacts, logging of riparian areas, removal of coarse woody debris and snags as salvage, and even-age logging which is causing sedimentation.
9. Look at use of upland areas, not just wetlands--assess vulnerability to habitat fragmentation among species and assess functionality of corridors.
10. Roads in forests should be routed to least impact the surrounding watersheds. Some areas that are too rough, or of a delicate or beautiful nature, should not be made accessible to vehicle traffic.
11. Assessment should also analyze how forest management improves wildlife habitat, wood quality, and productivity of the overall Southern forest resource.
12. Roads, logging access routes, and utility rights-of-way (pipelines, powerlines, petroleum-industry canals, etc.) have increased the amount of edge within forested tracts, thereby increasing human-related disturbances to area-sensitive species.
13. Reverse the trends towards isolated forest fragments and towards excessive road construction while increasing the area of natural forest.
14. How have forest management and access shaped the health and ecological sustainability of terrestrial ecosystems, and what are the potential future directions?
15. What is the history, status and likely future condition of bottomland hardwood fragmentation and its impact on plants and animals in the ecosystem?
16. Conversion of forestland to non-forest uses constitutes the biggest threat for forest fragmentation, with associated negative effects on the forests and associated resources.

17. Consider the effects of forest land of other proximate land uses and include "buffer zone" planning in your planning effort.
18. Existing forest fragmentation has already resulted in alarming decreases numbers of these songbirds: the wood thrush population is declining at an annual rate of 4 percent. This decline is linked to deforestation both here and in Latin America.
19. Essentially these scientists are saying that the present process permits far too much destruction for scientific analysis to keep up with the increased loss of wildlife and plants to habitat fragmentation, loss, and modification.
20. Case Study: What will be the cumulative impact on forest resources of planned federal highway projects such as Interstate 69, the NAFTA Highway?
21. What is the impact on the wildlife and wildlife habitat of both large clearcuts and smaller clearcuts?
22. What is the impact on the wildlife and the wildlife habitat of replacing a diverse hardwood forest with a monoculture pine plantation?
23. What is the impact on wildlife, such as neo-tropical song birds, by the fragmentation caused by chip mills?
24. While the short term effect of a clearcut is to increase the browse for deer and turkey, what is the long term effect of a clearcut on these species?
25. It is essential that the assessment document the potential effects of existing, increased and decreased levels of active forest manipulation on wildlife populations. Although harvest pressure may increase on lands in the south, pressure to NOT manage may also increase and both directions have consequences to wildlife.
26. What is the effect of increased clearcutting on plants and animals that depend o mature forested habitats? Will damage to plant and animal species be considered, particularly rare & endangered?
27. What is the cumulative effect of shortened rotations and increased clear-cutting to feed growing demands for paper and chip board on species of plants and animals that depend on mature forest habitats?
28. The cumulative effect of monoculture plantations, shortened rotations, and increased clearcutting on both plant and animal species dependent on mature forested habitats.
29. Other publications of the World Wildlife Fund reporting on their research regarding the impacts of forest fragmentation.

30. How do the soils respond to attempts to stabilize them on various degrees of slope after harvest and road building? Harvest sites on various soils and slopes should be studied. Document the results of actual attempts by loggers to sow roads, skid trails, and log landings. Attempt to sow areas of various slopes and document the success or reasons for the failure.
31. What effect has logging had on the RTE terrestrial plant and animal species in the area? What species have been extirpated from the area? What critical habitats have been lost? What species and habitats will be lost under various scenarios of increased demand for wood?
32. What is the effect of various forest management techniques (i.e.. No cutting vs. single tree selection vs. clearcutting) on the viability of populations of forest species? Consider all subterranean, terrestrial, and aquatic flora and fauna including micro organism, plants, invertebrates, and vertebrates.
33. Allowing ATV access degraded the forest trails. The timber cutting and road building have divided up the forest into 'tree farms'.
34. Fragmentation will result in a compromised genetic structure which will over time weaken the stability and integrity of the biotic community. A new paradigm is needed which values and protects the habitats not only for the animals and plants but in recognition of how reliant we are on these systems for our own psychological and physical well being.
35. What is the impact of I-69 and the extension of I-49 have on the Southeast forest?
36. Should there be restrictions on the use of motorized recreation on public lands? The demands made on public lands for motorized recreation are entirely too taxing. Restrictions on RV use MUST be broadened, even to the extent of ending most RV use on public lands other than on existing paved roads (even there, limits on the number of vehicles should be made).
37. How has road construction (both forest management-related roads and nonforest management-related roads) affected forest fragmentation? What effects on wildlife?
38. It would be great to have some diverse and natural forests in this part of the country to be able to hike through and imagine, this must have been the way it was before.
39. I was appointed to the Governors Council on Greenways and Trails last year to develop a plan to preserve and protect our natural areas. In my mind this is one of the largest threats our forests have ever encountered and nothing is being done to stop

it. This approach is different than anything anyone has ever seen. Get in, take everything and get out before anyone notices. YOU HAVE TO NOTICE AND PUT SOME RULES IN PLACE. BETTER YET STOP IT.

40. The fact that we could allow a chipmill, which employs only half a dozen people, could be allowed to do the practices that they do is unacceptable.
41. The current forest feeding frenzy of the southeast US is not unique. The industries only want as much as they can get, as fast and cheap as they can get it, with as few restrictions and obligations possible and maximum profit for the fewest people. The citizens would like some balance, sustainability, and quality of life.
42. What is the cumulative impact on T&E and sensitive species, and most dependent species and seed dispersers, from fragmentation, invasive edge species, predation, severely reduced mast production from increased levels of immature forests, herbicide and pesticide use, drift, fallout, and runoff, ORV infestations, acidification, climate change influences, chipping industry infestations, introduced exotic pests, pathogens, and plants, ecosystems simplification, ozone gas poisoning, sprawl, agricultural clearing, pine farming, and other current and reasonably foreseeable assaults?
43. What are the implications of extirpation of salamanders, amphibians, decomposer species, seed dispersers, and other "lesser" non-charismatic fauna? What are expected recovery times for biodiversity in clearcut areas to pre-clearcut levels? How many species can recover to pre-cut levels and how many would be permanently extirpated?
44. Allowing ATV access degraded the forest and trails. The timber cutting and road building have divided up the forest into 'tree farms'.
45. In Arkansas, forest management has obliterated the forest. I took my wife on a drive several years ago to show her where I hunted as a boy. I cried! when I saw thousand of acres of hillsides without a single tree left standing. This is unacceptable! I am adamantly opposed to this type of operation and oppose the building of roads into forested areas.
46. To date the practices of tree farming in the South have posed a great threat to maintaining healthy ecosystems. Monoculture has created weaken gene pools in tree species making them susceptible to disease and more vulnerable to fires, soil erosion, storm damage, etc. Songbird declines for example are in evidence in part(along with other threats in ecosystems North

- and South) due to the trend towards monoculture in forestry.
47. What is the impact of I-69 and the extension of I-49 have on the Southeast forest?
 48. Halting further fragmentation of habitat & developing wildlife corridors between existing habitats.
 49. Fragmentation of habitat, decline in forest & wildlife health and wellbeing, further extinction of species, ecological decline associated with air & water pollution, climatic disruption, and ozone depletion.
 50. Is the "access" related to forest management or to broader, more general transportation needs? Be sure to distinguish between these primary bases for the access.
 51. What if access to public lands was halted - what effect would this have on ecosystems, T&E habitats, etc.?
 52. Look at Haul Roads and utilities (right of way) constructed on forest.
 53. What is the experience in Southern States relative to BMP effectiveness?
 54. Slopes and cutting - should require adherence to BMPs!
 55. Look at localized effects when BMP's are not followed and project increased damage of increased harvest activities.
 56. Why changes in the loss of public access to private land.
 57. Tort reform ® regarding access to encourage multiple use ® income to landowners.
 58. What are barriers to additional recreation opportunities on forest land?
 59. What are barriers to additional recreation opportunities on private forest land?
 60. Depreciative activities (e.g., trash dumping, trespass, etc.).
 61. Many forest managers of the past focused on single specie timber production and game animal stocks. They also pushed for larger and larger equipment and hauling limits, till we are at the point that now they must exceed sustainable growth to pay for the equipment. A vicious cycle that is forcing the smaller wood lot owner operator out of business. Bigger is not better and the more rapidly grown timber is not as valuable. Access and haul roads have escalated in size and numbers to the point of being ridiculous. Part of SR #1105, between Maysville and Croatan has more hard gravel width than Interstate 40 – Why! Another traditional item that needs changing is the way haul roads were built. Digging a canal and piling up the soil to elevate a section caused the cleared width to be excessive and created a diversion

for both surface and subsurface drainage. These wide roads cause forest fragmentation, which is deadly to non-game wildlife. Clear-cutting, I know, is in some ways better because it helps prevent permanent haul roads, but we still need to find a better way.

62. Effects of roads on species populations and habitat.
63. Impact by providing public access to forestland (i.e. trash dumping, poaching, trespassing).
64. Evaluate lack of roads for fire fighting, I&D.
65. Is road revegetation an answer to improve wildlife habitat?
66. Impacts of fragmentation of forestlands by road building.
67. Impacts of road building on wildlife populations.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

General Comments--Landscapes/Terrestrial Ecosystems

1. It is important to know about the ecology of modern pine plantations. Using older research makes pine plantations look more wildlife friendly than they actually are. When making conclusions be sure to understand the changing nature of planted pine.
2. Look at all impacts and rate them by their severity.
3. Our experience is that the South is looked upon as a "Sacrifice Area." By this we mean as a place to maximize profits, despite impacts on the environment, and turn our beautiful, diverse, native, natural forests into pine plantations. We oppose this.
4. We are in great danger of having our Southern forests destroyed by chip mills, roads and wrong destruction of our native forests and land. Keep giving us advice as to what we can do as individual citizens.
5. I believe it is critical that the agencies address habitat protection, chip mill permits, massive clearcutting, and water quality issues.
6. What is diversity?
7. What does sustainable mean? Is something sustainable if it will generate enough income to sustain itself? Where's the guarantee in that? What if the people who control the flow of money decided that they will get a greater return elsewhere? Doesn't the sustainable then become unsustainable? Will we the taxpayer then have to provide the sustenance? Couldn't we factor that into our definition of sustainable? A forest is not sustainable if it

requires the inflow of human resources to maintain its present course of existence.

8. Save Southern Forests: These Forests provide clean drinking water, protect habitat for hunting and fishing, and improve the quality of life for families throughout the South. Corporations must not build any new chip mills until we have more information about their impact on forests and have adequate safeguards in place for the forests. Thank you so much for taking your time to read this comment.
9. This is a general comment. I am hugely impressed by the Southern Forest Resource Assessment, having just read your methodology and the questions generated for the assessment. What a good combination of brains and empiricism. 'Would that all forest decisions could be based on your models.
10. Having lived in the South for several years and enjoyed its forests, I am very concerned about their future. As I read through your questions, I see many references to "the likely future" of various forest elements and values. You do not say what assumptions this "likely future" will be based on. It is important to recognize that people have considerable control over that future. What is the "desired future" of these elements and values? I also am concerned that the wording of several sections and questions suggests that what already is will have to continue to be. You should assess the opportunities for restoring more natural ecosystems and wildlife habitat to benefit wildlife, clean water, etc.. The focus appears to be on what the future may hold for forest products at the expense of other values. Your scope should be broad and include consideration of the cumulative effects of management for commercial products on functioning ecosystems, wildlife, and other noncommercial values, also.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

webmaster: [John M. Pye](#)





Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"How have land uses changed in the South and how might changes in the future affect the forest land base?"

1. It should look at how regulations restricting either region population growth or local land use conversion would affect both the communities and the forests.
2. Within the scope of the assessment, what was the productive capacity of forestlands that have been converted to non-forest uses?
3. In private forests there either is conversion to homesites or ranches.
4. Further urbanization of the forest will continue. There will be more sterile pine plantations intensively managed with low biodiversity. There will be more eroded streams with septic tank contamination.
5. Assess the impacts of different land uses.
6. Conversion of forestland to non-forest uses constitutes the biggest threat for forest fragmentation, with associated negative effects on the forests and associated plant and animal habitats.
7. The Assessment should document the actual causes of forest loss, land use change, and fragmentation. The magnitude of this loss of forests and associated values should be contrasted with the positive influences of ongoing forest management, harvesting and regeneration.
8. Past and future land-use changes affecting the forest land base is directly related to fish and wildlife habitat.

9. How have land uses changed, and how might changes in the future affect the ecological sustainability of forest ecosystems.
10. What is the impact of the comparative advantages between forest economics and agricultural economics on the availability of forestland?
11. What is the impact of Federal subsidy on agriculture land on the availability of forestland?
12. Assessment should document the actual causes of forestland loss, including land use change and fragmentation.
13. Assessment should document the relationship between income from forest management and maintaining forestland in the face of urban encroachment.
14. The Southern Assessment should document the actual causes of forest loss, land use change, and fragmentation. The magnitude of this loss of forests and associated values should be contrasted with the results of ongoing forest management, harvesting and regeneration.
15. FIA information indicates that forest acreage losses are occurring around rapidly growing urban centers, thus causing deforestation, changes in land use, and forest fragmentation. Thus urban encroachment will continue to result in significant changes and long-term impacts on the forests of the South. Assessment should document the relationship between income from forest management and maintaining forestland in the face of urban encroachment, and the associated benefits to other forest resources.
16. We hope the Assessment will look at the relationship between available markets for forest products and forest fragmentation. In other words, do areas with good markets for forest products tend to have less forest fragmentation? Is there less clearing of land for pasture, row crops, etc.? How does this compare to regions without good markets? How has large ownership by forest industry contributed to preventing fragmentation of the Southern forest?
17. How have land uses changed in the South and how might historical trends indicate that the forest land base may be affected in the future?
18. What will the impact be of the urban sprawl problem combined with the chip mill expansion in the Southeast?
19. How much native hardwood forest has been converted to softwood agriculture in the last 20 years and how much will be converted in the next 20 years? Is this conversion occurring to supply the local industries and benefiting the local economies or

is it going to more distant value added industries? Use all available imaging from Dept. of Agriculture, USGS, TVA, satellite and aerial photos to determine land use changes. Predict future changes by considering increased population, consumption, and decreased supply in other areas--SERTS MODEL.

20. What areas are most likely to have to limit their population growth due to water shortages or water quality and could intact forests allow for greater population growth? loss on clearcuts and roads of various slopes and how persistent is this soil loss over time?
21. What attracted existing industries to the area and does the industrial forestry in the area inhibit other industries from locating in the region?
22. Type conversion to market commodity production should be qualified and its impacts identified.
23. We must remember that not every country is economically or technologically able to manage their forests as well as we manage the Southern forest. It would be irresponsible of us as global citizens to place undue pressure on the forest resources of developing countries simply because we have a poor understanding of how our forest system works.
24. Impacts of conversion of agriculture lands to forest and other habitats.
25. Ecotourism makes a significant, and rapidly growing, contribution to the Georgia economy. It has the potential to reverse the downward slide in the economic status of many rural communities. The growth of this industry had already been compromised by our short-sighted forest policies.
26. Project under various demand scenarios how many acres of native forest will be converted to agricultural tree plantations and the effect of intensive harvest on soil fertility and productivity.
27. Please address exports of raw forests in the form of chips and pulp to the global economy. How many jobs equivalent are exported annually from the southeast in raw forest exports (chips and pulp). How many jobs have been shifted by pulp and paper industries out of the southeast US. to cheaper labor markets outside of the US.? What is the trend of companies like Champion, LP and others increasing production levels to South and Central America?
28. 6 What market forces determine conversion to other land uses?
29. Evaluate definitions of forestland (continuum between suburban

- and forest). Look at effects of forest policies on LU.
30. The economic and human impacts of conversions from native forests to other land uses.
 31. What's causing the permanent conversion of forests to other land uses.
 32. Over-development in rural lands; over-conversion to meet growing urbanization.
 33. Focus on changes in land use changes, e.g., used to be forest to agriculture, which is reversible, but to an interchange isn't reversible.
 34. Impact of timber markets on decisions to keep land in trees.
 35. 6 What market forces determine conversion to other land uses? Impact of timber Irreversibility of land use change.
 36. Conversion to non-forest and the impact of it. Trends – what's going to happen in the future, i.e., conversion of land to non-forest?
 37. How land use has affected availability of timber and forest management options rather than its presence, e.g., prescribed burning.
 38. Forestland to residential, power right-of-ways and fragmentation of forestland; changes in tax laws forcing people to sell off land - fragmentation.
 39. Low timber markets encourage landowners to keep their lands in forest. The ability of landowners to do this vs. fragmenting it, selling to uses. Keep land in trees.
 40. Emphasize how much forestland has changed to other uses & AG.
 41. How has science and technology affected the land base?
 42. Consider genetically altered crops and effects on land use.
 43. The demands from public are also a driving force in land use changes. Need to examine them.
 44. Activities for forest management vs. similar activities for other uses. Make sure you attribute the impact to the right use, e.g., forest clearing for harvest vs. for a Walmart lot. Forestland – all these questions are carefully defined - agriculture vs. timberland. Careful in land use change questions and answers vs. habitat.
 45. Development per se: commercial, residential, retirement, fragmentation, forest mortality, and forest health influences land changes.
 46. Discuss how energy crops may increase demand for wood and pressures on land use.

47. Excluding conversion of land from agriculture to forests, the forest land base is decreasing.
48. Shopping center impacts on forest land base.
49. How do global markets affect land use changes.
50. Look at connection between population, density and availability.
51. What factors does industry evaluate when making location decisions? (Especially demographic factors)
52. Urban versus rural. How do attitudes differ based on people who grew up in rural vs. new there – “exposure.”
53. Focus on absentee vs. on site owners. (Corporate vs. individuals).
54. Take a look at how industry evaluates where to locate mills, e.g., illiteracy, lack of zoning, economically distressed, low salary, minority, and low voter registration rates. What demographic criteria does industry use?
55. Useful to have a demographic profile of foresters, private and public land managers, who are making decisions. Assistance foresters – loggers, not necessarily foresters. The population in or near urban areas appears to be changing upward whereas in many rural areas the population is declining. As farmlands continue to decline how we reuse or reforest these lands becomes extremely important. Neither mono-cultural plantings nor pure time succession is the answer to this reforestation problem; we must find site-specific solutions.
56. Look at demographic and community social structure difference. Countries with strong timber extraction industry to those without.
57. Compare demographics of county with high timber with a county with low timber extraction.
58. On research - encourage results to be stratified at least by urban and rural population.
59. Look at two parts of demographics: Absentee ownerships and inheritance.
60. Look at correlation between promoting, enhancing and strengthening of forest products industry and controlling urban sprawl.
61. Demographic profile of private forest land managers, assistant foresters.
62. Address those who don't use technical assistance (and who is and why/demographics).
63. How does local zoning/land use restrictions impact the ability to manage forest resources?

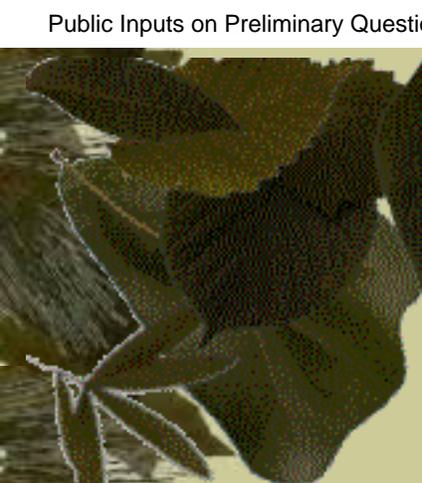


[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the demographic profile and attitudes of Southern citizens toward forests and their management and how have they changed?"

1. With additional restrictions being placed on forestry, there is a need for landowners to be able to manage their lands intensively, using more silvicultural treatments. It would be good to assess what is thought of the more intensive management, including shorter rotations. The public should have an explanation on how this can allow us to reach our wood needs while still preserving some places.
2. Most people from the city do not know that NF are logged and they do not support it. Many rural residents see NF as a way for them to make money and they do not care, long-term, if ecological degradation occurs as long as, short-term, they can make money from the forest. There is very little foresight and almost no long-term thinking. FS does not plan for continuing urbanization of the forest and the change from timber orientation to a recreation and wildlife protection orientation.
3. We would like to see a slow down of the cutting of trees and an incentive to encourage diversity in tree planting. It would be great to have some diverse and natural forests to hike through. There are innovative ways of growing and cutting timber. Those methods should be studied and taught to the people growing and cutting trees here.
4. I'm writing to put in my voice toward the preservation of diversity in the southern pine forests, and to urge the care of those few wild forests we have left on the public lands in the

- 
- South, and to urge aggressive restoration of the old pine forests.
5. Thank you for realizing that Southerners are not going to sit back and watch every bit of our forests get cut from around us. Logging is a necessary thing, but in order to end our gross neglect of ecology and limit wholesale destruction of wild habitats, we should take action as soon as possible to prevent our greediness from getting out of hand.
 6. People from throughout society want resources in the public domain--entire national forests, the water that comes from both public and private forests, and the biodiversity that is the legacy one generation passes to another-- to be managed according to principles of stewardship.
 7. The American public has clearly and repeatedly expressed their opinion that they place a nearly infinite value on avoiding one type of irreversible outcome, the extinction of species.
 8. What do people from the farmlands, urban settings, and cities think a forest is or should be? How would they pay for attaining this, their personal desire?
 9. Whatever plan you come up with, it must focus on not just protecting the remaining species and diversity, but work to restoring the diversity. I believe that would call for less logging, fewer logging roads, larger roadless areas, and more sustainable harvesting. If that means a reduction in tree harvests, that is an acceptable price to pay.
 10. I believe that large contiguous landscapes of actively managed forests provide the best opportunity to avoid fragmentation of the forest caused by development, land use change, and increasing human population. Forestlands must continue to return income to their owners and provide an economic incentive for keeping those lands intact in forestry.
 11. What are the demographic profile and attitudes of southern citizens towards forest management and ecological sustainability, how have they changed, and how might they change?
 12. In certain regions effected by urban sprawl the every ones who are moving into these areas, consuming the forested land for the space and the materials to erect their homes, are the same ones concerned about the loss of the forested land. These are conflicting attitudes and their concerns about sustainability should be discounted since they are the source of the problem as they see it. My point being you can't have it both ways.
 13. I believe the practice of Forestry when left in the hands of those who own the land and have a vested interest n it will continue to

be of great benefit to not only the economy of the South but the environment as well.

14. We recognize that there will be short term losses to harvest and conversion, but it is conceivable that, over the long term, a net permanent loss of southern forests and their functional values could be achieved, or at least realistically envisioned.
15. National Forests in the South, should be managed with an emphasis on maintaining those values that we can't rely on the private sector to maintain-old growth ecosystems and endangered species habitat. We are not advocating no logging on National Forests.
16. What is the demographic profile and attitudes of southern citizens toward forests and their management and if they have changed why?
17. Small landowners are usually interested in wildlife. But there is no information available about managing stands for mast production or understory components that are high quality wildlife food. They are often chided into clearcutting by state and private foresters.
18. The public has definitely shifted and does not want single purpose commercial tree farms on the public land.
19. Southern forests cannot sustain impacts of 1.2 million acres of clearcuts a year to feed the mechanized chip mills that only give jobs to an average of six people. Hundreds more jobs have in the past, and can in the future be filled by more sustainable jobs such as: reforestation, tourism (hiking, fishing, outdoor education, etc.), and furniture making.
20. Public opinion polls as well as Park Service Forest Service, and state visitor surveys might be used to quantify attitudes of the public and respective groups, toward commercial logging.
21. As residents in communities where chip mills are located, we feel that our concerns are valid and that many of these issues violate citizens' sense of safety, integrity, and tranquility. Some of these issues include: excessive truck traffic, overloaded logging trucks which place residents' lives in jeopardy, deterioration of roads and bridges at taxpayers' expense, local tourism that communities depend on to support their local economic and aesthetic base, compromised recreational areas as chip mills promote cutting of forestlands, excessive noise, compromised air quality, water degradation, decreased stocks of fish and other wildlife, reduced property values, a general disruption of people's sense of community and quality of life.
22. With regards to the expansion of the logging industry in the

southeastern U.S.: We need to realize that within the amount of time it takes the SE to be logged to it's limit it will not give enough time for the western U.S. forest to reach a point where logging will be profitable. There are other ways to obtain the resources produced by trees then by actually using trees. Before we continue to add to something that once it reaches a certain point it will be irreversible.

23. Since National Forests belong to all US citizens wherever they may live, why should local economic demands dictate any decisions concerning the best management of the forest?
24. Tallaluah Gorge has transformed from the hidden grand canyon of Georgia to a potential Mecca for whitewater paddlers, bringing new-found prosper to the area. I love it both the way it was and the way it is now.
25. Impacts of harvesting and management practice on aesthetics, tourism, and local economies.
26. It is very dismaying to me to see the clear-cutters and chip mills preying on my home area, the beautiful Southeast. I am not fooled by narrow strips left at the edges to hide the devastation. The "beauty strips" will not protect our topsoil and water and simply illustrate that the companies doing this don't want the population of the Southeast to see what they are really doing.
27. We live in Hickman County, Tennessee and are seeing daily the destruction of our land and trees as loggers from out of state and in state are clear-cutting our trees. They leave just enough to hide their actions from the road, but when fall and winter approach, we can see their destruction. We are not against logging, but believe that selective logging is the best.
28. We feel good stewardship of what little forests we have left in the south doesn't mean the end of the timber industry. That's why your studies are so important and need to be as unbiased as possible and solutions be as creative and innovative as possible.
29. These chipmills are extremely detrimental to the communities in which they are located.
30. With regards to the expansion of the logging industry in the south eastern U.S.: We need to realize that within the amount of time it takes the SE to be logged to it's limit it will not give enough time for the western U.S. forest to reach a point where logging will be profitable. There are other ways to obtain the resources produced by trees then by actually using trees. Before we continue to add to something that once it reaches a certian point it will be irreversable. I know that is hard for someone who is sitting in an office in D.C., but it is ignorant to assume that what your views will ultimately decide is what is best for

the country as a whole. We, as a country, should work to live side-by-side with nature instead of dominating it. When it is all said and done nature will inevitably get the upper hand and we will be sorry for the mistakes you made.

31. I understand there's an important meeting today and wish to convey to that meeting my feelings that the interests of the general public are not adequately considered in the administration of the National Forests. It seems that the forests are maintained for the profit of privately owned lumber interests and the employees of the forests are trained and focused on the production of lumber primarily.
32. Written policy does not appear to be reflected in practice. Conservation is subservient to industrial dollars. The primary goal of governmental forestry managers is to "get the cut"--conservation and wildlife be damned.
33. As citizen of a southern state, I have grown up with many wonderful experiences of enjoying the peacefulness and beauty of the forests. I know from travel to other parts of the country, that the Appalachian landscape is known and remembered as the best part of the region. I believe that wilderness areas are an essential part of human existence, not only for our region. I think that forests are valuable in their natural states and efforts should be supported to increase natural areas. Keeping forests healthy is beneficial to our local economies, as well as our air and water qualities. As a taxpayer and active contributor to my community, I am expressing my enthusiastic support of all efforts to protect forests and their wildlife ecosystems.
34. Would payment in lieu of taxes create a more stable local economic impact and promote better forest management on public lands? What is the value of intact forests? What is the value of "bits and pieces" forest? Is recreation and tourism affected by increased clear-cutting? Is the trade-off worth it? What management plans are successful...voluntary, regulated, combinations of the two plans? Has any level of government regulation increased or stabilized the economies of forestry? What is the projected and present impact of over harvesting now occurring in the South? How does the shift to value-lessoned industry affect the forest now and in the future
35. The Bryan proposal was overruled today, that would have saved taxpayers money which goes toward tearing up fish and wildlife habitats, as drinking water, solitude, etc. These areas that I want to protect, I have to pay for by working because the government thinks "forest" means timber and pork? Wrong.
36. Since National Forests belong to all US citizens wherever they

- 
- may live, why should local economic demands dictate any decisions concerning the best management of the forest?
37. Impact of tourism on timber availability.
 38. Water degradation due to clearcutting and how degradation affects local tourism and aesthetics.
 39. Effects of clearcutting on water quality and impacts on local tourism.
 40. Examine role of public forests in light of more public.
 41. General concern about ability to gauge changing attitudes.
 42. Distinguish between geography, regions and urban vs. rural.
 43. Track attitudes related to different ownerships (e.g. public, private...)
 44. Look at length of residency as determining factor.
 45. Recognizing three constitute groups: general public, landowners, and visitors.
 46. Address formative factors behind attitudes.
 47. Look at role of short-term residents in forming public opinions, (e.g. college, military). Why have these changes occurred?
 48. Influx of non-southerners on forest use attitudes.
 49. Distinguish between attitudes re: public and private forest.
 50. How are attitudes influenced by urban vs. rural perspective?
 51. Public view of forestry profession esp. foresters (professional vs. other)
 52. What baseline studies can be used to document attitudinal change?
 53. Generational differences in attitudes and values.
 54. General review of attitudes toward environmental protection and private property rights.
 55. Address conflicting demands for uses.
 56. Clarify interests that the public has in forest management (land use).
 57. Address how improved knowledge of management has influenced attitudes.
 58. Influx of non-Southerners, lack of exposure to forestry (attitudes). "Flushing" into southern America.
 59. Distinguish between public and private forestlands (attitudes toward) in this question.
 60. What is the general public's view of forestry, foresters - school-graduated foresters?

61. Generational differences (age groups), where especially young people are getting attitudes.
62. Useful to review surveys of attitudes toward environmental protection. And, to be fair, towards private property rights as well.
63. How does urbanization of South affect attitudes?
64. Link attitudes re: forest management to attitudes re: the products of the forest and consumption patterns.
65. Citizens believe forests have a greater intrinsic value
66. Citizens are less willing to live under environmentally stressful conditions, such as air pollution, which may affect forest health.
67. How have attitudes re: forest recreation and tourism changed?
68. Consider attitudes toward reduced resource consumption, alternatives to forest products, and willingness to pay.
69. Contrast attitudes of rural and urban citizens.
70. Contrast forest landowners with non-forest landowner's attitudes re: private property rights.
71. Examine public's willingness to compensate for loss of property rights (value).
72. Compare attitudes of natives vs. transplants.
73. Encourage a broad, scientific sampling of rural residents; include level of interest and concern by general population.
74. Landowners now look at more environmental or aesthetic character of land than economics.
75. What is the trend & attitude of people who reside in "chip mill" communities?
76. Assessment needs to solicit comments from all strata of population. How do we preserve agriculture and forestry?
77. Define attitudes in a measurable way.
78. Significantly less appreciation for less economic value and somewhat greater appreciation for forest ecological values is a trend to be examined.
79. Look at concern of city dwellers - attitude toward timber management and results of legislation and regulation.
80. Review last part of Question 2 - it is superfluous. Change to, if attitudes have changed, why?
81. It seems there's a lack of appreciation for rural producers, products. Look at city dweller attitudes.
82. Protect the culture and people who reside in rural areas.
83. Consider economic and personal interests.

84. Recognize intergenerational change and consequent change in attitudes.
85. What motivates a landowner to convert forestland?
86. I don't know how you're going to measure attitudes of people. How do you document?
87. There's a wide diversity of information between rural and urban folks. How can you address/ document/measure it?
88. What's going to happen with results of the information when you compile it? It needs to be filtered through free enterprise. Private property rights - the foundation of our country.

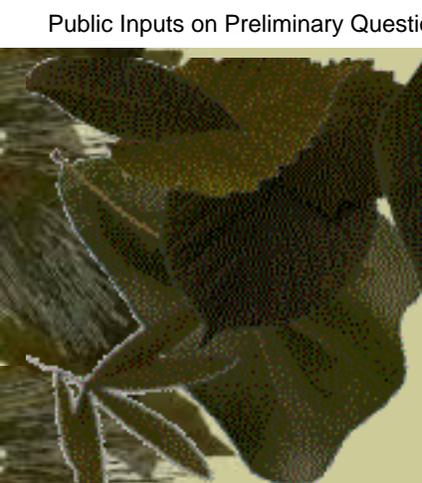


[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"How do current policies, regulations, and laws (for example, Best Management Practices) affect forest resources and their management?"

1. We also strongly encourage you to look at the effectiveness of existing policy for ensuring ecological sustainability.
2. Present laws act as an incentive to overcut and to turn forest land into range land because range land can be called agriculture land and get the greater agricultural tax exemption. The FS ignores the ESA to log and burn riparian areas, hiking trails, log scenic areas, ignore the need for old growth areas, destroy the diversity of the forest. This committee must look at the lawsuits filed and won by conservationists and individuals against the FS for illegally logging and destroying the natural beauty of our NF. Public and private lands, both are overcut.
3. An analysis of the need for zoning regulations in rural as well as suburban and urban areas.
4. Analysis of the need for a system requiring timber companies to report to state environmental agencies when they will be cutting a specific area and where these cuts will occur.
5. Monitor efficacy of regional planning/management efforts.
6. Tax incentives should be reallocated from the timber industry to recycling.
7. What laws and rulings allow the IRS and other governmental agencies to give tax deductions and fast write off of investment expenses for conservation issues. What are these allowances

- achieving? Who should review these laws and rulings?
8. Our laws do not adequately protect private forests from damaging exploitation.
 9. We should be asking if current laws are effective or stringent enough to maintain sustainable forests, or if enforcement of those laws is adequate. Furthermore, what new laws are necessary to restore forests to assure they are sustainable ecosystems?
 10. Study should also identify the negative effects that estate and property taxes exert on landowners to move land out of forestry and into higher valued uses. Forest landowners and managers need a predictable regulatory, as well as investment climate in order to make long-term forestry investments. The Southern Assessment should assess the benefits and costs of the various federal and state laws and regulations in promoting the sustainable forest management of the South's forests.
 11. It will be essential for the study both to describe and to evaluate existing statutory and regulatory forest requirements with regard to forest practices in the various states. These laws need to be evaluated as written and as actually applied in the field in terms of their efficacy in protecting the environment from adverse consequences of timber harvesting and related management practices. Do states have mandatory buffers between harvest areas and surface waters, wetlands and other important aquatic resources? Do states prohibit the draining of wetlands for forestry activities? Are there any limits on the size of openings created by harvesting in various ecosystem types? Is there any requirement of advance notice of harvest activities to the state agency in order to allow for monitoring and, when necessary, enforcement? The study should clearly inform its future readers of the answers to such basic questions as these. Equally important is the assessment of the actual implementation of any such requirement which will necessarily entail an assessment of enforcement activities by state agencies, adequacy of funding for enforcement, rates of violations, and frequency of administrative or in-court pursuit of penalties or injunctive relief for those who violate requirement. Finally, putting all of this information about the regulation of forestry in our region in some context by comparing it to state forest practices acts in other parts of the country would be extremely useful.
 12. Most of the states do not have even minimum forest practice laws to require regeneration, spading of clearcuts, protecting streams, etc. Louisiana does not have a forestry registration law. This is needed to provide NIPF owners with accurate data.

13. What laws are needed similarly to protect private forested lands?
14. What policies need to exist that mandate regional watershed protection? Smaller local counties lack the funds and incentive to adequately provide such protection.
15. We suggest that the proposed sustainability study address the potential for forest planning on a landscape/regional basis by a consortium of Federal, state, industrial, and private forest landowners. We believe this approach is integral to the sustained production of fish and wildlife resources dependent on a landscape mosaic of diverse forest types. Fish & Wildlife Service's ecosystem team approach, for example, could serve as a model for a regional forest consortium.
16. Consider the Endangered Species Act (ESA) as it applies to private forest lands.
17. Seed to reduce over-consumption and waste of forest products, while promoting equity in public access to consumption. Reform state and national policies, and international agreements, such that sustainable forest management is promoted, and unsustainable forest management is discouraged.
18. How do current policies, regulations, and laws (for example, Best Management Practices) affect forest resources and their management, and how effective have they been, or might they be, at promoting the ecological sustainability of forests?
19. What constitutes equitable forest taxation in the south, and the impact of taxation on forest management and resources?
20. Negative effects of estate and property taxes on landowners should also be included in the study.
21. The study should also identify the negative effects that estate and property taxes exert on landowners to move land out of forestry and into higher valued uses.
22. Federal, state and local policies and incentives that promote sustainable forest management as well as conserve existing forestland incentives that promote sustainable forest management as well as conserve existing forestland should be described and reviewed for efficacy. Federal and state governments have developed a number of programs to encourage landowners to establish forestland and create habitat (e.g., FIP, WHIP, CRP). Some non-government agencies, such as The Nature Conservancy, Ducks Unlimited and the National Wild Turkey Federation have developed programs to assist landowners in the creation of wildlife habitat. The Assessment should investigate these programs and report their results.
23. Tax incentives could provide a powerful incentive to promote

responsible forest management. Current estate tax law is an excellent example of how government taxation can lead to forced land sale and forest fragmentation. How have or could tax incentives for forest management contribute to forest health and productivity in southern forests?

24. In many areas of the south, forest industry, government agencies and universities have combined forces to tackle forest protection issues such as incident command for fire fighting, insect and disease control and exotic pest studies. The Assessment should look at and report these types of efforts and look for additional issues that may offer chances to improve future forest health and protection.
25. Assess the various federal and state laws and regulations, focusing on costs and benefits. Document the effects the Endangered Species Act has on public and private land owners.
26. Government policies such as estate taxes and other state and local taxes are known to have an adverse effect on the forest management of private lands. Clear cutting and fragmentation are just two of the most obvious effects. Forest landowners and managers need a predictable regulatory, well as a positive investment climate, in order to make the long-term investments required to grow a healthy, productive forest. There may be others. The effect of government policies on the condition of the forest should be examined thoroughly.
27. I don't know why the federal government has to study this issue. I will be very unhappy about any type regulation on my use of my family's own land as it relates to the use of the forest.
28. What impact has the generational transfer of forest resources had on management? Is there an increase in liquidation of forest resources through estates?
29. Include national, state and/or local?
30. Address the following topics: the use of taxpayers' monies to support and promote the chip mill industry e.g. road construction; the taxpayer's monies to provide large tax incentive packages for timber corporations and businesses.
31. Address the use of a state by state land management plan that will protect residential and rural residential communities. Address the use of the "industry model" which prompts the chip mill business to locate in a given area. Some items that should be included in this "model" would be: 1) an economically distressed area, 2) an average salary base of \$16,000 per year, 3) a low voter registration rate, 4) a high illiteracy rate, and finally 5) a lack of any zoning regulations or laws.

32. The use of a database to require timber companies who promote chip mills, other facilities using wood chips, and industrial clearcutting to report to each state environmental agency when they will be clearcutting a specific area and where these cuts will occur.
33. Bringing some enforceable guidelines to bear on the timber cutting industry in the form of better management practices could really pay off in the long run. Cutters seem to be bent on large fast harvest with no regard for the top soil, streams, habitat, recreation, roads or the tourist trade. Little is ever said about where our Grandchildren will be able to see a 50 or 100 year old tree in the future.
34. Second, the team should identify current federal, state and local policies, laws, and regulations relating to forest management and evaluate how they influence (positively or negatively) landowners' land use decisions. This examination should not be limited to environmental requirement, but tax, property and estate laws as well. This should also include an analysis of whether and how well government agencies monitor compliance with these various legal requirements. The study should also identify a menu of additional laws and policies (mandatory, voluntary, and incentive-based) that require and/or encourage landowners to maintain their lands in forest cover and that promote sustainability of forests at the local, state and regional levels.
35. Given the predicted increase in demand for forest products in the future, are current forest management practices and regulations adequate to protect RTE species and the biodiversity of the region?
36. The lack of laws and regulations in the realm of forestry is having a negative effect on our forest resources. Voluntary Best Management Practices with no enforcement is not protecting our forest land and associated streams. (I am speaking of TN, although I think it is pretty much the same situation in all southern states). With the Division of Forestry in the Department of Agriculture, there is little hope for seeing our forests as habitat instead of commodity.
37. Written policy does not appear to be reflected in practice. Conservation is subservient to industrial dollars. The primary goal of governmental forestry managers is to ""get the cut""--conservation and wildlife be damned.
38. Forest landowners and managers need a predictable regulatory, as well as investment climate in order to make long-term forestry investments. The Southern Assessment should assess

the benefits and costs of the various federal and state laws and regulations in promoting the sustainable forest management of the South's forests.

39. If we place handicaps and onerous regulations in the path of responsible forestry companies, then we have simply made it impossible for small tree farmers and more of the privately owned, smaller tree farms will be eventually owned by major companies. In my view this is not in the best interest of the American Farm community and the environment.
40. I would like to encourage the study to ask for stringent restrictions and oversight of the permitting process for mills.
41. What drives demand for forest products that makes landowners manage land specifically for economic revenue?
42. Forests on public lands are not protected. It angers many of us that our tax dollars are used to enable private companies to destroy our ecosystems, our biodiversity, and the livelihood of people in my industry [ecotourism].
43. Why is it that recycled paper and cardboard are next to worthless? Why is it that it's cheaper for industry to make new paper from trees than to reuse the old? We've got to shift the incentives and regulations, including the permitting process, to reflect the real costs to society and the environment. What are the real costs of losing our forests, of replacing clean water after it's gone, etc.? The big picture, the whole economic picture must be examined.
44. We need an adequate Forest Protection Policy in place before the trees are gone.
45. Rules for loggers that are enforceable. Not just a book suggesting good practices that they can throw out the window of the log truck with no recourse available for the Forester who just handed them the book. Let's make it a rule book that he can rule with the Federal study we have this within reach.
46. How can you restore species to their rightful habitat and how can Landowners be persuaded to do the same on private land?
47. NEPA, the CWA, ESA and other laws demand that federal agencies address the reasonably foreseeable cumulative, offsite and regional impacts of all industries permitted by these laws. Why are the agencies not upholding the purpose and intent of these laws and halting nonsustainable, negative environmental/economic impacts before they occur?
48. The lack of laws and regulations in the realm of forestry is having a negative effect on our forest resources. Voluntary Best Management Practices with no enforcement is not protecting our

forest land and associated streams. (I am speaking of TN, although I think it is pretty much the same situation in all southern states). With the Division of Forestry in the Department of Agriculture, there is little hope for seeing our forests as habitat instead of commodity.

49. Taxpayers should NOT be subsidizing corporate extractors on public lands! Roads and other infrastructure on federal and state lands should not be put in place to assist resource extraction. Furthermore, given the shrinking wildlife habitat in the south and the decline in forest health, resource extraction on public lands should be eliminated and programs to improve forest health and wildlife habitat should be advanced.
50. Issue of private property rights, impacts of various regulations on this.
51. Evaluate implications of "zero cut" on public land
52. Uniformity of the policies, regulations across the South. How this affects public's ability to understand them.
53. Successes of non-regulatory incentives at restoration, e.g., wild turkey, bluebird, deer, black bear.
54. Do policies et al. provide incentive or disincentive to practice forestry?
55. Assess and compare costs and benefits of regulations vs. incentives for sustainable forest management.
56. Address effects of tax incentives and state cost share progress.
57. How have Federal subsidies to local government encouraged urban sprawl?
58. Consider the impact of economic incentives.
59. Identify current regulations policies and laws by state and local governments affecting forest management decisions, tax, etc.
60. Use of taxpayers' money to provide tax incentives, subsidies to forest corporations and industries.
61. Look at effects of cost share programs to encourage replanting after harvesting. Potential for greater growth/productivity from more intensive management rather than extensive.
62. Estate taxes and influence on conversion to non-forest—agriculture or development.
63. What changes are needed to maintain forest land base (tax laws)?
64. Income, estate, and property tax (federal and state) their effects.
65. Consider full effects of tax breaks, direct and indirect subsidies to forest land, mill facilities, roads, etc.

66. Effects of tax policies on landowner management decisions.
67. ID disincentives to maintain forest cover, e.g., complicated tax and estate-planning laws.
68. Tax incentives for non-forest corps to convert lands out of forest.
69. Examine which tax policies encourage reforestation and those that discourage reforestation.
70. "I'm a private individual landowner. Question [SOCIO] 3 is most important! Look at how tax laws prevent you from replanting timber or conserving it environmentally! Look at how regulations have prevented private owners from properly caring for their land! Look specifically at how ESA is unscientifically based. Have owned land 40 years. Signed up for land stewardship program. It educates, not regulates!"
71. Should include local regulations e.g., tree ordinances; zoning and its effect on conversion.
72. Identify current policies by state and local governments that affect forest management.
73. Assess role of industry's tech assistance to private landowners.
74. What can government and private sector do to encourage forest management?
75. What are the private forest landowners' management objectives?
76. Recognizing role of TIMO's (investment).
77. Evaluate purpose of strong markets to encourage landowners to practical forestry.
78. Role of landowner assistance – industry and state forestry landowner assistance programs.
79. Consider the role of incentives in management decisions.
80. What incentives are successful at keeping forestry viable for the small private landowner?
81. Since forestry to long-term process, how do estate taxes and increased government regulation affect landowner objectives and motivations to keep land in large blocks?
82. Look at how tax laws affect forest management? Ownerships?
83. "Economics, economics, and economics are how most people think that landowners are motivated but this is not entirely true. Family and taxation probably play more of an important part than most would realize. Trying to develop laws, or one-size fits all management plan, would be a great mistake. With over 20% of the land east of I-95 in North Carolina owned by large corporate wood product companies it will be difficult to

persuade them into any management plan that doesn't produce the ever increasing bottom line.”

84. Affect of tax structural cost share on forest management.
85. How do current taxes and increased regulations influence landowner objectives and motivations, keeping land in large blocks?
86. Zoning and taxation issues in rural area.
87. Examine how much timber land or land has to be broken up as result of inheritance taxes.
88. Examine methods to sustain forest thru regulations and taxes.
89. Zoning and taxation issues in rural areas.
90. Look at effects of tax policies on land use.
91. Do harvest landowners (others) understand P/R/L and their costs, effects?
92. Look at impact on the kind of management and forest types.
93. Address concerns re: uncertainty, policies.
94. Examine frequency of policy proliferations and justification for it.
95. Use of taxpayer money to provide tax incentive package for forest corporations.
96. Effects of cost share programs on regeneration -compare intensive vs. extensive management.
97. Consider the impacts of burdensome laws and unpredictable regulations on forest management. (Needs for predictable/stable reg. environment)
98. Federal regulations and requirements putting increased pressures on Forest Service management while funding cuts have reduced staffing.
99. Address how laws restrict landowners and are landowners aware of laws. (Inconsistency too, also uncertainty of law.)
100. How does threat of laws affect landowners.
101. Include other laws/policies labor, safety, transportation, (don't limit to environmental regulations).
102. Impact of foundations on forest management activities.
103. Consider the influence of 501C3 on forest policies.
104. See if laws/regulations effective. What are economic returns? Of counties that have strict regulations, how much encouragement is given to landowners to get proper management, or does it cause landowners to move out? Sell?
105. Concerned that majority of laws affecting forestry have little

scientific support and it's causing managers to revert in management of private landowners property.

106. We need to project future impacts of current regulations on sustainability of forestry.
107. We need to project future impacts of current regulations on sustainability of forestry. Consider the effects of voluntary programs (cons. use/pref. treatment – ad valorem). (Incorporate this in statement of question.)
108. What policies would prevent forest land from changing use?
109. Contrast current compliance levels between regulatory and voluntary programs.
110. Examine cost-effectiveness of these.
111. Consider effects of mining and other non-forest policies, laws, etc., on forests
112. If you regulate forestry, you should regulate other things, such as landfills. You have to recycle.
113. Evaluate social ecosystem costs and benefits. Use physiographic regions.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What motivates private forest landowners to manage their forest land and how are their management objectives formed?"

1. I own land for a wide variety of reasons that includes both recreation and investment.
2. A small farm owner who makes a major investment which will not bear fruit for many years needs all the help he can get to perpetuate a tree farm.
3. How would different levels of forest-management regulation affect the rights and obligations of property owners?
4. What federal or state programs cause increased loss of native forests (e.g. cost sharing for replanting pines)? What federal or state programs encourage native forest protection?
5. If restrictions are placed on management or harvesting of lands, would landowners that had held lands be more likely to sell, further fragmenting the forest? If tax implications could be included in these thoughts, this would also be good. Further, if restrictions were placed, at what point would this cause additional harvesting in other areas of the globe where there are little regulations on harvesting?
6. It would be beneficial for the study to document the various states' programs, both federal and state-funded, that assist private landowners and groups with forest management and wildlife habitat improvement, and to evaluate the success of these programs in achieving their objectives. It would also be helpful to know the different sources of funding that the states

have for any cost-sharing programs included in this assistance.

7. Unfortunately most are ignorant of the importance of their forest. They are scared by loggers into cutting their woods because they are told that if they do not SPB's will kill the trees. Timber prices have been so high that people only think about a one time return on their land and not long-term protection. There is very little stewardship. Timber companies drive the entire resource degrading process. Many people see their land as a commodity and not as a living thing that we must treat with respect and kindness if we are to survive.
8. We must give tax-breaks to landowners who shelter endangered ecosystems (like wet savannas) or listed species (like indigo snakes).
9. I am opposed to allowing any group or third party granting themselves authority over the use and rule of my land. The invested landowner will always be the best stewards of the land.
10. How Would Different Levels of Logging Affect the Rights and Obligations of Property Owners?
11. The agencies assessing forest resources in the 13 southern states should not pretend they can overlook issues associated with the rights and obligations of landowners. These issues are unavoidable, and failing to address them explicitly means they are dealt with through hidden assumptions. If the agencies talk only about the costs that would accrue to landowners from constraints on logging, for example, they implicitly would be assuming that the landowners have rights to harm the environment and impose costs on others. This is not to say that the agencies should attempt to resolve issues associated with the rights and responsibilities of landowners. Resolution lies far outside the scope of this assessment. Instead, the agencies should acknowledge these issues and facilitate the public's understanding of them.
12. Assessment should document the record of accomplishment of the various private and public sector efforts to improve reforestation and increase timber supplies that have resulted in positive reforestation and forest growth trends.
13. Another important area to address is the effect of various public subsidies on forest management activities and practices. First, it will be necessary to identify the full range of public funds or other fiscal incentives available to forest land owners, i.e., stewardship funds and tax credits. Then, the study should assess how these subsidies are affecting the behavior of land owners, chip mills, or whomever. Examples of questions to be answered are to what extent any of these public subsidies are conditioned

on the practice of sustainable forestry practices, or on the other hand, to what extent they are used to continue subsidizing environmentally unsound practices like ditching and draining or conversion of bottomland hardwoods to pine?

14. Federal cost sharing opportunities have diminished. There are 148,000 forest landowners in Louisiana.
15. The financial incentive for land-use changes also should be assessed for lands reforested as wildlife habitat under Federal programs such as the Wetlands Reserve Program, Wildlife Habitat Incentives Program, Conservation Reserve Program, and Environmental Quality Incentives Program, especially in regard to future program enrollment and renewal of short-term contracts. Financial chip-mill incentives also could reduce the availability of private lands for compensatory mitigation of unavoidable wetland losses.
16. Examine the extent to which private industrial forest owners are implementing ecosystem management approaches. In particular, promoting intensive high-yield timber production in certain forests should be evaluated as a means of facilitation forest preservation (e.g. old growth) in others.
17. What motivates private forest landowners to manage their forest land, and how are their management objectives formed, and how might they be motivated to manage for ecological sustainability?
18. The Assessment should address how substantial private investments in reforestation and plantation establishment and the accelerated growth and productivity of these forests, have contributed to the availability of commercial fiber as well as conservation of other resource values.
19. Forests will need to be actively managed to generate income so landowners will not be pressured to convert to a higher economic use that is less protective of water quality and habitats.
20. Forestlands must continue to return income to their owners and provide an economic incentive for keeping those lands intact in forestry.
21. The Assessment should highlight the successes of Tree Farm System. Major forest products companies have developed forest management assistance programs for private landowner. The Assessment should look at these programs and report their objectives and accomplishments. The forest products industry has developed the sustainable Forestry Initiative to illustrate the industry's commitment to manage and harvest forests in a sustainable manner. The results of SFI, including the achievements related to the initiative's goals and performance

- criteria, should be highlighted in the Assessment's final report.
22. Many state conservation agencies have developed incentive and cost share programs to promote responsible stewardship of non-industrial private forestland. The Assessment should document the contribution these programs have made to the productivity and health of southern NIPF.
 23. Private, corporate and public landowners have a variety of reasons for owning property. The goals and objectives of landowners lead to a myriad of habitats and forest types. The Assessment should report on how the diverse ownership of southern forests has contributed to a variety of landscapes and increased plant and animal diversity.
 24. From 1952 till 1992, the forests in the Southeastern United States volume of timber increased by 60%. These results did not happen by accident or because of regulations being placed on our forests. The increase in both volume and amount of forest happened because those of us who own the land and have a vested interest in it are some of the best stewards of the forest in the world. We are the ones who are making sure 2.5 billion tree seedlings a year get planted to make sure our forests will always be here for our enjoyment as well as for our use.
 25. Since we are dealing with a resource(s) that is mostly private in terms of acres owned, it's entirely realistic to do an assessment based on the understanding that "natural" forests will continue to be diminished in favor of forests managed for the "commodities" in demand, whether that be fiber, recreation or other outputs, and that the extent of forests will decrease as they are converted to other land uses. To the extent we can predict such trends with an assessment, we can predict the impact on forest resources and values such as lumber, pulp, wildlife, water, recreation, etc. and plan for the future under those circumstances. However, that is not our vision. Our vision is based on the idea that there are no more surplus forests; that forests should be sustained, and even, strategically restored; that because of their tremendous contributions to the public values of air and water quality, wildlife habitat, aesthetics, temperature mitigation, etc., they are properly regarded within a "no net loss" paradigm. Goals should be achieved through incentives and recognition.
 26. We do believe that applying a well thought out strategy of landowner incentives, education and recognition to achieve no net loss of forest values in the South will prove to be a more successful approach to sustaining and restoring our southern forests.

27. You should document the record of accomplishment of various private and public sector efforts to improve reforestation and increase timber supplies that have resulted in positive reforestation and forest growth trends especially the efforts of the various state forestry agencies and state forestry associations.
28. I own timberland. I manage this land to maximize the return it might return to my family and me. I have observed that most landowners feel the same way and replant immediately any lands that they have cut. I now see that clear cutting of forestland may be one of the best management tools available, especially if the existing stand is of poor quality. Please come to my area of the world to conduct some of your study.
29. 18 years ago when my father began planting the pastures and fields in pinetrees. Now the land is almost completely forested except for interspersed openings which we maintain for the wildlife. We have a large deer population and a moderate, and growing, number of wild turkeys. In recent years I have planted overcup oaks, sawtooth oaks, autumn olive, native pecan and other species specifically to improve wildlife habitat on the property. We encourage biodiversity by leaving some areas containing hardwood species uncut, and planting mast-producing hardwoods in some of the remaining field areas.
30. What educational efforts are being undertaken (extent, resources), among agencies, and by agencies to the public and industry users, concerning forests' vital ecological services?
31. Determine types of information made available to landowners by forestry departments or others. Determine owners' knowledge of community economic benefit under different (industrial/local) forestry options.
32. I would like to see some form of government initiatives for private owners to restrict their harvest, and I would like for the real value of forests (to the ecosystem) to be used in cost/benefit calculations.
33. What incentives exist or could be created to encourage private landowners to restore species to suitable habitats?
34. Additional data on forest management practices and motivations of non-industrial private landowners in each state is especially needed.
35. What economic incentives are offered to timber harvesters, plantations, and wood using industries and what incentives are offered for the development of tourism and recreation? What is the relative return on these incentive payments?

36. I would also be curious about what landowners see as major disincentives to managing their lands, i.e., what do landowners see as barriers which keeps them from managing their lands?
37. For the most part, profit appears to be the motivation. Forest health must be made profitable, perhaps through government grant programs aimed at improvements.
38. What incentives exist or could be created to encourage private landowners to restore species to suitable habitats?
39. We need new laws that take into account importance of unfragmented forest that different wildlife species need.
40. I am a landowner of 66 wooded acres in Tennessee. In 1995 a tornado blew thru my farm, leveling approx. 15 acres. After meeting with our state forester I decided to have the downed trees logged. Even under a 'salvage' situation considerable damage is done to the remaining woods. Please consider a ban or at least a grand reduction in the acreage that is presently logged in our national forests.
41. Biologically destructive market forces like chip mills and associated industries actually encourage native forest land clearing similar to other third world markets. These new markets actually act as incentives to clear land for pine crops or pasturelands. Where it once cost money to clear forestlands, these new markets like chip mills will pay enough to pay the cost of clearing, exacerbating the loss of native forest cover. Please address the implications of these forest removal incentive markets.
42. I would also be curious about what landowners see as major disincentives to managing their lands, i.e., what do landowners see as barriers which keeps them from managing their lands?
43. For the most part, profit appears to be the motivation. Forest health must be made profitable, perhaps through government grant programs aimed at improvements
44. What incentives exist for landowners to maintain biodiversity on their land?
45. What incentives exist or could be created to encourage private landowners to restore species to suitable habitats?
46. What incentives can be used to encourage private landowners to practice good stewardship on their forest lands?
47. How can landowner incentives be encouraged for enhanced hunting opportunities?
48. Tennessee and other Southern States need zoning or land use regulations.

49. What is (or should be) the role of forest management relative to the ongoing county-wide planning recently mandated by the Tennessee Legislature to be done jointly by city/county governments?
50. The government needs to provide incentives for private landowners to work with the government in protecting and managing natural resources.
51. Impacts of public land in reducing in lieu taxes for counties.
52. How will the loss/continuation of cost share and other incentives affect sustainability?
53. What about disincentives? Tree ordinances or other harvest restrictions?
54. The federal government needs mechanisms to allow landowners with endangered species on their property to manage their lands how they see fit.
55. What are the acres by ownership class?
56. What are the objectives of NIPFLOs?
57. Economic incentives for landowners to protect the resource.
58. Incentives to encourage farmers to plant fallow fields.
59. Document voluntary efforts by Private landowners in managing conservation areas.
60. Incentives are needed to convert ag lands to forest instead of subdivisions, etc.
61. Look at economic incentives for private landowners to manage property to create "intact forest".
62. Impacts of public lands not meeting supply/demand on private land resources.
63. How do ownership patterns (e.g., large vs. small tract size) affect forest management and, thus, wildlife populations?
64. Management of state lands (i.e. 16th sections in MS).
65. Landowners need technical assistance to convert land back to native forest types.
66. Impacts of permanent land change resulting from urban sprawl.
67. There needs to be a study of correlation between private landowner's willingness to spend money on wildlife management and the ability to derive from timber protection.
68. What are the numbers of NIPFLOs, their objectives? NIPFLOs that have different objectives also responsible for fragmentation?
69. The assessment team needs to assess the differing objectives and motives of landowners.

70. What are the causes of loss and gain in forestland?
71. What types of outreach programs are needed to deliver the stewardship message to landowners?
72. How many acres are in natural areas, wilderness areas, TNC properties that are set aside for sensitive plants and animals?
73. The timber industry needs to look into setting aside lands and incorporating larger buffer 10 What economic incentives are there to keep land and timber from being cut (protects land) or managed versus non-managed?
74. Can federally owned land offset harvests on private lands relative to their effects on wildlife? What would be the limitations to such an approach?
75. We need to hold large private companies to the same environmental standards of small landowners.
76. What conditions will be needed to restore and sustain species to their rightful and suitable habitats on public and private land.
77. Evaluate forest age classes by ownership and owner distribution.
78. Holding timber companies and private landowners accountable on helping to preserve/improve North Carolina wildlife.
79. Be careful of baseline studies used in looking at motivations. [They] also need to be analyzed historically as well as present, e.g., studies, consistency in quality and care to set them in historical context.
80. Change [motivates] to “motivates or discourages.”
81. Address differences of management objectives of absentee vs. local landowners.
82. Examination of methods to sustain forests through changes in incentives. ID amount of forest needed to sustain lifestyle and incentives needed.
83. Want to see how different forests change ownership. How does that affect sustainability?
84. Segregate public from private property.
85. “Land ownership patterns” and tract sizes are also change from rural to urban; which will continue to diverge. Ownership of land is becoming less and less of a desired achievement.
86. Address effects and open and well-publicized markets (e.g., recreation/hunt – leasing).
87. Consider effects of access to information on various management options. Who provides/funds the information delivery?
88. Examining various programs at increasing forest inventory, e.g.,

- 
- Soil Bank, CRP - which have been successful and which failed.
89. State and federal programs (e.g. Conservation Reserve, Soil Bank) on forest inventory successes and failures.
 90. Motivation of forest owner to allow some and not other recreational activities on their land.
 91. The future of wildlife habitats likely depends on political actions in the future; public education will be very important. What is being done to educate the public on ecological values of the forest(s) - who, where, and with what resources?
 92. How can public lands/land managers be made to understand the importance of these lands to rare species management?
 93. What kind of information about options do NIP owners receive in addition to clearcutting?
 94. How have consulting foresters aided landowners (including registered foresters)?
 95. How do landowners get their information?
 96. Examine public knowledge of forest dynamics. (What is the source of the knowledge?)
 97. There's not enough public awareness of forest management. Measure citizens' understanding for forest management.
 98. The public needs to be educated about good land use practices that will benefit species.
 99. Pull land use planning schools into understanding what forestry is as far as land planning.
 100. Educate private landowners to promote diversity in forest stands. Try to promote timber harvesting of tracts over a longer period of time (select cutting) as opposed to clearcutting over a period of days.
 101. Education is key - the timber industry is moving towards sustainable forestry while private landowners are not; need to encourage private landowners, through education, to implement good land use practices.
 102. Many landowners value wildlife. Little information is available to them. If they had more information, they might make better decisions.
 103. Look at role of consultants in management decisions. (All other technical assistance too.)
 104. What kind of information about options does NIPF get besides the obvious – clearcutting, e.g., selective cutting, conservation easements, rotational cutting? And what kind of information is available?

105. How have consulting foresters aided private landowners? Also look at registered foresters.
106. Look at quantity of information reaching public based on facts rather than emotions.
107. Where do people get forestry information-- media, printed, etc?
108. When you do a demographic profile – where are people getting forestry information from?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999

webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What role do forests play in employment and local economies in the South?"

1. How would changes in the forest affect the economy, and vice versa?
2. What are the full costs of timber production, and who bears them? How would communities respond to changes in forest-management practices?
3. Who would be the economic winners and losers under different approaches to managing the southern forests? What is a prudent course of action, given that we don't yet know what the full ecological and economic consequences of widespread logging will be?
4. It will be important to document the ecological and economic costs of different existing forest management alternatives versus the ecological and economic benefits. Pertaining to preliminary assessment question #3 under social/economic factors, a cost/benefit analysis should be done on a state by state basis in regards to various degrees of existing regulation of forest management and logging activities from no regulation to a high degree or regulation.
5. Effect of neighboring communities in ways that are only beginning to be recognized, and which may prove irrevocably destructive to those communities over subsequent generations.
6. People look at the short-term and not long-term. They see the forest only as a way to make a buck.
7. The use of 'industry models' prompting extractive businesses to

locate in given areas. Some items that may be included in this 'model'- 1) economically distressed locales, 2) average salary bases of \$16,000/year, 3) low voter registration rates, 4) high illiteracy, 5) lack of zoning regulations.

8. Empirical data relating county economic revenue bases by industry; for example, the tourism and recreation industry vs. chip or pulp mill.
9. Analysis of the need for a state by state land management plan that will protect residential and rural communities.
10. CLEAN members have observed that many of the new jobs the lobbyists like to brag about in Southwest Louisiana are near-minimum wage sapling truck driver positions that will play out soon since the trees are being shaved away faster than we could have ever imagined. Are the exploitative maneuverings of the clear-cutters really in the best interests of the public? Is it really good to create short-lived, low-paying, dangerous jobs for poorly-trained people only to have the whole thing collapse within a decade or two? Would it not be plain old common sense to let the trees grow to maturity and then have a truly-sustainable economic base that would benefit everyone, long-term?
11. Are southern forests being managed to sustain timber industry and the biodiversity of forests and streams? If not, what are the problem areas?
12. How Would Changes in the Forest Affect the Economy, and Vice Versa?
13. How Would Communities Respond to Changes in Forest-Management Practices?
14. Logging rates are accelerating, but the timber industry faces strong pressures to curtail the levels of jobs and payroll per acre logged. Many workers in industry do not earn high wages. Local residents are not the only ones with an economic interest in the management of local forests. Households and firms downstream want forests to deliver clean water with a lower risk of flooding. Competitors of local firms want a level playing field.
15. The influence forests exert on the locational decisions of households often has more impact than logging on the economies of local communities. Workers with the highest skills, incomes, and ability to generate new jobs seek to live where the quality of life is high, but are not attracted to communities with degraded forest environments. Both logging and recreation taken to extremes, can jeopardize the underlying fabric of forest ecosystems. Repairing degraded ecosystems can be very costly. Both logging and recreation, taken to extremes,

can create extensive spillover costs for other industries, impeding growth in the overall economy. The state and federal agencies conducting the assessment cannot complete their task satisfactorily if they look only to the past to describe the economic consequences of different approaches to forest management. They must look to a future where the forest offers services--such as delivering clean water, providing recreational and other amenities, and protecting the integrity of the web of life--that are increasing in value relative to pulp and other commodities.

16. When they elude responsibility for the full costs of their actions, landowners and manufacturers in the timber industry are encouraged to log more acres than they would otherwise. When it imposes costs on other industries and on households, the timber industry, in effect, imposes a tax that discourages economic growth, displaces jobs in other sectors, and reduces disposable incomes.
17. If the state and federal agencies assessing the southern forests are to help the public fully understand the economic consequences of timber production, they must provide a thorough discussion of the full costs and the consequences that materialize when these costs spillover to other industries and to households.
18. Economists examining forest-management issues in southern states often employ two analytical models to calculate the number of jobs that would be lost (created) if logging decreased (increased). One is the economic-base model, which assumes timber production provides the underpinnings for other industries and for public services, such as schools. The other is IMPLAN, a computer program that represents the interconnectedness of different industries in an economy. Both models tend to exaggerate--often wildly--the changes in jobs that accompany changes in timber production. Conditions of decades long past did have a whipsaw effect on the entire economy of a community. Today, though, the economy is different. The overall prosperity of nearly all communities is determined, not by their proximity to potential clearcuts, but by their ability to attract and retain a highly-skilled workforce. Thus, a healthy standing forest often can provide more of a foundation for local economic prosperity than a logged forest can. The economic-base model is incapable of recognizing this set of circumstances. IMPLAN can be a powerful analytical tool when used correctly, but often it is not. IMPLAN is a static model that estimates the number of jobs that might be affected. IMPLAN is incapable of addressing the speed and smoothness

of the adjustment process. Hence, it leaves one with a snapshot of the economy's response to a change in timber production when what one really needs is a videotape. Any assessment of the economy's response to changes in timber-production levels should reflect a realistic appraisal of the relative importance of the services and commodities derived from the forest and acknowledge the economy's dynamic character. Applications of the economic-base model that consider timber production as fundamentally more important to the economy than the services derived from southern forests should be abandoned. Static estimates of the impacts changes in forest management will have on jobs and other variables should be not the end of the analysis but the beginning of an exploration of how easily the economy will adapt.

19. The agencies conducting the assessment should look beyond the superficial costs and benefits of different approaches to managing the southern forests and consider the potential reversal costs if a particular approach should yield undesired outcomes.
20. The government should receive the full market cost for all products removed from public land. The purchaser of these products should shoulder the entire cost of building roads.
21. Assessment should address the significant economic and social benefits that the wood and paper industry provides to the population of the South. The Assessment should identify how economically dependent rural communities are on forest based industries, and document the fact that timber inventories and values are actually increasing in these rural areas.
22. Assessment should document the relationship between income from forest management and maintaining forestland in the face of urban encroachment, and the associated benefits to other forest resources.
23. What roles are played by forests, forest services, and forest components in employment, local economies, and the quality of life?
24. Assessment should address and recognize the significant economic and social benefits that the solid wood and paper industries provides the population in the south.
25. The Southern Assessment should address the significant economic and social benefits that the wood and paper industry provides to the population of the South. The Assessment should identify how economically dependent particularly rural communities are on forest based industries, and document the fact that timber inventories and values are actually increasing in these rural areas.

26. Document the economic and social benefits that the timber industry provides. Identify how rural communities are economically dependent on the timber industry.
27. Compare timber industry economic statistics to tourism.
28. As a forest products worker, I am able to make a living wage and support my family. The forest products industry not only provides living wage jobs for families like mine but also provides a strong economic base for local communities. Over a half million people in the south work in this industry and the payroll for these workers is well over 100 billion dollars.
29. When the various agencies drafts their final reports, it is my hope that each will include in it, the people and the effects the forest products industry has on the many workers, families and communities throughout the South.
30. The forest products industry plays a very important role in providing economic opportunity for much of the South and its communities and citizens.
31. You must examine the significant economic and social benefits that the wood and paper industries provide to the southern people. Identify how economically dependent rural communities are on forest based industries.
32. Study ways to encourage the small but growing market for sustainably harvested timber and the impact of sustainable harvesting on both local jobs and landowner earnings.
33. The study should look at how changes in ownership classes (Corporate, forest industry, private) effect the economic well-being of counties.
34. Are there areas in the south where federal, state or local regulation has increased the economic stability of the forest industry? Would conversion of the Repayments to Local Governments based on percentage of sale to a Payment in Lieu of Taxes based on an historic level of compensation bring increased economic stability to rural communities that are dependent on these payments while at the same time reduce pressure on federal land management agencies to maintain timber levels that may not be in the long-term best interest of either the forest resource or of the community?
35. What examples are there of successful adoption and implementation of management guidelines that fall somewhere between voluntary recommendations and regulatory strictures? (I.e., Florida's Water Quality Guidelines)
36. What are the current and future impacts are there as a result of the south moving from a renewable (growth over removal)

- industry to an extraction (removal over growth industry?)
37. What is the dollar difference/financial impact to the local community when timber is used for valued added industries as opposed to chipped? What happens to communities when the forests have been clearcut and the chip mill industry moves out? What impact are chip mills having on and how long will the small sawmill owner, pallet maker, hardwood furniture industries be able to stay in business? What is the impact to the community, both financial and psychological, when these industries go out of business?
 38. Study factors should include (1) differential number of jobs per unit of wood harvested in industrial/local saw milling/local wood products operations, (2) local operation failures in areas where industrial forest operations have opened; (3) differential local/regional revenue contributions from industrial forestry/local saw milling.
 39. What are the impacts on surrounding communities from industrial forestry operations (waste water, storm water point discharges, airborne fiber pollution, dust/noise pollution)? What monitoring/regulatory protections are in place to safeguard community/worker health and welfare vis a vis industrial forestry operations?
 40. How has the dramatic increase of chip mills in the southeast affected the communities in which people live? What is the projection of the chip mill industry as far as establishment of new chip mills in the southeast and the cumulative environmental impact?
 41. How will large land acquisitions by chip mill companies affect land values for the community?
 42. The short-term versus long-term economic impact of intensive timber harvest regimes on the economies of local communities throughout the southeast. The long-term impact of conversion to "chip mill" processing techniques and other intensive timber harvest regimes on the economies of local communities throughout the southeast.
 43. Why is there such disparity in forest industry employment from county to county within the Western Tennessee Basin when the resource is spread equally over the region? What county characteristics or attitudes promote the development of wood using secondary industries and what characteristics inhibit the development of these industries? (survey attitudes of county commissions, chamber of commerce, county executives, mayors, and city councils. Determine what economic incentives have been offered to attract the industries.)

44. What is the revenue generated by forest harvests and value added wood using industries in the region? What is the cost of this revenue in terms of road damage and air and water pollution--the costs of which must be born by taxpayers? How much revenue does the region earn from all aspects of tourism, recreation, and retirement including revenue from construction and increased property tax revenue. What aspects of the region are important to those who use it for tourism, recreation, and retirement? How much tourism recreation, and retirement revenue is lost because of environmental degradation caused by industrial forestry and related industries?
45. What is the economic value of the ecosystem services provided by Southeastern Forests?
46. Would payment in lieu of taxes create a more stable local economic impact and promote better forest management on public lands? What s the value of intact forests? What is the value of 'bits and pieces' forest? Is recreation and tourism effected by increased clear-cutting? Is the trade-off worth it? What management plans are successful...voluntary, regulated, combinations of the two plans? Has any level of government regulation increased or stabilized the economies of forestry? What is the projected and present impact of over harvesting now occurring in toe South? How does the shift to value-lessoned industry affect the forest now and in the future?
47. Your study should address the regional trends in the area of forest-related sustainable economic growth.
48. Not only are they (chip mills) detrimental to our enviroment, but they take away jobs from the local community by employing just a few people which would otherwise have jobs in local sawmills.
49. These [chip mill] industries decrease job opportunity for locals, allowing a handful of individuals to benefit only.
50. Look at increases or decreases and projected corporate, forest industry, and private ownership and the effect of these ownership classes upon the economic well being of counties and the owner's intent to harvest. How does intensive forest extraction and increased logging truck traffic impact the well being of a community? Compare the demographics of counties with relatively high timber extraction to those without. What are the economic tradeoffs associated with various forest management decisions? How, for example, is the recreation and tourism industry in the South impacted by increased clearcutting?
51. How does intensive forest extraction and truck traffic impact

well being?

52. Logging practices on private land need to be regulated, to protect water quality and to improve the state's visual appeal. (The drive from Savannah to Okefenokee Swamp, running through miles of tree farms, is so ugly that we are deterred from taking international visitors to the Swamp.)
53. Tax incentives should be provided for sustainable forestry on private lands, and believe me, Pine plantations are not sustainable.
54. What will be the loss of revenue from the decreased tourism in the study area?
55. If sawmills were utilized instead [chip mills], many jobs would open up for the entire community.
56. I'm not against cutting down trees. We need to protect our forests. They provide clean drinking water, habitat for hunting and fishing, and improve the quality of life for families throughout the South and the U.S.
57. Please address the impact of exports of forest products from the region. Exports of raw forests, primarily wood chips and wood pulp, were growing rapidly until the "Asian Flu" hit far eastern economies. That said, there is still a substantial export business in the wood chip and wood pulp market. How much of our forests are being exported in the 90's vs. a decade ago? How much raw wood pulp is being exported annually and what are the trends.
58. Consolidation of companies, downsizing of the work force, liquidation of assets, re-investments of capital in foreign forests, and increasing exports of raw forests and finished consumer items are standard operating procedures. How much are finished pulp and paper product exports projected to rise? How much export of forests in products occurs vs. imports? What are projected trends in the next 20 years? 100-200 years? Where are the current primary markets for increased US pulp and paper consumption increases?
59. What is the economic value of the ecosystem services provided by Southeastern Forests?
60. We need to protect Southern forests. Forests provide clean drinking water, protect habitat for hunting and fishing, and improve the quality of life for families throughout the South.

I'm not against cutting down trees, but we are against industrial-scale chip mills eliminating Southern forest heritage. Corporations must not build any new chip mills until we have

more information about their impact on forests and have adequate safeguards in place for the forests.

61. Rural community economy dependency on forest products production.
62. What is the economic profile of counties where chip mills - poverty level, per capita income.
63. Impact of smaller tract size on how loggers do business, forest management practices, e.g., back to horse logging, roadside pickup, etc. Drive us to co-ops, ala Europe.
64. The impact of switching from rural to urban economy on local logging industry.
65. Examine urban planning to identify ways to build forests into community planning.
66. Impact of switch from rural economy to urban economy on local logging industry.
67. Address relationship between timber management and tourism (perception of incompatibility).
68. Look at impacts of changes in /forest production in management on economies in the other regions.
69. Examine potential impact of increased regulation to our economies.
70. Compare forest sectors to other sectors of the economy. Using all economic parameters (Income, employment, VA, etc).
71. Evaluate at state level, even sub-state level.
72. Look at subsectors of forest product industry.
73. Look at the effects of exporting round-wood or chips, other unfinished products.
74. Look at other activities that can be monetized (nontimber harvests, related activities -- hunting).
75. Look at sub regions, based on ecological (physiographic or economic) criteria.
76. Examine economically depressed area (even use as small area study) and role of forests.
77. Examine forest-dependent communities areas.
78. Compare chip mill with a local sawmill regarding employment and economic sustainability.
79. Contribution of various segments (furniture, veneer, etc.) of the wood products industry to the economy of the state.
80. Clarify definition of "forests" esp. in formulating questions of this type.

81. Dollar value breakdown by prospective industry: tourism and recreation; forest products industry, by segment.
82. Contributions of non-market values to local economies and communities.
83. Which forest practices provide sustainability of economic and other benefits?
84. Cost of maintaining public lands (state park, limited use and source of those funds).
85. Importance of value added from processing.
86. Effect of reduced timber harvest from USFS land and local economics.
87. Define "Local Economies"
88. Look at diverse markets for use as forested lands.
89. Examine tax base effects of 16th section and PILT and more equitable alternatives.
90. Consider forests in their role of creating wealth in rural areas.
91. Examine role of non market values in the retention of the land.
92. How do forests affect the tax base?
93. What is the dollar value added to local company.
94. Conduct economic impact analysis (specific to industry type)
95. Examine linkages between forest and other sectors of economy.
96. Examine multi-county regions. Define reasonable economic boundaries.
97. What motivates individuals and corporations to invest in the forest sector? (Includes: selected service sectors, recreation, loggers, site prep, and other contractors).
98. What is investment? (Include small firms)
99. What's economic value of intact forests (e.g., flow control, air/water filtration, scenic beauty)?
100. Comparison – economics, employment, economic sustainability, local communities – chip mill vs. local sawmill.
101. Contribution of various allied industries dependent on timber, e.g., furniture, veneer. Impact on the economy of the state.
102. Dollar value breakdown of prospective tourism, recreation, forest products, industry's segments.
103. When you talk about local economies, must include contributions of non-market values ref. to above question. Just say "externalities," positive and negative, e.g., clean air.
104. To what extent to various forest practices provide sustainability of economic and other benefits?

105. Economic costs of maintaining public park lands and where money comes from for any reserved lands.
106. Be careful not to define “local” too small, as mill has large shipping distance, especially recognize the importance from value-added.
107. Effect of reduced NF timber harvests on local economies. Watch definition of “local.”
108. “Please define forest. Do you mean a government-owned park that permits no harvesting of any material or wildlife or do you mean a monoculture plantation that is on a 30 season turnover cycle that bates and feeds deer or other game animals? Local economies need to ask the question. If we cut down most of our trees and make them into chips and ship them to Dave Moorehead and they get put on a ship and sent to a foreign port, what do we get back and why can’t we do what is happening in that foreign port? Or can the end product of chip mills only be made at a foreign port? Would the end products create no jobs or industry? My thinking is that if we grow the trees then we take them through to final product for sale to the end consumer, and that all by-products and the end point recyclable items are our responsibilities.”
109. What percentage of local economics or urban vs. rural?
110. Address historical changes in economics.
111. What role does Southern forests play in local, regional, national, international economies?
112. Consider the effects of forest recreation on quality of life ® economic effects.
113. Consider how much money stays in the local economies and Southeast, comparing forest industries to others.
114. Consider effects on property values (related to effects of forest recreation on quality of life).
115. How does valuation of the dollar (key currencies) influence what role Southern forests play in local, regional, national, international economies?
116. Compare forest product-based and recreation based economies on income quality of life (e.g., Southern Appalachians). (Service vs. Manufacturing)
117. Should consider the accumulation and distribution (within or outside region) of wealth that results. Include secondary impacts.
118. Consider how presence of heavily managed forest areas has influenced development of local economies (consider

diversification of economies). Historical basis.

119. Relating to above, what are effects on population migration?
120. Want to see how much of area population is sustained by forestry management.
121. Look at economic impacts of forestry industries on small/rural communities.
122. Address economic impact to Southeast if the same thing that happened in PNW happened to us (due to increase of regulation and number of acres taken out of timber production).
123. Use information from University of Tennessee Forest Products Center; \$17 billion to Tennessee.
124. How is tourism affected by deforestation?
125. Address economic benefits of alternatives to wood fibers. Include crops & alternative materials.
126. Use information from University of Tennessee Forest Products Center.
127. How is tourism affected by deforestation? Define deforestation.
128. Address economic benefits of alternatives to wood fibers. Include crops and alternative materials.
129. Economic value for recreation is greater than for timber in certain areas, such as the Georgia Mountains.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the supplies of and demands for forest based recreation and other uses of forests in the South? "

1. If the Western North Carolina soon becomes known to tourists as "the place of ugly, stripped mountains," many residents of this area could slip into poverty.
2. The assessment should look at the realistic need of wilderness lands for public recreation. While certain areas within parks and forest are used heavily. The vast majority sees very little public use. While many people call for it and think it is a good idea, from a scientific and economic standpoint, would additional set aside lands benefit the public any more.
3. What is the value of forests considering their aesthetic, recreational and social uses?
4. What impact do the current social/economic factors have on imperiled ecosystems (e.g., fir pulling on Roan Mountain)? Can this ecosystem and the endangered species that inhabit it survive this impact?
5. There is a desire for natural, native, biodiversity, naturally functioning ecosystems, compatible recreation like hiking, camping, birding, mushrooming, fishing, hunting, nature study, nature photography, scientific research, forest restoration, endangered, threatened and sensitive species, protection ecosystem protection, water quality and quantity protection, natural scenic beauty. ORV use in the forest causes erosion, sedimentation, dirty water, wildlife disturbance noise, loss of

solitude, air pollution, and other impacts.

6. What is the significance of non-market forest value? For example, how do market-driven industries affect non-market aesthetics, in the short and long term?
7. Forests once benefited local economies only when they were cut down. Then recreation became important and some communities debated the tradeoffs between timber jobs and tourism jobs.
8. Less well documented, is the quantification of non-consumptive uses that depend on forest wildlife settings (e.g. birdwatching and nature photography).
9. While managing for the social, economic, and ecological needs of current and future generations, recognize that these include non-timber goods and ecological services.
10. What are the supplies of and demands for forest based recreation, and other forest goods and services?
11. More recreational opportunity is to be left up to those who own the land and not those who think tourism is how these landowners should be forced to use their land.
12. Community, social and economic factors must be considered, including quality of life impacts, noise, air quality, water degradation, reduced property values, decreased Ash and wildlife populations and loss of recreational areas. How does intensive forest extraction and increased logging truck traffic impact a community and how recreation and tourism industries affected?
13. What is the economic value of intact forests in our region? How valuable are water and air filtration, flood control, scenic beauty and diverse plant and animal life?
14. I would like to stress the apparently non-economic roles of forests in the Southern US as a whole. These roles should be considered in any evaluation of continued wood chip production or the expansion of similar industries.
15. Other factors that have been traditionally ignored in assessments of commercial activities are the aesthetic qualities that accompany intact, multi-stage forest systems. Many people enjoy the peace, serenity, and variety that can be found in their local Southern forests. It has angered me that pure enjoyment and beauty are not regularly incorporated in management debates.
16. If you consider cost/benefit relationships of forest management, will you also consider them for wildlife, recreation, and wilderness uses of the forest?
17. Emphasize, not only economic values but values that cannot be

easily converted to economic terms (e.g., biodiversity, aesthetics).

18. Forest Service records show that recreation brings considerable revenue, \$112 billion annually, to State and local economies. Why are you minimizing this service by delegating it to one question under the category of Social/Economic Factors?
19. Recreation/Tourism Markets and Forest Management.
20. What are the demands for recreational opportunities on forestlands in the South? What are the trends and preferences for low and high impact recreation in South? How might developed recreational concessions influence future use of forestland. How will increased recreational use of forestland effect local economies.
21. What is the financial impact to tourism and recreation caused by the unsightliness of clearcutting?
22. What happens to the property values of the neighbors to a clearcut?
23. What are the opinions of tourists, both in state and out of state, regarding the visual impact of clearcutting and their willingness to return to that area to vacation again, and the financial impact associated?
24. Tourism and recreation based industries and value of non-timber forest products.
25. The use of data to determine how chip mills affect the economic base of a county that relies heavily on tourism and recreation. What are the tradeoffs and how do you put a price on many of these non-market values (externalities) that are priceless?
26. What is the economic value of southern forests when things other than just the timber value are considered: tourism, scenic beauty, water quality, soil erosion, etc. What is the economic incentive for leaving the forest alone?
27. I have also seen communities that suffer because of the presence of chip mills and lack of economic diversity. Areas that once held promise of recreation and tourism have become as sterile as its landscape.
28. Compare the demographics of counties with relatively high timber extraction to those without. How is the recreation and tourism industry in the South impacted by clear-cuts? What is the economic value of intact forests in the South (i.e. water and air filtration, flood control, scenic beauty, etc.)?
29. Economic tradeoffs associated with various forest management decisions, including impacts to local economies, recreation and tourism industries, and the like.

30. What is the economic value of intact forest in the South (i.e., water and air filtration, flood control, scenic beauty, etc).
31. What types of human recreational activities are having adverse effects on wildlife habitats and communities, and what are those effects?
32. I can foresee a time in the near future when the only part Georgia that will be suitable for ecotourism is that part of the coast that has the good fortune to be protected by the 1970 saltmarsh preservation law.
33. We need to protect Southern Forest as they provide us with so many resources and benefits.
34. Should there be restrictions on the use of motorized recreation on public lands?
35. The demands made on public lands for motorized recreation are entirely too taxing. Restrictions on RV use MUST be broadened, even to the extent of ending most RV use on public lands other than on existing paved roads (even there, limits on the number of vehicles should be made).
36. What is the economic value of intact forests, e.g., water, air, filtration, flood control, scenic quality.
37. Address effect of increased economic worth (all resource values).
38. Non-monetary values (intrinsic values - e.g., getting away from others, spiritual renewal, etc.) of forests need to be included.
39. Consider off-site impacts and links, responsibilities, and economic impacts (non-market values).
40. Forests needed for recreation, water quality, and wildlife habitat.
41. Address relationship between timber management and tourism (perception of incompatibility).
42. Compare values of uses in variation types of forest (managed vs. non-managed).
43. Evaluate role of public lands in recreations.
44. Broaden definition of recreation (hunt, fish, hike, bird watching, driving, also traditional uses- gathering).
45. Address role of all various ownership (industry, NIPE, public.)
46. Hunting clubs, multi-pack dogs impact on environment--Bird watching.
47. Consider loss of public access to private land (e.g. hunting).
48. Impact of non-timber uses on environment.
49. Inventory of scope of environmental education efforts in South (forest based).

50. Effects of decreased stocks/diversity of fish.
51. Independent to capture full range of rec. benefits.
52. Examine potential for marketable recreation activities.
53. How does develop must zoning affect QOL (planned vs. sprawl).
54. Identify the assessment of land used for various types of recreation.
55. Consider state resources and its utilization for recreation.
56. Consider use of (tax credits) incentives to protect habitat or use for the variations uses.
57. Consider role of education in conservation and use of public lands (private too)
58. Address developing markets for recreation (public/private lands).
59. Identify, address potential supply restrictions from liability laws. (How to market alternative forest uses, as impact on recreation supply.)
60. Define comparative advantages for recreation (other products).
61. Make sure non-timber extractive uses all addressed (related need for enforcement trespass laws).
62. How does use of public lands affect private lands? (Can compl. private land use help?)
63. Important to capture full range of recreational benefits.
64. Address marketable benefits ® hunting leases, licenses, etc.
65. Examine extent and potential for marketable recreation activities.
66. Examine QOL issues associated with forest conditions. How does development and zoning affect QOL (planned vs. sprawl)?
67. Identify the amount of land used for various types of recreation. What forms of recreation activity are available?
68. How are recreational funds derived for Forest Service lands (recreation, staffs, facilities, etc.)?
69. How many states utilize the National Trails Fund Act dollars?
70. How are recreation activities bundled (e.g., gambling, outdoor recreation)?
71. Consider – motor home/camping supply and demand.
72. Consider state resources and its utilization for recreation
73. Consider use of incentives (tax credits) to protect habitat – or use forests in various uses.

74. Consider role of education in conservation and use of public lands (private too).
75. Consider historical trends in recreation use - implications for future. Explicit re: full range of recreation and land ownership groups, capacity of groups to produce recreation opportunities vs. current use.
76. Consider effects of recreation uses on the environment.
77. Address international linkages – cost/environment impacts.
78. What is the comparative advantage of the forestry sector?
79. What are the opportunities for forest-based economic development?
80. “Hunt clubs on forested lands and the use of multi-pack of dogs destroying habitat. Birdwatchers spend more dollars than any other recreation ATVS. Impacts of non-timer uses on the environment.”
81. Inventory and scope of environmental forestry education efforts.
82. Effects of decreased stocks and diversity of sport fish.
83. Can we ID motivation of various forest owners to supply some recreation and not others, e.g., personal interest, banning some uses because of damage?
84. “Dude forestry” opportunities, e.g., historic steam sawmill. What can foresters offer recreation?
85. “At present, hunt club leases seem to be the only recognized recreation that foresters understand or permit. Frequently these leases exclude other uses especially the non-harvest users. Some hunt clubs permit large packs of dogs (in the 100s) to devastate other wildlife, non-game species, and habitat. Birdwatchers as a forest user recreation group spend more money per individual than any other group. Campers, backpackers, bikers, paddlers, equestrian and some ATV users may also be excluded from using forest. All or part of this group needs to be included when recreation can be permitted. User fees or yearly license could help pay for the necessary public safety patrolling and law enforcement. This would also help make sure that ATV users understand what they are doing to the environment and the danger of their sport. All the above need clearly delineated trails with markers and seasonal maintenance. The demand will increase for “forest based recreation:” so will the patrolling and the non-forester types of maintenance. Skidding of a single log by ATV or horse on a 4’ trail might be a novel idea whose time has come?”
86. Consider full range of recreation ® consider these in a spatially explicit manner (where do they occur?).

87. Identify suppliers of recreational opportunity - who owns the land.
88. Consider the longevity of different types of recreational demands. How long can land sustain various uses?
89. Consider existence and intrinsic values (also costs of acquiring these).
90. What are the economic and environmental implications of alternative fiber sources? (Include economic viability.)
91. Consider perception in difference of land use for different recreation types. Compare with forest management practices.
92. With recreation, how much money stays in local economy (flows out)?
93. How has technology affected recreation S & D? Correlation with changing technology.
94. Look at environmental impact of recreation – ATVs.
95. Want realization that forest management and recreation compliment each other.
96. What are the sources of educational programs making students aware of forest “facts”?
97. Concern: I’m convinced education isn’t priority. We must find out why those outside forestry community act and believe as they do.
98. Does timber production preclude recreational uses?
99. What is economic impact of various forms of recreation? Compare hunting vs. hiking vs. camping.
100. How do public vs. private lands differ?
101. Long term effects on ATVs on forests
102. Timber floating down streams caused by lack of BMPs affects recreation.
103. How does managed harvesting affect recreation?
104. Are less aggressive harvests more compatible with recreation?
105. What is the economic impact of timber production that excludes recreation (land set aside only for timber production)?
106. Firewood cutting is another use
107. Rotational length--what species are precluded by short rotation harvesting?
108. Economic impact of recreation on industrial and commercial forestland.
109. What is the trend for landowners who ship raw forest products out of the region?

110. If timber harvest is precluded on public lands, what are likely adverse impacts to adjacent private lands? Will there be insect and disease and wildfire problems?
111. If timber harvest is precluded on public lands, what are the benefits to private landowners?
112. If private land becomes industrial forestry, how does public land become more valuable for recreation and tourism?
113. Aesthetic and spiritual implications of the loss of intact old-growth forest



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

General Comments--Social/Economic Factors

1. Socio-Economic Impacts - We suggest that you use the framework put together by Ernie Neimi for South East Forest Project (SEFP).
2. The study should address the socio-economic impacts of intensive forest extraction and corporate forest ownership, tourism/recreation tradeoffs, economic costs of water quality degradation, non-market values of standing forests, the costs to taxpayers via subsidies to traffic, road degradation etc.).
3. Any assessment of the economy's response to changes in timber-production levels should reflect a realistic appraisal of the relative importance of the services and commodities derived from the forest and acknowledge the economy's dynamic character. Application of the economic-base model that consider timber production as fundamentally more important to the economy than the services derived from southern forests should be abandoned.
4. The assessment needs to give a realistic look at the impacts forestry has on the economy on both a local, sub-regional and regional level. The assessment may need to focus on small rural areas in some cases to get a realistic impact which changes in policy could have.
5. Analysis of the use of taxpayers' monies to support the forest-products industry by construction and maintenance of federal, state, and local highways.
6. With the growing demand on forests for products and services, what are the alternatives to meeting these demands?

7. How can landowners determine if management plan is appropriate?
8. Land use planning will continue to be a greater and greater “growth” tool, as well as to permit wider and wider mix of uses. Foresters and planners need to learn to talk to each other.
9. Social benefits of privately owned forests (esp. NIPF)
10. Social benefits to public of privately owned forests, e.g., storm water control, aesthetics.
11. Wants estimate of value of recreation benefits that are provided by private landowners but receive no compensation. What amount is taxed for providing those benefits?
12. Evaluate economic drivers that cause land use change.
13. Economic forces that made changes in land uses years ago.
14. Add tax laws are subgroup for study on economic trends.
15. Which states have any process in place for pre-notification of which stands are to be cut? How can public access this information? Who collects/gets this information?
16. Some type of dynamic or multidimensional “basin wide” planning strategy needs to be started and since we have no model to go by, then mistakes will be made, but we should try.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the demands for and supplies of wood products in the South?"

1. The trend in pulpwood production in the Southeast over the past 15 years. The trend in volumes of wood chips exported overseas.
2. The shift in production from the Pacific Northwest to the Southeast. Shifts away from solid wood manufacturing and towards wood chipping. Increased use of hardwoods. Increased exports of wood chips.
3. Increased demand for wood products (including a comparison of consumption in other industrialized countries and the relationship between production and consumption).
4. If restrictions are placed on forestry in the south, it should look at how the additional import of wood fiber from other countries will impact the region.
5. It should show how the removal of resource availability would impact costs to consumers on a variety of products.
6. The first Assessment question in this section should read, "What are the demands for and supplies of wood products FROM the South," not "...IN the South." The Assessment should recognize the national and global markets which drive the production of forest products in the South and that wood products produced IN the South are not necessarily used IN the South. The Assessment should also note that as demand for wood products rises, so does the price of these products. This increases the attractiveness of products made from alternative resources, which are more detrimental to the environment since they are most often

nonrenewable, require more energy to produce, and emit higher levels of toxic substances in the manufacturing process.

7. With the demands of the timber market in mind, what is the long term vision for these forested ecosystems?
8. Why are we not keeping wood here and adding maximum value to wood products and then selling to others overseas?
9. We need to look at how much timber we need and work toward that goal, that otherwise we could log ourselves out of business, just as we farmed soybeans until the market fell out from under us.
10. Analysis of tax subsidies for timber corporations and businesses, i.e., tax subsidies for the export of raw forest products.
11. What Are the Full Costs of Producing and Processing Timber, and Who Bears Them?
12. Who Would Be the Economic Winners and Losers If Logging Levels Continue to Increase?
13. A full accounting must be provided of the true value of each affected good or service, taking into account the market price, where appropriate, as well as all factors, such as subsidies, taxes, and environmental externalities, that distort the level of supply or demand. Some of the benefits and costs will manifest themselves in the immediate vicinity of the resources affected by logging, while others will manifest themselves at greater distances. To understand the resulting impacts on jobs and incomes, one must consider the changes in demand and supply against the backdrop of the markets' ability to adjust. In addition, one must examine both the overall change in jobs and incomes as well as the distribution among different groups. The state and federal agencies should describe, at least qualitatively, the winners and losers associated with changes in timber production. Where there are sufficient data, they should quantify the size of each group and the extent of their gains or losses.
14. The timber market and demand for wood has nothing to do with what makes a forest sustainable. Timber harvest is not a prerequisite for forest sustainability, but rather a possible by-product.
15. Assessment should provide a general perspective on the global situation in which the South's forests and forest industry must operate and compete. Identify the relative competitiveness of Southern forestry with other parts of the world, and how current competitive pressures are affecting the forest industry and its efforts to increase growth and productivity.
16. In Louisiana we are cutting softwoods and hardwoods faster

than they are growing.

17. Consider possible reductions in sawtimber silviculture as a result of chip mill incentives, including the international export of raw forest products; incentives for cutting immature cypress to produce landscaping mulch also should be examined.
18. What are the demands for, and supplies of forest goods and services?
19. The Assessment should provide a general perspective on the global situation.
20. Southern forests will be affected by the projected increases in world population growth and demand for wood and paper products, as well as competition from wood producers from around the world. Forest product companies in the South must be globally competitive to achieve sustainable forestry. The Southern Assessment should provide a general perspective on the global situation in which the South's forests and forest industry must operate and compete. The Assessment should identify the relative competitiveness of Southern forestry with other parts of the world, and how current competitive pressures are affecting the forest industry and its efforts to increase growth and productivity.
21. Assess the global situation the timber industry must compete in.
22. Demands for and supplies of wood products in the South. Include history status.
23. Document effects of less logging in the West/more in the South.
24. Global competition has forced our hand in all aspects of forestry for America and this must also be taken into account when looking at trends that are affecting the South today and in the future.
25. Will you be able to factor in the advances of modern silviculture into the growth/drain predictions?
26. How will you factor in the global pressures into future demand?
27. What are the current and future impacts of the south moving from a value-added products industry (sawtimber, furniture) to a value-lesened industry (pulp & paper, chips)?
28. Include projections of future demand at the regional, national, and global levels.
29. The projected acres of conversion of native forest, both public and private, under various demand scenarios.
30. The question being, of course, whether much of those wood ""products"" can be replaced using recycled materials, or reclaimed wood, or--in the case of paper, for example--other,

more sustainably grown fibers. Additionally, how many Southern forests have to continue to be sacrificed for low-grade uses such as wood pulp?

31. Wood products are in great demand in the South, especially for pulp. However, if it were only being used in the South, it wouldn't be so worrisome an issue. The shipment of pulp to other parts of the world from the Southeast is putting more of a demand on our forest resources. Our forests are finite - we cannot continue to cut them at the current rate. Trees that would have previously been left to grow for lumber are being cut for pulp. Mechanization of the timber industry is increasing the rate of harvest. I live on the Western Highland Rim of TN - it is going fast!
32. Impacts from lumber production and wood chip production should be assessed. The true costs of commodity production from our national forests should be spelled out.
33. What are the current growth to drain ratios for the 13 states in the South? How are growth to drain ratios affected when projected increases in demand from Southern Forests are factored in over the next 50 years?
34. The demand for forest products is expected to rise rapidly as countries, such as China, increase their usage. The Southeast is ideally positioned to responsibly supply a portion of this new demand. Further development of scientific management techniques, such as clearcutting, chemical uses, and genetic improvement, will continue to keep these forests on the forefront of environmental stewardship.
35. Itemize demands and supplies by species and commodity classes and provide history of what is/has been utilized.
36. The growth of chip mills and the number of new chip mill permits have risen incredibly over the past ten years. Each day I see trucks roll through Milledgeville loaded with slash pine the diameter of baseball bats. Certainly there is a need for chip mill products; however, in my opinion the industry is growing faster than it can sustain. In the interest of the quality of our southern forests, and the quality of life in the south, I urge you to stop giving permits for new chip mills.
37. Please address the availability factor of total forests vs. forests on slopes too steep to cut, in sensitive areas, protected areas, urban areas and the like. What percentage are available for clearcutting and what percentage are likely to be clear cut in the foreseeable future? In the Pac NW of the US, the slope steepness was no longer a consideration, once overcutting forced industries to reach higher and harder for profits.

38. Pulp and paper companies in the deep south have already over cut their sourcing areas and NEED to import chips from far upstream. What are the trends for chip sourcing areas for these industries. Where mills previously sourced from a 75 mile radius they are currently trucking up to 150 miles and shipping hundreds of miles. Does this indicate non-sustainable consumption habits? If we are facing a shortage in forest resources and decimation of regional economies, would it not be prudent to reduce exports of raw forests and products? We are having a liquidation sale without even knowing what the inventory is or what we sold.
39. What would be the acreage of native forests needed to feed a BE demand vs. the acreage needed if SRWCs were used? What is the 25 MW BE plant demand of tonnage/year. I have seen the figure of 300,000 TPY: is this accurate? Is there a plan to do an EIS on Biomass Energy production since it is using federal money and will rely upon federal air quality and water permits?
40. Wood products are in great demand in the South, especially for pulp. However, if it were only being used in the South, it wouldn't be so worrisome an issue. The shipment of pulp to other parts of the world from the Southeast is putting more of a demand on our forest resources. Our forests are finite - we cannot continue to cut them at the current rate. Trees that would have previously been left to grow for lumber are being cut for pulp. Mechanization of the timber industry is increasing the rate of harvest. I live on the Western Highland Rim of TN – it is going fast!
41. Forests provide clean drinking water, protect habitat for hunting and fishing, and improve the quality of life for families throughout the South. Corporations must not build any new chip mills until we have more information about their impact on forests and have adequate safeguards in place for the forests.
42. What are the adverse impacts of chip mill proliferation in the forests of the Southeast? When will the devastating ecological impacts in our forests due to chip mills cease? How long will we allow the destruction of our forests for the sake of excessive pulp production?
43. Please save southern forests. Don't allow industrial-chip mills to eliminate southern forest heritage. These forests provide habitat as well as improve water quality and other aspects of the environment. Corporations must not build any new chip mills until there is adequate information of their impact on the forest. Please thake this into consideration. Thank you.

44. What are the regions/products that compete with the timber products that the Southern forests produces? What is the outlook for these competitive regions/products on a larger scale?
45. How do new silvicultural practices impact productivity of Southern forest?
46. What is the overall impact of modern forestry practices – assessment done by subregions & ownership?
47. Do other parts of the study affect management?
48. Creditable? Overall lack of data--is it fair?
49. Is there a ranking of area of priority?
50. What are the current available supplies? What is supply of available land?
51. Forest management plan? Landowner objections?
52. What is effect of wood supplies in the South on the competitive pressures on southern wood?
53. Address availability of wood.
54. What about foreign demand? From Japan, Chinese, economy in South America?
55. What is future supply and demand> Global supply and demand?
56. Factors beyond our control was weather, earthquakes,
57. Need accurate and current measures of demand.
58. Consider reductions in timber production in other regions of U.S. on South.
59. How much of timber inventory is/will be actually available?
60. What is the potential timber supply given technology (i.e., intensive management)?
61. The demands will increase and the supplies will also increase, but the quality overall will decline in timber or solid wood categories. Chipping needs lot of study now. Other fiber and pulp mills need to look at alternative plants or growing methods. Biomass of C-4 plants may be able to be cropped and processed easier and with less pollution. A pound of fiber, per growing area, per length of time is the name of the game.
62. Paper/50/id wood or classify total need
63. Assess impact of alternative fibers – AG fibers
64. Alternative materials substitutes for wood.
65. Fax incentives on forest management / export of materials.
66. Financial incentives for more intensive forest management.
67. Locations of markets in respect to fiber source.
68. Are there available rural markets? Water?

69. Junk species underutilized such as rooked, cull, etc.
70. Consider worldwide demands on the South. How will other regions (i.e., South America, Asia) impact southern forest management?
71. What products will be in demand?
72. Can productivity support demand?
73. What is ratio of growth/cut?
74. What are regional differences in ecological zones?
75. Keep in mind global competitiveness.
76. There are sub-regional differences that need to be factored in: (1) economics, (2) public expectations, and (3) geographic differences within a given State, i.e., SE Georgia/North Georgia.
77. The global economy and its impact on the South's ability to meet the demand for wood products should be assessed.
78. Why are there differences in prices across the South?
79. Diversity of forest products, i.e., are we selling the right stuff?
80. Look at attitude of NIPF landowner and why they invest in forestland.
81. Consider the increase of production based on improved practices on the same acres.
82. Assessment needs to look out 10, 15, 20 years.
83. How much do we need to grow and how much needs to be fed into the economy?
84. Are we willing to export? And if so, how much should we export?
85. Need to consider urban sprawl and how much that will take out of production. What are they doing to mitigate the impacts?
86. What are they and what are they going to be? (Impacts of urban sprawl).
87. Predict present and future demands exceeding supply by subregion of the states.
88. Examine effects of intensive forest management on the supply picture.
89. Use earliest reliable data available, e.g., don't stop at 1952.
90. Examine changes in wood utilization practices.
91. Need to define wood products beyond paper.
92. Tie utilization to increased forest production in Southeast.
93. Determine how free markets influence supply and demand.
94. How is certification going to affect supply/demand?

95. Address how demographics affect changes.
96. Examine if agriculture land is being made available to grow trees.
97. Why does government want to know this information? Why are we doing this, e.g., it is role of private industry.
98. How do you define wood products? Finished products? Raw material? Import/export?
99. Recommendation to assess total products picture including national and international - (1) standing timber volume, (2) finished products.
100. Consider various regional significances.
101. How does one landuse impact affect another use of the forest?
102. Discuss forest sustainability considering changes in soil ph (acid rain), pests and diseases, chip mill extractions, export of domestic raw and finished products (chips and board), biomass energy demands, declining forest age classes, short-term growth notations, especially pulpwood and soil nutrient depletion.
103. Discuss/project growth /yield under intensive management.
104. Get information from this study to private landowners.
105. Can intensive management on tree farms take the pressure of public and non-industry forest lands?
106. How is the timber market impacting other uses of the forest?
107. The global economy and its impact on the South's ability to meet the demand for wood products should be assessed.
108. What are the removals versus growth?
109. What are the conditions of pine and hardwood plantations (i.e. ownership, acres, age)?
110. What is the magnitude and impacts of imports and exports?
111. What is the end use (products) of what the forest are supplying?
112. What are the sources of demand on wood products (local, national, international)?
113. What are the impacts on resources with the changes in manufacturing from solid wood products to engineered products (OSB, etc)?
114. How will the above effect changes in timber supply?
115. What is the impact of chip mills?
116. What is the demand on southern resources due to the demand of wood sources from the NW United States?
117. Discuss the future status of extraction activities on national forests.

118. What will be the impact of international wood sources on markets in the south?
119. Will there be a lands use availability crunch due to the settlement of populations in forested rural areas?
120. What are the future demands and markets for wood biomass?
121. What are the demands on forest resources caused by urban expansion?
122. Discuss trends using more productive and efficient forestry techniques.
123. Described gas drilling impacts on forest lands and waste of timber associated with it.
124. How does the alternative use of materials (steel, plastic) effect supply and demand of wood products?
125. How does domestic vs. global demands affect the forest resources?
126. What is going to be the impact on new types of products on rate of removal?
127. How have the demands of different components (saw timber, pulpwood, hardwood, pine) changed overtime?
128. Will you study or just collect data; will it project future scenarios.
129. Examine supply and demand on global level and affects forest resources.
130. How has the supply and demand been affected by agricultural programs?
131. How does the South compete with the global market? (i.e. regulations other countries do not have affecting their management)?
132. Is there more demand than supply?
133. Has the U.S. Forest Service contributed to the problem of more demand on private land by reducing sales?
134. How has forest research affected productivity and efficiency on corporate forest lands?
135. Describe replanting of hardwood trees vs. soft wood plantations and how does this affect loss of forest diversity.
136. Discuss supply side economics under current conditions.
137. What is the competitive pressure by foreign markets on supply and demand?
138. Describe commercial logging on public land the loss of timber on public lands associated with changing political landscape.

139. Increase multiple uses of public lands; decrease forest harvest; improve wildlife habitat, biodiversity, and other natural resources.
140. Discuss the burning of hardwood trees on softwood plantations and loss of diversity.
141. Calculate increases in forest management practices needed to offset losses (harvest acres minus replanting acres); example: an increase of one quarter of a cord per acre per year in Alabama would offset current losses. Alabama now producing five and one half cords per year now.
142. Discuss harvesting techniques, logging roads and erosion associated with a helicopter logging; can demand be met with different (low impact) forest harvesting techniques described the various state forestry programs by state.
143. How good are existing programs?
144. Are additional regulations needed to reduce impacts to resources?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the status and trends of forest management practices in the South?"

1. Consider methods such as selective cut practices to replant harvested areas with many species of trees.
2. The trends in forest management in the southeast (what percentage of cuts are clearcuts vs. select cuts and how has that changed over time? How many acres of forest were clearcut annually for the last 15 years?) The trend in cutting cycles/rotations and growth to removal ratios. The trend in pine conversion over the past 15 years. (What percentage of softwood and hardwood forests have been converted to pine plantations?)
3. Overcutting of softwoods throughout the South.
4. Increases in pine plantations, including the use of fertilizers, herbicides, and genetically engineered tree species. Shortened cutting cycles.
5. What are the cumulative effects of loss of mature forested habitats from clearcutting?
6. What are the potential long-term consequences of intensive pine management using increasingly shorter cutting cycles? What are the long-term consequences of the increasing use of genetically engineered species of trees in intensively managed pine plantations.
7. We all agree that the impact of current logging practices is having significant impact on the conditions and nature of SE forests and watersheds associated with these regions.
8. Documentation should include the comparisons of natural pine

versus regenerated pine areas.

9. What are the current forest productivity levels versus historic productivity? What may be future productivity levels? Are these levels of productivity sustainable? What might be the optimum level of sustainability under several management alternatives?
10. What has been the effect of past harvesting practices on timber quality? What is the productive capacity of the southern landscape to produce fiber if managed based on proven silvicultural methods?
11. We feel prevailing wisdom insinuates harvesting timber is the biggest threat to forest sustainability. If done correctly, harvesting timber combined with follow-up silvicultural treatments quite often leaves forest ecosystems more productive and healthy. Silviculture is one of the forestry community's best tools to proactively address forest health and sustainability issues.
12. We do not need more monoculture pine farms, herbiciding, clearcutting, seedtree cutting, shelterwood cutting, salvage logging, SPB logging, soil baring, roading, and compaction by large machinery.
13. An increased emphasis on shorter rotations, herbicide use, fertilizer use, burning to kill hardwoods, heavier and larger equipment, building more roads, using more tops and limbs of trees instead of leaving them for coarse woody debris, logging in riparian zones, even-age management, wood chipping, logging of hardwoods and bottomlands, and logging unsustainably by cutting more wood than is grown.
14. How many cycles of pine-tree growth can a piece of land sustain before it gives out, the way an old cotton field gives out? We've seen three and four cuttings now off one piece of land, but without heavy applications of harmful chemical fertilizers and pesticides, I don't see how a piece of land could withstand such a relentless harvesting. We rely on multiple rotations now, but I can't see how they will be sustainable.
15. If you make a set of recommendations, please consider these: 1. It should be absolutely illegal to log old-growth of almost any species, but especially those in hardwood hammocks, cypress sloughs, gum swamps and upland pine flatwoods. And live oaks.
16. For the sake of ecosystems, we must encourage selective tree forestry as opposed to destructive practices like clearcutting, bedding, herbiciding and wind-rowing.
17. Long leaf pine production has a longer growing curve, but with practice of efficient forestry practices will benefit wildlife, and

have a continuing forest resource forever.

18. We are ripping through the forests of the South with our chainsaws and chip mills and no regard for the future, much less the beauty of things we destroy. The repercussions of non-restraint for our wildlife, health and local economies are dire. We do not have much in Tennessee if you take away the trees.
19. Commercial logging should be specifically mentioned as a factor that has impacted our forests.
20. Advanced silvicultural techniques can further increase production, while affording the opportunity to manage other forests for their special qualities and values. Intensive management on a few acres can also have the positive benefit of taking pressure off of natural areas (Sedjo & Bodkin, 1998). This, intensive forest management has its place in the range of forest management techniques that contribute to the goal of sustainable forestry. Assessment should identify current trends in increasing forest productivity on the best and most productive lands, and how forest managers are customizing forest management to manage forests for different uses and values.
21. Assessment should also address how substantial investments in reforestation and plantation establishment by the private and public sector, and the accelerated growth and productivity of these forests, have contributed to the availability of commercial fiber and the conservation of other resource values.
22. Regeneration of many NIPF lands is not occurring in a satisfactory manner.
23. How will you include a look at the OVERALL effects of types of cutting practices? Will you be including an examination of the amount of clearcutting going on regionally? And the effects of each cutting method on the environment?
24. Fire suppression and conversion to short-rotation pine species have significantly reduced the acreage of longleaf pine habitats.
25. The proposed sustainability study address how short-rotation silviculture could be enhanced to incorporate some of the structural elements of later-successional forests.
26. We recommend that the study examine silvicultural practices that would allow other pine species to be managed for the benefit of those fire-adapted communities.
27. The study should investigate the future availability of bottomland hardwood nursery stock for reforestation and habitat restoration projects.
28. Decrease the proportion of an ecoregion in plantations while

- increasing the species and genetic diversity of those plantations remaining.
29. Attempt to increase the productivity of timber species, reducing the ration of net timber harvest to net annual growth.
 30. In relation to ecological sustainability, what are the status and trends in forest management?
 31. Assessment should also address how forest management improves habitat, wood quality and productivity of the overall southern forest resource.
 32. Advanced silvicultural techniques can increase volume in both pine and hardwood forests. Current trends should be identified to increase forest productivity on the best and most productive lands, and how forest managers are customizing practices for other cultural uses and values.
 33. The Southern Assessment should also address how forest management can both improve wildlife habitat, wood quality, and productivity of the overall Southern forest resource.
 34. Assessment should also address how substantial investments in reforestation and plantation establishment by the private and public sector, and the accelerated growth and productivity of these forests, have contributed to the availability of commercial fiber and the conservation of other resource values.
 35. Substantial opportunities exist to further increase timber volume through intensive forest management in both pine and hardwood forests. Advanced silvicultural techniques can further increase production, while affording toe opportunity to manage other forests for their special qualities and values. Intensive management on a few acres can also have the positive benefit of taking pressure off of natural areas (Sedjo & Bodkin, 1998). Assessment should identify current trends in increasing forest productivity on the best and most productive lands, and how forest managers are customizing forest management to manage forests for different uses and values. The Assessment should document the record of accomplishment of the various private and public sector efforts to improve reforestation and increase timber supplies that have resulted in positive reforestation and forest growth trends.
 36. Advanced silvicultural techniques have greatly improved forest productivity. The Assessment should reflect this improvement.
 37. Analyze how present forest management programs improve wildlife habitat, wood quality, and productivity of our forest resources.
 38. Document investments in reforestation and plantations by the

public and private sector have contributed to more commercial fiber and the conservation of other resources.

39. Improvements in the science and practice of forestry should be reported in detail.
40. As forests are clear-cut and replanted to all pine or single species hardwood, biodiversity is lost and the quality of soil, air and water are challenged.
41. How will you include past forest practices into your projections?
42. As recently as the turn of the century, one-hundred-plus-foot pines blanketed America from the Atlantic Ocean to the Mississippi River. Very Little virgin forest remains in Georgia and it is VITAL that what is left be preserved as a precious resource.
43. Several studies show that the detrimental effects of clearcutting are long lasting and possibly irreversible. One shows that southern Appalachian forests fail to recover the full complement of their ground species even 85 years after heavy cutting. Under one popular management scheme--clearcutting on an 80 year rotation--there is potential for substantial species loss.
44. Clearcuts invite invasion by exotic species such as kudzu, privet, multiflora rose, ailanthus and others, There species have excellent seed dispersal mechanisms, grow vigorously in openings, and are only controlled by expensive and toxic means, once established.
45. What happens to the fertility of hardwood forest land clearcut after one cutting? Please comment on carbon and microbiotic losses to sunlight, changes in cation/anion balance, change in moisture content, underground migration of nutrients. What happens to the fertility of forest land after several successive clearcuts? Do clearcuts leave surrounding forests more vulnerable to edge effects such as crown loss, wind shake and penetration by invasive exotic species? Are these species such as kudzu, privet, multiflora rose, ailanthus and others more likely to grow in openings made by clearcuts? "Overmaturity" is said by Tennessee State Forest authorities to be the "greatest threat to our forest". Please comment.
46. What are the impacts of agro-forestry (pine plantations) on the health of the surrounding ecosystem, viz. water quality, toxic chemicals, migratory birds etc.? What are the effects of intensive timber extraction on soil fertility?
47. Even though the scale of reforestation efforts should factor into calculations of "sustainability", this does not translate into ecological maintenance or restoration of habitats.

48. Can trees continue to be grown as a crop using the kind of intensive management that is most common?
49. What is the impact on the soil of replacing a diverse hardwood forest with a monoculture pine plantation?
50. What is the impact on fuel load buildup and potential fire hazard of replacing a diverse hardwood forest with a monoculture pine plantation?
51. What is the impact of disease on a monoculture pine plantation as opposed to a mixed hardwood forest?
52. What is the difference in the type of forest that regenerates from a clearcut (stump sprouts, etc.) as opposed to one that regenerates from selective harvest?
53. What has caused the change in the definition of what a "mature forest" is from the historically much older definitions used in the past to the current definitions of hardwood cut on an 80 year rotation and pines cut on 30-40 year rotation, and how is this impacting the industry?
54. What are the potential side effects of increased pine conversion: pesticide, herbicides and fertilization?
55. The effect of intensive timber harvest on soil fertility and productivity. The impact of monoculture plantations, shortened rotations, and increased clearcutting on the sustainability and ecological diversity of southeastern forests.
56. How much of the clearcut hardwood forests are left to regenerate naturally and how much is replanted in native and nonnative hybrids or species? How successful in terms of tree survival, species diversity and composition are these methods of forest regeneration in areas that have been cleared one or two times in the past?
57. What degree of forest harvest and wood using industries can exist before it begins to detract from the development of potentially more valuable industries? Has this conflict point already been reached or when will it be reached?
58. On the Western Highland Rim of TN it looks like fewer people are holding onto their forest land and maintaining them as forests by selectively cutting as in the past. Economic pressures are forcing more people to cut their forest land, with clearcutting as the predominant mode of harvesting. Less land is being replanted in pine in our area, which is for the best. Regeneration at least will eventually produce the natural hardwoods again, although it is difficult to say if it will be the same forest as before clearcutting. Some local land trust work is protecting large forests through ownership, conservation easements, and

cooperative management. We need a lot more of this.

59. In Arkansas, forest management has obliterated the forest. I took my wife on a drive several years ago to show her where I hunted as a boy. I cried! When I saw thousands of acres of hillsides without a single tree left standing. This is unacceptable!
60. To date the practices of tree farming in the South have posed a great threat to maintaining healthy ecosystems. Monoculture has created weaken gene pools in tree species making the susceptible to disease and more vulnerable to fires, soil erosion, storm damage, etc. Songbird declines are in evidence in part due to the trend towards monoculture in forestry.
61. What is the whole effect of the shorter growth time before harvest and clear-cutting on mature forest dependent species? What will the effect of loss of private forest have on the small amount of public forest land?
62. New? How about the ancient 'technology' of silviculture? Clearcutting and high-grading should be considered old-school harmful technologies.
63. The study should evaluate the effects of what the continued shift of the forest products industry to the Southeast will be in terms of ecological sustainability and non-timber economic well being in the future as it continues.
64. My own family property once involved in plant crop production is now entirely in long leaf pine production. It is a renewable crop much like the food crops which we once Shepherd. Similar, except now we have a longer growing curve, but wit practice of efficient forestry practices will benefit wildlife, and have a continuing forest resource forever.
65. In a single year, one chip mill can potentially cut 10,000 acres of forest. Pine forests are not natural!
66. These [pine] plantations have 95-99% fewer species than a natural forests.
67. History has resulted in tremendous losses of bottomland hardwood forests.
68. I feel strongly that our forests are not being re-grown at an appropriate rate, and chip mill use only increases this uneven cut/grow ratio.
69. The proliferation of industrial-scale chip mills is having too great of a negative impact upon our landscape, both forests and water quality.
70. The Forest Service should prepare a comprehensive Southeast Forest Management Assessment to look at the environmental impacts of both the mills and the clearcutting practices. After

years of intensive traditional logging, the hardwood forests of the Southeast have begun to recover. This is no time to escalate the destruction of these forests.

71. Request that actions be taken to protect southern forests by not allowing any new industrial chip-mills to be built until further information is known about the impact it will have on the forest.
72. Why do corporations get to mill an entire forest for profit and then leave, when its obvious that they should pursue a RENEWABLE methods for forest industries.
73. We would like to see a slow down of the cutting of trees and an incentive to encourage diversity in tree planting. It would be nice to see more real forests as we drive through our Southern States and less clear cuts and tree farms.
74. Chipmills destroy 10,000 acres of forest each year. They encourage clearcuts which result in monoculture pine plantations which have 90%-95% less space than a natural forest.
75. We are losing a heritage in hardwoods, beautiful oaks, poplars, maples, hickorys, and all, to their replacements, a monoculture of pine trees, plantations of them!
76. Our native forests will become tree farms, as they have become in Europe. We will need to fertilize the forests to create the timber products that our country relies on. This will lead to higher costs and pollution.
77. I wanted to be sure to register my concern at the proliferation of chip mills in the southeast. I strongly urge the Forest Service to have a moratorium on the construction of chip mills for at least five years.
78. How many rotations of biomass harvests can the typical pine farm/desert in the southeast sustain before growth rates diminish to non-productive lands? How much time is needed to recover soil fertility once depletion has occurred? Please address the differences in sustainability of native long-leaf pine communities vs. man-made pine deserts. How much of the long-leaf pine ecosystem will be allowed to survive?
79. Fertilization of plantation soils is increasing. What are the implications to soil ecosystem health from unnatural levels of macro-nutrient applications. Address the effect of chemical fertilizers and biocides on the living components of soil ecosystems and expected recovery times post-assault.
80. On the Western Highland Rim of TN it looks like fewer people are holding onto their forest land and maintaining them as forests by selectively cutting as in the past. Economic pressures

are forcing more people to cut their forest land, with clearcutting as the predominant mode of harvesting. Less land is being replanted in pine in our area, which is for the best. Regeneration at least will eventually produce the natural hardwoods again, although it is difficult to say if it will be the same forest as before clearcutting. Some local land trust work is protecting large forests through ownership, conservation easements, and cooperative management. We need a lot more of this.

81. What are age class distribution and the spatial relationship of these types?
82. Reforestation efforts in the south have been very successful and this serves as an example that reforestation can work.
83. What are the positive effects of intensive forest management?
84. Define terrestrial at a finer definition other than by forest type. Do not use broad forest types that leave out specific hardwood tree species groups.
85. What hardwood community is the USFS referring to in the FIA data when speaking about hardwood growth exceeds removals? Should narrow species classifications to smaller hardwood groups then report the data results?
86. Will the available data allow for distinction between native forest types and highly managed forest types?
87. Define timber land. Stated there was little change since 1950s; this may not include native hardwood losses.
88. Future impacts of silvicultural activities on wildlife habitat.
89. Need analysis on how forest management improves wildlife habitat
90. How can management play a positive role in the future of forest-dependent wildlife?
91. What are the short- and long-term impacts on wildlife (including non-game birds, threatened/endangered species, and game animals) of maximizing forest management activities in a river basin or watershed?
92. Age of forests is important. Are we managing adequately to ensure adequate representation of all forest age classes?
93. What is the effect of vegetation removal from a tract of land on that tract's soil (nutrients, soil mobility, etc.)?
94. What are cumulative effects of shortened relations; increased clearcutting on species of plants?
95. Animals that depend on mature forest habitat.
96. Look at forest management practices by timber companies: specifically complete clearcutting and use of toxic herbicides in

regards to destruction of wildlife habitat.

97. Retention of contiguous, native forests. Protection of streamside buffers. Emphasis on development from within urban areas rather than from without (land valuation causes sprawl). Timber harvest must be limited to BMPs reflecting selective cutting.
98. The assessment team needs to address how forest management vs. no forest management enhances and sustains biodiversity.
99. What are the cumulative impacts of all management, i.e. agriculture, timber?
100. In addition to ownership (item 1 above), evaluate forest age classes by forest type (e.g., plantation, wilderness, etc.).
101. How can exotic species be controlled?
102. What future habitat changes will occur as a result of changes in plant/tree species as a result of changes in plant/tree species distribution and frequency, caused by clearcutting and conversion to monoculture pine plantations.
103. How have shortened rotations, increased clear-cuts, and increased acreages of monocultures (especially pines) affected forest-dependent species? Give at least as much weight/attention to species adversely affected as given to those affected positively or relatively little.
104. What are the cumulative and synergistic effects of roads, shortened rotations, increased clear-cutting, and increased use of forest monocultures on forest-dependent wildlife?
105. Differentiate between a natural forest and a managed forest.
106. Endangered species and forest management – is there an effect on one by the other? What relationship exists? Are they negative/positive?
107. Interaction of different management techniques on adjoining lands.
108. How can we maintain existing public lands and acquire more lands for the public?
109. “The Corps of Engineers has inundated thousands of acres of forest land as a result of past practices and these losses have to be mitigated for. Those mitigation lands should be forested and used for sustainable yield forestry. In the foresting of these lands, some species should be planted for the purpose of harvesting and some should be planted for wildlife benefits. These areas that could be harvested would provide jobs to local loggers. In addition, management plans should be written for these lands.”
110. “The Corps of Engineers has inundated thousands of acres of

forest land as a result of past practices and these losses have to be mitigated for. Those mitigation lands should be forested and used for sustainable yield forestry. In the foresting of these lands, some species should be planted for the purpose of harvesting and some should be planted for wildlife benefits. These areas that could be harvested would provide jobs to local loggers. In addition, management plans should be written for these lands.” Impacts of old forest to young forest (i.e. shorter rotation lengths, species monoculture)? Effects of rotation and species composition on species populations – past and present comparisons. Partners in Flight may have information. Some segments of the timber industry are looking to manage for short rotation - how can we encourage the market for long-rotation timber products? Clearcutting reduces protection for surrounding forestlands as a result of severe storms, etc. Look at how land owners forest lands are affected by timber harvesting practices. Forest management varies greatly in the south because of ownership patterns (89% of land base in private ownership). Effect of logging on previously strip-mined areas - destabilizing? FS doesn't want to recognize “old growth” as a valuable commodity - it is valuable biologically and we should protect existing old growth and manage for additional old growth. How have forest management and natural disasters (e.g., Chestnut blight) influenced current forest condition? How do taxes and other regulatory measures impact forest management practices? What is the impact of the Tree Farm Program across the South? Assess overall increased productivity of forestland from incentive programs and land-use changes! Assess the impact of non-industrial private forest landowners educational programs. Assess the overall impact of wildlife practices on forest management practices! Assess the overall impact of ongoing Sustainable Forestry Initiatives (SFI) around the country! Identify opportunities for intensive forest management. Fertilization/Improved genetics and tech applied to (non-industrial private forests) NIPF. More fiber on fewer acres, more Science Rules and regulations have a cost. What trends for NIPF to practice intrusive management? Check with AF & PA -past data on harvest practices Evaluate future trends in positive economics to grow trees. Project changing impacts on timber supply. How much product loss from unavailable parts of forest Identify new technology. Where is research? Can data be offered at River Basin? Assess benefits and costs of SFI. What impacts of “certified” wood products? What are the states and trends of Best Management Practices? What is the current status? How many are joining F.L.A.? What is the effect of BMP’s? Is there data? How much effect of voluntary BMP’s on landowner

willingness to harvest timber? Assess legislative and policy decisions affecting forestry on Federal, State and local level. Assess pressure for certified timber and cost relationships. "Chain of Custody." Is it economical? Look for opportunity for enhanced forest management techniques and other site impacts. Consider forest management in other area of the U.S. and world. What are practices 10 years ago vs. today? What is the loss of quality with move to fast growing species? What is the public perception of loggers? How will non-timber uses influence forest management? Will intensive management give opportunity for other/special land uses/management? What influence will SFI have on forest management in the South? Monoculture, clearcuts, up-scale equipment, and shorter growth cycle times seem to be the trends. Kind mind? How do other agencies manage for other uses? What is the trend? Major focus of assessment should be toward NIPF since they own the majority of the land. What is future role of Federal incentive programs? What kind of acres might be involved? Geographic differences across South - a factor? What are differences among sub-regional trends and why (re: landowners)? What is difference between government land management and private land management? Break it down by ownership: Intensity; Industry (break this category down); Government (break this category down, e.g., NPS, NFS); NIPF (by incentive program impacts). Evaluate impacts of incentives programs on forest management. Stratify NIPF by land size class - has impact on availability of material to the marketplace (relate to issue #1). Evaluate differing management objectives of different land ownership classes or groups and impact. Look at impacts of industry-initiated programs such as SFI program. Look at regulatory programs and their impacts on forest management. Look at potential productivity of the different land classes. Look at impact of other industries such as poultry waste being applied to forest land. What are the yields of management practices? By landowner class? By type of management? Need to figure out the tradeoff of intensive management on a few acres vs. extensive management on a lot of acres. Evaluate the extent of NIPF lands that are not being reforested after harvest. What is the difference in management practices by ownership size? Fragmentation causing problem. Evaluate role of the southern hemisphere in world markets and what part the Southeast U.S. plays. Give consideration to the potential that the southern hemisphere will pass up Southeast U.S. in production. What would the South landscape look like today if there weren't any market for wood products? What is the classification of forest lands by ownership, respective acres, average ownership size,

and land use or management objective? How does management practices by the different ownerships affect forest resource outputs? Wood chipping – how does this effect forest management (i.e. more clearcutting)? How does timber management affect wildlife, aesthetics, and recreation? How much clearcutting is being done on a regional scale? How does the public view timber management? How has forest management changed over time? What is the number of tracts by class size for NIPFLO properties? What are the trends by PNIFLOs in management of their lands? How are forest mgmt practices enhancing growth versus where other forest uses are being managed? What are the beneficial or detrimental impacts of forest management? How has forest management and harvest by the USFS impacted PNIFLOs? How has regulations and policies affected forest resources? (i.e. CRP, taxes, etc) What are the accomplishments by the private sector thru forest mgmt? How do taxes and other regulatory measures impact forest management practices? What is the impact of the Tree Farm Program across the South? Assess the overall increased productivity of forestland by incentive programs as well as land-use changes. Assess the impact of non-industrial private forest landowners educational programs. Assess the overall impact of wildlife practices on forest management practices! Assess the overall impact of ongoing Sustainable Forestry Initiatives (SFI) around the country! Discuss the variation among state forestry programs. Discuss the effect of intensive clear cutting and conversion to soft wood plantations on jobs in the hardwood sectors of the industry. Discuss trends toward mechanization and loss of jobs in the industry. Discuss Tenn-Tom waterway and the future of forests affected by it. Discuss the change in the species composition on hardwood cut sites. How many rotations before fertilizer and herbicides affect water quality. Describe differences between native forests and pine plantations, and include herbaceous plant communities and impacts. How many acres are managed by professional foresters and how many without? Discuss education programs for landowners. Describe job losses to foreign markets for each segment of the forest industry including harvesting and product development. Discuss diseases and pests associated with imported products. . Discuss transportation costs for overseas markets associated with exports and imports. Describe trends in non industry land ownership as to artificial regeneration verses natural regeneration and trends toward pine plantations. Describe kinds of management practices on non-industrial forest lands and discuss trends. What do folks want and what are they being told? Discuss trends in recycling (e.g., recycled paper) and

affects on forest resources. Discuss need for more regulations to prevent erosion and flooding associated with heavy clear cutting; example: Dickerson County, Tennessee - Pittston Coal Co. Into pulpwood harvesting - recent heavy flooding and erosion; ten thousand acres harvested per year per chip mill in Tennessee; Discuss supply side loss of timber from public lands and changing political landscape as commercial logging is ended on public lands. Discuss urban forestry as a source of timber products. Discuss the multiple uses of national forests including wildlife habitat, biodiversity, recreation and wetland habitat. Describe the status of new extraction activities on national forest lands.

111. Impacts of old forest to young forest (i.e. shorter rotation lengths, species monoculture)?
112. Effects of rotation and species composition on species populations – past and present comparisons. Partners in Flight may have information.
113. Some segments of the timber industry are looking to manage for short rotation - how can we encourage the market for long-rotation timber products?
114. Clearcutting reduces protection for surrounding forestlands as a result of severe storms, etc. Look at how land owners forest lands are affected by timber harvesting practices.
115. Forest management varies greatly in the south because of ownership patterns (89% of land base in private ownership).
116. Effect of logging on previously strip-mined areas - destabilizing?
117. FS doesn't want to recognize "old growth" as a valuable commodity - it is valuable biologically and we should protect existing old growth and manage for additional old growth.
118. How have forest management and natural disasters (e.g., Chestnut blight) influenced current forest condition?
119. How do taxes and other regulatory measures impact forest management practices?
120. What is the impact of the Tree Farm Program across the South?
121. Assess overall increased productivity of forestland from incentive programs and land-use changes!
122. Assess the impact of non-industrial private forest landowners educational programs.
123. Assess the overall impact of wildlife practices on forest management practices!
124. Fertilization/Improved genetics and tech applied to

(non-industrial private forests) NIPF.

125. What is the public perception of loggers?
126. How does management practices by the different ownerships affect forest resource outputs?
127. How do taxes and other regulatory measures impact forest management practices?
128. What is the impact of the Tree Farm Program across the South?
129. Identify opportunities for intensive forest management.
130. Assess the overall impact of ongoing Sustainable Forestry Initiatives (SFI) around the country!
131. More fiber on fewer acres, more Science
132. Rules and regulations have a cost.
133. What are the states and trends of Best Management Practices?
134. What trends for NIPF to practice intrusive management?
135. Check with AF & PA -past data on harvest practices
136. Evaluate future trends in positive economics to grow trees.
137. Project changing impacts on timber supply.
138. What impacts of “certified” wood products?
139. How much product loss from unavailable parts of forest
140. Identify new technology. Where is research?
141. Can data be offered at River Basin?
142. Assess benefits and costs of SFI.
143. What is the current status? How many are joining F.L.A.?
144. What is the effect of BMP's? Is there data?
145. How will non-timber uses influence forest management?
146. How much effect of voluntary BMP's on landowner willingness to harvest timber?
147. Assess legislative and policy decisions affecting forestry on Federal, State and local level.
148. Assess pressure for certified timber and cost relationships.
149. “Chain of Custody.” Is it economical?
150. Will intensive management give opportunity for other/special land uses/management?
151. Look for opportunity for enhanced forest management techniques and other site impacts.
152. Consider forest management in other area of the U.S. and world.
153. What are practices 10 years ago vs. today?
154. What is the loss of quality with move to fast growing species?

155. What influence will SFI have on forest management in the South?
156. What are the yields of management practices? By landowner class? By type of management?
157. Monoculture, clearcuts, up-scale equipment, and shorter growth cycle times seem to be the trends.
158. Kind mind? How do other agencies manage for other uses? What is the trend?
159. Major focus of assessment should be toward NIPF since they own the majority of the land.
160. What is future role of Federal incentive programs? What kind of acres might be involved?
161. Look at potential productivity of the different land classes.
162. Geographic differences across South - a factor?
163. What are differences among sub-regional trends and why (re: landowners)?
164. What is difference between government land management and private land management?
165. Break it down by ownership: Intensity; Industry (break this category down); Government (break this category down, e.g., NPS, NFS); NIPF (by incentive program impacts). Evaluate impacts of incentives programs on forest management.
166. Look at impact of other industries such as poultry waste being applied to forest land.
167. Stratify NIPF by land size class - has impact on availability of material to the marketplace (relate to issue #1).
168. Evaluate differing management objectives of different land ownership classes or groups and impact.
169. Look at impacts of industry-initiated programs such as SFI program.
170. Look at regulatory programs and their impacts on forest management.
171. Need to figure out the tradeoff of intensive management on a few acres vs. extensive management on a lot of acres.
172. What are the beneficial or detrimental impacts of forest management?
173. Evaluate the extent of NIPF lands that are not being reforested after harvest.
174. What is the difference in management practices by ownership size? Fragmentation causing problem.
175. Evaluate role of the southern hemisphere in world markets and

- 
- what part the Southeast U.S. plays. Give consideration to the potential that the southern hemisphere will pass up Southeast U.S. in production.
176. What would the South landscape look like today if there weren't any market for wood products?
 177. How has forest management and harvest by the USFS impacted PNIFLOs?
 178. What is the classification of forest lands by ownership, respective acres, average ownership size, and land use or management objective?
 179. Wood chipping – how does this effect forest management (i.e. more clearcutting)?
 180. How does timber management affect wildlife, aesthetics, and recreation?
 181. How much clearcutting is being done on a regional scale?
 182. How does the public view timber management?
 183. How has forest management changed over time?
 184. What is the number of tracts by class size for NIPFLO properties?
 185. How has regulations and policies affected forest resources? (i.e. CRP, taxes, etc)
 186. What are the accomplishments by the private sector thru forest mgmt?
 187. What are the trends by PNIFLOs in management of their lands?
 188. How are forest mgmt practices enhancing growth versus where other forest uses are being managed?
 189. Assess the overall increased productivity of forestland by incentive programs as well as land-use changes.
 190. Assess the impact of non-industrial private forest landowners educational programs.
 191. Assess the overall impact of wildlife practices on forest management practices!
 192. Assess the overall impact of ongoing Sustainable Forestry Initiatives (SFI) around the country!
 193. Discuss the variation among state forestry programs.
 194. Discuss the effect of intensive clear cutting and conversion to soft wood plantations on jobs in the hardwood sectors of the industry.
 195. Discuss trends toward mechanization and loss of jobs in the industry.

196. Discuss Tenn-Tom waterway and the future of forests affected by it.
197. Discuss the change in the species composition on hardwood cut sites.
198. How many rotations before fertilizer and herbicides affect water quality.
199. Describe differences between native forests and pine plantations, and include herbaceous plant communities and impacts.
200. How many acres are managed by professional foresters and how many without?
201. Discuss education programs for landowners.
202. Describe job losses to foreign markets for each segment of the forest industry including harvesting and product development.
203. Discuss diseases and pests associated with imported products.
204. Discuss transportation costs for overseas markets associated with exports and imports.
205. Describe trends in non industry land ownership as to artificial regeneration verses natural regeneration and trends toward pine plantations.
206. Describe kinds of management practices on non-industrial forest lands and discuss trends.
207. What do folks want and what are they being told?
208. Discuss trends in recycling (e.g., recycled paper) and affects on forest resources.
209. Discuss need for more regulations to prevent erosion and flooding associated with heavy clear cutting; example: Dickerson County, Tennessee - Pittston Coal Co. Into pulpwood harvesting - recent heavy flooding and erosion; ten thousand acres harvested per year per chip mill in Tennessee
210. Discuss supply side loss of timber from public lands and changing political landscape as commercial logging is ended on public lands.
211. Discuss urban forestry as a source of timber products.
212. Discuss the multiple uses of national forests including wildlife habitat, biodiversity, recreation and wetland habitat.
213. Describe the status of new extraction activities on national forest lands.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"How might new technologies influence timber harvesting and conditions of forests?"

1. Fully consider the impacts of the rapidly growing industry of chip mills.
2. The idea that chip mills are an additional source of wood utilization is wrong Chipping, the conversion of round pulpwood to chips used to be done on site a pulp mills. Now chipping is done at satellite locations.
3. The current number of chip mills, pulp mills and chip board facilities operating in the region, their individual and cumulative capacities and the cumulative acres of forests consumed annually to feed them. The trend in the construction of new facilities in the region (how many have been constructed over the last 15 years)?
4. Increased mechanization and employee downsizing.
5. Do different types of processing facilities (chip mills vs. saw mills) facilitate different forestry practices?
6. How does the increased use of smaller diameter trees affect rotations?
7. Modern technology (i.e., wood chipping) has enabled the timber industry to use species and types of hardwood trees previously not used. Woody debris decreases erosion, provides habitat for different species and, when left on the ground, returns important nutrients to the soil. To what degree do chip mills decrease woody debris on logging sites? What are the ecological effects of the increased use of nonconventional tree species?

8. Include the impact of increased clearcutting and pine conversions to supply the wood chipping industry in the assessment.
9. American Whitewater strongly supports a moratorium on new chip mill production during the study period; thorough analysis of the impacts that chip mill proliferation is and will continue to have on recreation benefits provided by a healthy and well managed forest ecosystems; thorough evaluation of the impact that the chip mill industry will have on water quality, and habitat for local plant and animal species; thorough analysis of long range economic impacts that the chip mill industry will have in the southeast as a result of massive cutting on private and public lands.
10. The birds, bays, plants, soils, all of these are affected by clearcutting and mill chipping, the soil too.
11. I believe that it's critical that the agencies address that we need to protect the Southern Forests. Forests provide clean drinking water, habitat for hunting and fishing, canoeing and camping, and improve the quality of life for families throughout the South. Corporations must not build any new chip mills until we have more information about their impact on forests and have adequate safeguards in place for the forests.
12. The Assessment should reflect the development of new technologies in timber harvesting since the cross cut saw was used over 200 years ago. It should also take into account the driving forces behind technological development, i.e. development of timber harvesting equipment with relatively low environmental impact, new sawmill technologies utilize lasers and computer analysis.
13. Considering the variety of market opportunities including lumber, flooring, furniture, molding, wood chips, and other forest products, what are the current and potential future impacts of harvesting activities on the health and sustainability of forests?
14. This regionwide assessment of the impacts of chip mills in the Southeast will tremendously effect the future of this region and this nation.
15. We need to do selection management. We need the most efficient milling technologies available so we waste as little as possible from each log. We should ban wood chipping.
16. We will not soon, I suspect, be able to counter the industrial practices of fiber production that exist on private lands in the South, but we do not have to follow that model on our public lands.

17. We feel the USFS must evaluate the community impacts of forest uses (especially by extractive industries like chip mills) upon forest sustainability.
18. No new hardwood chip mills should not be licensed in the South.
19. We think that the proliferation of chip mills has resulted in an overly-aggressive harvesting of immature forests in the Calcasieu River Basin.
20. 100 scientists urged that agencies work in concert with state and local interests to undertake a study to quantify the impact of chip mill proliferation. The threats outlined included adverse impacts to threatened and endangered species, neotropical migrant birds, and terrestrial and aquatic wildlife and their habitats. The number of times a forest can be harvested by new techniques without severely depleting the system's ability to grow more trees is unknown and cannot be determined in 2 years. How long will it take for such complex systems to be restored (if they ever can be), and how will logging industries and subsequent changes impact the functioning of the myriad of forest ecosystems in the southeast?
21. The late 1980's chip mills entire capacity was required to chip the hardwood which was formerly wasted in the process of site preparation. This market provided the land owner which additional revenue and also saved \$100+ per acre in site preparation. If the hardwood was burned on site no one complained (except for foresters) but if you put it on a truck and hauled it to a chip mill then there was a great deal of public criticism. Assessment needs to recognize the benefit these mills bring to the landowners in terms of marketing a previously unused product and reducing their site preparation costs.
22. I believe the chip mills have been getting a lot of bad press. Nobody seems to recognize that they have provided a market for hardwood fiber.
23. As processing technology develops we are cutting smaller material and rotations are very short. We utilize every part of the tree, leaving nothing in the forest. I believe that this has contributed to growth declines.
24. Because the ecological effects of accelerated logging may prove serious on a region-wide basis, we question whether current forest productivity can be sustained to support widespread proliferation of high-capacity, satellite chip mills.
25. Timber harvesting has severely fragmented bottomland hardwoods throughout the South.

26. Investigation of potential impacts should include indirect and cumulative effects on fish and wildlife resources resulting from any projected increase in short-rotation silviculture to supply chip mills (and concomitant loss of sawtimber stands).
27. How might new technologies influence timber harvesting and the ecological sustainability of forest ecosystems/?
28. Efforts of forest products companies to increase efficiency in the production of wood products will also impact forestry as less waste in the production process will reduce the demand on harvests.
29. Recycling and the growing trend for municipalities, as well as local governments, to initiate mandatory requirement for the recycling of all applicable materials along with the paper industry goal of recovering 45% of all paper products will also impact the demand for wood fiber from our forests. The South leads our nation in intensive Forest Management. The recent advances in increasing timber volume are only the beginning in what can be done to relieve pressures on certain forests that can be managed for their special qualities and values.
30. It is our understanding that wood being chipped is from privately-owned land and is being sold by the owner for economic reasons. We do not espouse prohibiting the use of this wood-processing technology nor the application of onerous regulations affecting its economic viability for the purpose curtailing it as a timber marketing option.
31. The study lacks a thorough evaluation of the full range of ecological impacts associated with chip mills.
32. The economic benefits of chip mills must be looked at in the context of a more inclusive community health concept. Intact forests involving nutrient cycling and waste removal may store large amounts of the terrestrial carbon.
33. Increasing harvests of our forests by industrial methods pose a serious threat to the long term health of our forests. It is not too far fetched to say that the survival of the forest we know today is in jeopardy.
34. Because of the absence of state regulation to halt or slow overharvesting in the south, will the introduction of new markets, such as additional chip mills, accelerate depletion and fragmentation of southern forest resources, creating negative economic and environmental impacts, long before any safeguards could be implemented?
35. How long will high yield, timber extraction practices of the chip mills last in the South?

36. What is the impact of overlapping sourcing areas of chip mills?
37. What would be the impact of biomass burners?
38. Place a moratorium on chip mills and wood processing facilities until the completion of the North Carolina Chip Mill Assessment Study and the Southern Forest Resource Assessment.
39. What is the projected long-term effect of increased timber harvesting for chip mills on existing hardwood dependent businesses?
40. Given the tremendous public concern over increased levels of woodchip production, additional data collection on land management practices in woodchip mill source areas would also be helpful.
41. The impact of conversion to "chip mill" processing techniques on rates of timber harvest, selection of timber management regimes, and the condition, both present and projected, of southeastern forests.
42. Smith, Danna, Chipping Forests & Jobs: A Report on the Economic and Environmental Impacts of Chip Mills in the Southeast, (Dogwood Alliance and Native Forest Network, August 1997) and all sources cited therein.
43. What is the adjusted growth to removal ratio for the region when only the growth on available forestland is considered? How much forest is actually available to the forest industry? How much forest is unavailable because of protected status, landowner attitudes, steep slopes (high cost of harvest), low productivity, distance from mills, etc.?
44. New technologies seem to increase the capabilities of harvesting so that more forest will disappear faster. It fosters the continuance of clearcutting for pulp. We will have more regenerating forests and fewer habitats for creatures that need mature forests. We have to consider more than money in management of our forests.
45. Not only the environmental quality is suffering, but human health is also meritably being affected. Higher levels of asthma and lung disease accompany practices such as those employed by industrial chip mills.
46. Consider the new technologies of chip mills. OSB, MDF, and engineered lumber, all of which encourage clearcutting and plantations, vs. technologies that use fiber made from recycled materials, agricultural residues and agricultural crops such as kenaf and industrial hemp.
47. The vast majority of chip mills supply paper mills in southern

states. Most of these paper mills have been operating for many years and have always obtained their wood supply from the Southern forest. With changes in transportation patterns, chip mills have become the more efficient means of getting trees to the paper mill. Since chip mills themselves are not end users of the wood they process, they have had little effect on the amount of clearcutting or total wood consumption.

48. Markets for timber must be kept healthy and strong to keep forests in forest cover.
49. Please do something about the chip mills in Georgia that are destroying the piedmont and coastal forests plus the Appalachian forests of north GA. They are creating 115,000 acres of clear-cuts every year! Please stop this horrible carnage.
50. There are innovative ways of growing and cutting timber, some of these methods are being used in other areas of the country (and by some progressive folks in the south). Those methods should be studied and taught to the people growing and cutting trees here.
51. I think it is critical that agencies address the protection of our Forest by slowing or stopping these massive clear cuts that devastate the land affecting water quality, habitat for animals, property value decline, repair to road cost.
52. Massive clearcutting is evident up and down the beautiful Tennessee Valley. Clearcutting is costing us in more than one area. Our roads suffer, wildlife is heavily impacted, water quality is affected, and not to be mentioned last but Scenic Forest is very important to hunters and tourists.
53. I advocate protection of the forests. Clearing 1.2 million acres/yr without discriminating about which trees is inexcusable.
54. How has the introduction of chipping related industries changed forest cutting and clearing practices? How do multiple chip demanding industries in the same sourcing area affect stumpage and encourage landholders to liquidate for chips over managing for long term, better income from mature forests? In the TVA chip mill study area, clearcutting already accounted for 44% of the forest cutting activities, due to the presence of 3 pulp and paper companies overlapping spheres of influence. How prevalent is this overlapping demand incentive in the study region?
55. Feller Bunchers and other large, high impact machines are replacing the bunch of fellers that used to work the woods. Please address the influence of increased mechanization on the landscape level of reliance on capital intensive machines in forest cutting operations. Please address the nature of

relationships between the buyers (pulp and paper companies, OSB, MDF etc.) and the "owner" operators of Feller Bunchers and other machines of mass destruction. By the nature of the capital intensity, and payment schedules, are operators of capital intensive logging systems forced to work longer days, faster, in all weather conditions, with less care and greater impacts to water and site quality? What is the difference in water and site conditions between typical logging operations of 20 years ago and today? Between horse logging operations and today's industrial logging?

56. New debarker technology is coming on that will enable greater utilization of Hickory species for many low grade applications. Is there evidence that the remaining native forests of the region can meet existing and growing demands without serious consequences to forest health, diversity and coverage?
57. New technologies seem to increase the capabilities of harvesting so that more forest will disappear faster. It fosters the continuance of clearcutting for pulp. We will have more regenerating forests and less habitat for creatures that need mature forests. We have to consider more than money in management of our forests.
58. I have hiked in the forest of western NC and TN for the past 9 summers. Every summer I return to find that more of the precious forest is gone. The southern forest are fragmented enough, I am against clear cutting to feed the chip mills or for any other reason. Please protect our southern heritage.
59. New? How about the ancient "technology" of silviculture? Clearcutting and high-grading should be considered old-school harmful technologies.
60. New technology and engineered wood products and composites, small log utilization, lower fiber costs. Assess timber demand.
61. How does greater use of new technology & modern forest practices impact the natural forested areas in the South?
62. How much does new technology add to usable wood products? Is it a substitute for "traditional" technology?
63. Can use lower grade product?
64. Loss of future/timber volume due to increased regeneration costs.
65. New herbicides.
66. How does wood compare as an environmentally accepted building material?
67. Harvesting technology--what does the future look like with new designs, etc.

68. Look at reforestation effects of using good harvested technologies.
69. Improved genetics.
70. Develop a screen. What effect of near term vs. long term impacts on the environment? "Sustainability" issues.
71. Controlled burns and selective herbicides with different management practices will open the under story for a more diverse use and multi-user condition.
72. Harvesting technology on harvesting efficiencies.
73. Consider BMP's impact.
74. Need to look at what bedding is doing to native flora, i.e., ecological health of the forest.
75. Utilization of trees is very important. Look at where we are going from here.
76. Address land prices effects on willingness to practice forest management.
77. Improved wildlife habitat (example: turkeys, bluebirds, bear).
78. Genetic improvement on hardwoods? River bottoms and other places – sweet gum, yellow polar, oak. Etc.
79. Potentials for improved harvesting equipment?
80. Logger's underutilized/capacities have increased.
81. Address positive effects of technology on forest health.
82. Look at increased harvesting efficiency.
83. Will other materials substitute for South timber?
84. Quantify technology effects on quality (i.e., genetics, etc.).
85. Is there a limit on how much technology to use? Is intensive management compatible with more than fiber product quality and other products?
86. Future of technology in utilizing small diameter will shorten rotation.
87. Identify some of the new, emerging technologies.
88. Can harvesting technology care better for soil/site productivity?
89. Look at increases in productivity (biological and industrial processes) due to technological advances.
90. Look at new technology and how it affects rotation and changing management schemes.
91. How does new technologies affect raw material utilization.
92. What are the supply/demand relationships of the southern forest? Has the efficiency of harvesting the resource affected this relationship? Also, transportation of this material to a

useable form. Closures and restructuring of mills have had a profound effect.

93. How does fertilization affect the forest resources?
94. What are the overall impacts to forest productivity and diversity caused by intensive forest management?
95. What are the threats caused by intensive forest management?
96. What are the impacts of increased utilization?
97. What is the cost and improvements in logging operations and equipment?
98. How have new technologies improved forest productivity?
99. How have new technologies affected growth and removals?
100. Is the new technology restoring the lands to a better shape?
101. What are the negative influences (i.e. clearcutting, etc.)?
102. What are the positive influences (i.e. faster growing trees)?
103. Dissemination of information on productivity of better managed lands is needed to inform landowners.
104. How do (domestic and export) chip mills and fuel mills affect forest resources?
105. How does new technology affect utilization of the forest resources?
106. How has or will new technology increase productivity of land, thus reducing acres to provide supply?
107. How will the assessment team gather information/data that will be useful?
108. Forestry community should not go back to old methods of harvesting.
109. How does greater use of new technology & modern forest practices impact the natural forested areas in the South?
110. How accessible is each technology to a variety of landowners.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the management approaches of various forest ownership classes in the South?"

1. Imperative that I have a good pulpwood market in order to accomplish the thinning that will need to be done.
2. In assessing the management approaches of various forest ownership classes in the South, the Assessment should include the general land management goals of each ownership class.
3. The industrial forest lands are intensively management and mined for trees, nutrients, organic material, hunting, and anything else of value. The private non-industrial forest lands are either left alone or more likely logged for short-term profit and turned into subdivisions or range land. The NF's are primarily managed for timber with high soil erosion, degraded water quality, fragmentation, reduced animal and pant diversity, and excessive motorized recreation.
4. Identify land ownership and current management strategies.
5. The industrial producers and processors of timber rarely bear the full costs of their activities. Taxpayers often subsidize logging on the national forests. Private timberland owners and processors benefit from tax breaks, taxpayer-provided infrastructure, and other subsidies.
6. The positive and negative effects of forest management are not distributed equally. Any approach to managing southern forests will generate economic benefits as well as costs and create winners as well as losers.

7. Consider and weigh the potential for the cumulative effect of separate forest-management decisions by different landowners to degrade the overall forest's ability to provide important ecological functions, such as the ability to deliver clean water and mitigate the risk of flooding.
8. All government owned land should be managed using the best scientific techniques to insure the greatest health of the ecosystem. Clearcutting should not be allowed unless dictated by best application of our knowledge.
9. Federal and State agencies should begin the process of restoring old-growth forests which have essentially disappeared from the southeast.
10. What are the management approaches of various forest ownership classes? To what extent is ecologically sustainable forest ecosystem management currently practiced, and how might this be promoted?
11. The Assessment should look at the acceptance and use of improved silvicultural practices by ownership classes. The Assessment should survey landowners to determine roadblocks to the application of these techniques.
12. The Assessment should analyze landowner acceptance of responsible forest management practices (thinning, BMPs, planned regeneration) between regions with and without good markets for forest products.
13. Document the accomplishments to improve reforestation from the public and private sector.
14. Document different management approaches throughout the South.
15. It is important to document the accomplishments of Southern Forest owners, both public and private, in their responsible efforts to improve reforestation and increasing the timber supplies of the south.
16. The last few years have brought changes to the forests of Southeast Tennessee. Even-aged timber harvest has become commonplace even on small ownership tracts. The percentage of industrial forest land is gradually increasing with new out of state and foreign buyers and with the local hardwood pulp mill having to acquire forest lands in order to compete with distant plants and the new local OSB plant. The trend is also for shorter rotations and harvesting younger trees for pulp and fiber. Net effect of the changing forest utilization is that the public land is becoming increasingly important for ecological and recreation values.

17. National forests began extensive clearcuts over thirty years ago. Higher quality sites were allowed to regenerate in hardwoods, but the oaks and hickories that had been in the stands were usually replaced with light seeded species like yellow poplar, ash and maple whose seeds may remain dormant in the forest litter for as long as seven years. Initially the lower and intermediate quality forest land was herbicided to try to grow pure loblolly pine plantations. It apparently took large herbicide doses to attack the diverse ecosystem of the Southern Appalachians. Annual or biennial weeds that rotted with the first frost appeared in the site prepped and herbicided areas the first year. But soon the pines would develop a near complete broom sage understory which combine to make an almost inert ecosystem. It shows that soil nutrients were depleted by the process (as was indicated may happen in the Hubbard Brook herbicide study).
18. Can quantify the amount of use the different forest management options will produce?
19. Will you be able to study the below cost wilderness program on the Nation's Forest?
20. Consider the inter-relationships of various parcels of forest land, rather than treating them as discrete entities.
21. The forest ownership structure in the South, including federal, state, industry and non-industrial, has contributed to the diversity of forest conditions across the region. The Assessment should document the different management approaches and the likely future condition of forests in the South.
22. What impact will the continuing loss of forest resources in the South have on publicly owned forests? Since there are essentially no state regulatory restraints on timber harvesting in the South, to what extent will this put pressure on federal lands to shift away from providing timber to a primary role of providing the other multiple uses?
23. Has there been an increase in absentee landownership and what impact has this had?
24. Do current forestry management practices consider anything other than the market value of the trees?
25. Are state forestry policies influenced by cutting recommendations of big industry? Are individual landowners following recommendations offered by state forestry division personnel?
26. What are the long-term effects of increased industrial clearcutting over the next 100 years on the natural cycle of

- forest regeneration?
27. What methods encourages private owners to manage their forest long term and for greater species develop?
 28. The forest ownership structure in the South, including federal, state, industry and non-industrial, has contributed to the diversity of forest conditions across the region. The Assessment should document the different management approaches and the likely future conditions of forests in the South.
 29. My own farm, consisting of approximately 440 acres, was clear-cut in 1985 and I have finally replanted the entire farm in sections with the objective of genetically improving the stock and ultimately providing an income stream for myself and heirs for perhaps a 40 year period. We have left hardwood areas for game and our environmental interest has co-existed with our asset management.
 30. I am writing to you to voice my adamant opposition to allowing the abridgment of any more of the private landowners rights by any third party. I am opposed to allowing any group or third party granting themselves authority over the use and rule of my land. The invested landowner will always be the best stewards of the land.
 31. How have ownership classes changed? Age of owners? Rural/farmer to urban-type owners? Absentee owners? Insurance companies or retirement funds?
 32. There currently seems to be almost no regulation with rubber-stamping of permits for these mills. Usually, stormwater discharge from the mill site itself is the only factor considered. The process should be more thorough with a careful look at the environmental impact on the area that will be cut to supply the mill. This cutting is an inseparable part of the whole industrial process and must be examined. Permits involving just the mill site itself don't catch any of the larger problems.
 33. Assess the impact of shifting more forest harvest from public lands to private lands.
 34. How much idle land is out there? What are the reasons for it?
 35. What level of intensity does each group practice to identify new capacity?
 36. Value of management plan evaluated across land ownership's. Private landowners--Breakdown by Acreage classes/groups/classes.
 37. Recent trends in timber land investment ownerships. (Wachovia, John Hancock, others)
 38. What effect is that going to have on 50-acre tracts and future

- 
- fiber supply?
39. Different ownership classes - government, private, individual.
 40. Productivity could increase so that it would free up land for other uses.
 41. More syndicated ownership – what effect?
 42. Consider property rights/landowner rights.
 43. How do management objectives relate to socio/economic class?
 44. Differences in objectives if near Federal ownerships.
 45. Consider long-term, selective management vs. short-term rotation.
 46. How can government/private incentives alter management approaches of forest owners?
 47. Evaluate the long-term opportunities for “Forestry in the South.”
 48. Document the reforestation efforts in the South through the present (FIA, SAFIS).
 49. Should the south remain an important timber-producing region?
 50. How can we motivate absentee forest owners?
 51. What would be the effects of reduced property taxes on non-harvested areas, i.e., conservation easements?
 52. What do you mean by “forest ownership classes?” What the local mill is producing dictates management and in many ways ownership. The smaller woods lot or specialized grower is being squeezed by transportation cost, therefore they must sell to the local mill. Smaller and more diverse mills are needed.
 53. Note the South has a wide variety of forest landowners and practices.
 54. Determine what percentages of landowners are doing nothing with their forest for products.
 55. Look at what “locking up” hardwood areas will do on availability, i.e., accessibility.
 56. Look at different landowner objectives on managing their lands.
 57. Increased impacts on NIPF due to reductions on public lands.
 58. What incentive can Federal/State look at to help NIPF - landowner, e.g., incentives to reforest and incentives to not cut at all?
 59. What can be done in non-productive land that wasn’t reforested?
 60. Health benefit issues of intensive management?
 61. Need to look at how much of forest land is in a State, e.g., natural forest land and not just pine plantations.
 62. What can be done to increase production on Forest Service land?

63. Industry lands are very much multiple-use - need to point this out, e.g., look at what everyone is doing in terms of management and timber available.
64. Look at regulation impacts on private land management.
65. What is maximum sustained yield on Forest Service land vs. current harvest?
66. Confiscation without compensation based on regulations - government oriented.
67. How much does regulation impact forest production?
68. Does the background data indicate past management use and practices?
69. When does the private landowner's right to manage his own land end and when does government regulation take over?
70. Will the assessment show trends or only be a snapshot of conditions?
71. What will be the impacts of insect and disease on monoculture plantations?
72. How does public school curriculum affect education of kids in forest management?
73. What is the BMP compliance by ownerships?
74. Do large companies and logging contractors have different operating procedures for operating on their lands vs. NIPFLOs?
75. Are NIPFLOs receiving enough information and assistance?
76. What are the different landowner objectives?
77. What impact is caused by the lack of management by some landowners?
78. How do regulations affect landowner objectives based on ownership classification (i.e. taxes, state regulations, etc)?
79. What are the projections of demand, removals and growth?
80. How has different forest management by ownership classes affected habitat, product supply?
81. How do different ownerships affect biodiversity?
82. Will current land use or management meet future demands?
83. Are chipping operations affecting other end uses of the forest resources?
84. What is the trend of other end uses (i.e. furniture mills, etc)?
85. How time sensitive will overall assessment information be?
86. What is the impact of cost share assistance programs for NIPFLOs? Can the cost share programs be streamlined to help enrollment?

87. Are there landowner education opportunities – are they effective?
88. How is forest management affected by the increase in number of absentee landowners?
89. How can the NIPFLOs be motivated to manage their land?
90. What is the comparison on how the different landowner classes manage their land?
91. Why are we looking at the different management approaches (i.e. biodiversity, markets, sustainability, productivity)?
92. How does the different management approaches affect sustainability?
93. How will the team document the management by the different landowner classes based on objectives, goals, problems, effects by taxes and regulations (i.e. what effects how NIPFLOs manage their land)?
94. How do public lands determine their management and who determines the management decisions?
95. How do tax laws effect NIPFLO management?
96. How will the landowner categories be broken out (i.e. ownership class, size acreage class)?
97. Do small NIPFLO ownerships have continuity in management or are they affected by ownership turnover, fragmentation as the owners break up parcels of land?
98. What is the impact of the global market on southern forest?
99. How does forest management differ from timber management?
100. Will the team differentiate the different types of management objectives (i.e. wildlife, recreation, timber, aesthetics)?
101. What is the relationship of markets, taxes regulations, and other regulations to how NIPFLOs manage their land?
102. Does the forestry community educate the public on use of trees?
103. Are there examples of sustainability, productivity, and biodiversity that have been impacted by nontraditional or cooperative efforts to enhance the forest resources?
104. How much education is done on the facts of forestry (i.e. what is being done to show the positive side of harvesting)?
105. Is the public educated on sustainability?
106. Assess the impact of shifting more of the forest harvesting from public lands to private lands in the South!
107. How do new silvicultural practices impact productivity of Southern forest?

108. What is the overall impact of modern forestry practices – assessment done by subregions and ownership?
109. Evaluate markets over time to explain why harvest levels are where they are (worldwide demands, where they are, and what kinds of products).



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

General Comments--Timber Markets and Forest Management

1. The study should project potential increases in timber production and the effect on the trends discussed. Once these trends are established, analyzed and explained, the study should assess the implications of these trends relative to economic and ecological sustainability.
2. It is clear, however, that timber markets and forest management (or mismanagement) have actually led to the present imbalances in our forests. None of the questions currently listed under this category are important in terms of assuring forest sustainability. We should not be asking how much wood we want to harvest, but rather what harvest, if any, is compatible with sustainability.
3. Another term which is often used carelessly is "productive", as in the "productivity" of forests. The study should be explicit in its recognition that being biologically productive and economically productive are not necessarily the same things.
4. I am not against timbering, for I myself live in a wooden house and use pulp paper, but clear-cutting can be, and should be avoided, if possible.
5. As you know, subsidized logging and associated roadbuilding have resulted in the fragmentation of wildlife habitat, if not the virtual elimination thereof in many instances, as well as the degradation of streams and rivers. Some species have been pushed to the brink of extinction, i.e., the spotted owl. What further adds salt to the wound is that these subsidized activities actually cost the taxpayer millions of dollars.

Unfortunately, many forest management activities serve the interests of the commercial timber companies and not those of the public for whom the managers are ostensibly working. It is such a travesty.

6. Why should logging, the most destructive abuse of our forests, be allowed to continue to destroy the ecosystems further?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999

webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of Southern forests (area, ownership, and location)?"

1. Land ownership in the Southeast.
2. Statistics should show the difference between a small wood lot and extensive forest acreage.
3. The Assessment should take into account national trends and policy changes that have resulted in a shrinking base of AVAILABLE forest lands (i.e. available for management for forest products) in an EXPANDING global market demand, i.e. land in the Pacific Northwest. This results in making intensive management of Southern forests more economically viable for Southern forest landowners.
4. The Assessment should use another label in place of "natural" pine, such as "non-planted" pine or "seeded" pine.
5. More land is owned by absentee landowners who know little about the ecology and biology of their forest lands. More land is being turned into subdivisions and timber company lands are being more intensively managed. The NF's are being logged as much as possible in anticipation that soon the Public will take away this privilege from the FS.
6. Every week in south Georgia I see a new forest cut. I see clearcuts, pine plantations, development, but precious little natural forest. It's a rare treat to glimpse a bit of forest that regenerated on its own and functions as forest, with groundcover and canopy trees and shrubs, and the presence of birds and

mammals. A pine plantation is not a forest. It is one-species silvicultural operation and thus a type of agriculture. When you conduct this study, please be aware that we have been measuring three types of landcover: forest, agricultural commercial. Within these guidelines, the data always shows that we have more forests than we, in actuality, have. "Forest" should mean a diverse, naturally-regenerating, multi-species, multi-age growth of native flora that includes a diversity of native wildlife. In your study, please distinguish these (pine plantations) two and tell us truthfully how much forest-land we have left in the South. Not now many acres are growing trees.

7. An analysis of the change in timberland ownership across the SE, from private citizen ownership to corporate and/or absentee land ownership.
8. There are more forest lands than ever to the tune of many fold over the past 40 years.
9. In your design for your study, I feel you will need to broaden your study to cover all land uses within the study area for after one eliminates, the federal, state, city, and industry lands, the remaining lands are small in size and influence our lives more specifically. I would think all forestlands should include wooded areas from two acres on up.
10. Set a time line from the beginning to European intervention to the present and into the next hundred years of the patterns for forestland areas and how it has expanded and contracted up to the present and what can be expected into the future.
11. Assessment Report should include Forest Inventory and Analysis (FIA) information which indicated that forest acreage losses are occurring around rapidly growing urban centers, thus causing deforestation, changes in land use, and forest fragmentation.
12. Assessment should document the different management approaches by ownership pattern and likely future condition of forests in the South.
13. With the identification of old growth actually existing in the southern Appalachians, what additional policies can be put in place to preserve ALL of it? And on private lands, what can be done to preserve old growth?
14. What are the history, status and potential future of forest ecosystems in terms of area, ownership, location, and ecological sustainability?
15. What is the impact of the comparative advantages between pine and hardwood on the balance of the two ecosystems?

16. The Assessment should make a serious effort to describe the history, current status and projected future of southern forests. This should include ownership patterns, area and distribution fluctuations as they have occurred in prehistorically and post Euro-settlement periods.
17. Have land ownership patterns (particularly average tract size per landowner) changed significantly over time.
18. We preface our remarks with the emphatic recommendation that a thorough forest inventory be done for each state in the region and, at minimum, updated every 3 years. Further, we recommend that the inventory be available on the internet, either via each state forestry agency homepage or the USDAFS homepage. At the rate forests are harvested, planted, converted and restored these days, a 10-year inventory cycle is not only essentially useless, but its use can be misleading and contribute to a lot of misunderstanding about the health and status of forests.
19. Essential is an accurate forest inventory, including a functional value assessment for the realm of forests occurring in the South that takes into consideration the various characteristics of the "stands" that make up the forests. This is the first and most critical step that needs to be taken, and should not be diluted by trying to take on too much of a task within the 2-year time frame of the assessment.
20. Indications are that timber inventories and values are actually increasing in rural areas. Is the timber base really shrinking?
21. The Southern Appalachians has great diversity of forests. Hemlock, white pine and northern hardwoods (beech, birch and maple) extend almost to the northern limits of the eastern United States. There is a Canadian zone of spruce and balsam in the Great Smoky Mountain National Park. White Oaks and red oaks extend far to the south. The lower valley has sweet gum, Water oak and willow oak which also go southward. Xeric sites have Virginia pine and shortleaf pine. There are many other tree species present. Rutherford Platt in 1,001 Answers to Questions About Trees that the most lush and varied forest in the country are centered in a region about 50 miles east of Chattanooga, Tennessee.
22. Assessment should include a historical account of forest resources throughout the region. Factors which have reduced the extent of forests or led to their fragmentation should be documented.
23. What forest types are the better long-term providers of these ecological services?

24. We hope that the study delineates between native forest habitats and highly managed, monoculture tree farms.
25. The study needs to provide accurate information about the extent of remaining forest habitats, as opposed to clearcuts and tree farms, not merely vague figures of "forest cover."
26. The study cannot count clearcuts and monoculture tree farms in the same way that bottomland hardwoods or longleaf pine-wiregrass ecosystems are counted.
27. What are the patterns of land ownership (private, corporate, public, farmers, etc.) in the region and what are the relative amounts of taxes paid by each of these ownership classes? How many of the corporate owners are absentee owners (out of state)?
28. Native hardwood forests are being replaced by pine plantations which destroys biological diversity, an important concern as we are losing many important species.
29. When I drive through South Ga and see that our heritage has turned into a Loblolly pine festival I wonder how it was 200 years ago.
30. When evaluating ownership, evaluate ownership profiles--income, taxes (inheritance, absenteeism).
31. Georgia has less of its land area publicly owned (about 7%) than any other state, and urgently needs to purchase more land to provide recreation, save some biodiversity, and protect our rivers from pollution by eroded soil.
32. What percentage of the landscape in the study area is being managed for old growth characteristics?
33. What percentage of native forests logged in the past decade have actually improved in understory diversity, soil productivity, and ecosystem functioning toward historic levels of pre-human mucking about?
34. Where are the unbroken forest blocks of 7500 acres or more in the study area and what are the forecasts for the future of these unfragmented lands? What are the potential threats to the remaining large blocks of unfragmented native forests? How long will they last under current trends?
35. What roles do private lands play in sustaining species diversity as compared to public lands?
36. Trends appear to be cut & run. Far too many clearcuts. Far too much pulpwood extraction. Far too little attention to forest health.
37. History of timber management in the south (clearcutting at turn

of the century) lack of virgin forests, and dynamic nature of forests in the region.

38. Consider history as far back as it can be documented.
39. Soil losses or changes, biodiversity change resulting from forest practices and land use changes.
40. Document diversity benefits of ownership patterns of the south.
41. Document the role of fire in formation of our forests.
42. Timberland vs. forestland. Ownership attitudes should also be factored in.
43. Are there differences among ownership classes in terms of their performance in providing timber, wildlife habitat, recreational opportunities, biodiversity, etc.?
44. What is the definition of forests?
45. Pay attention to alternative definitions of forests.
46. Should be based on use?
47. Should address the limitations of the FIA data, especially the timing issue.
48. Changes in the F.I.A. definition and sampling procedures.
49. Define the strengths and weaknesses.
50. Disclose the limits of the data. Reveal all the assumptions of modeling.
51. Sub-merchantable size (L5") timber is not included in FIA volume data. Factor in this size class and acknowledge it.
52. Be sure to standardize manipulation and analysis of FIA data among states/ecological regions.
53. Ownership is changing – corporate to syndicated, etc., and how it may be managed in the future.
54. Which factors should we consider studying in relation to the state of our forests? Pine Plantations should not be considered “forests.”
55. Pine Plantations should not be considered “forests.”
56. Pine Forests are mono cropping; they do not support a large number of living organs.
57. Forest Service is out of Department of Agriculture; Forest Service needs scientific expertise; not qualified to do study.
58. Need standard definition of forest, quantifiable by amount of biodiversity.
59. Academia needs to be trained to evaluate forests.
60. Study activities that affect forest health: Climate changes; Industrial harvest. Pollutant loading – UVB radiation,

Agriculture Acid Rain. Exotic pests.

61. Fragmentation due to roads – study genetic exchange, in National Forests and out clearcutting also causes this fragmentation.
62. Change in ownership patterns. How much the percentage is changing between private and corporate ownership. Look at trends that forest land is owned in smaller parcels due to inheritances or corporations dumping land.
63. Pine Plantations, we should not identify them as forests. They are not bio-diverse.
64. Population growth – what will it look like in 20 years. How will this affect tourism? Will the health of woods near urban areas be sustainable?
65. We need to address all conservation issues. They all relate to forest issues.
66. Private Forest owners need to manage their forests better. Market competition could be stronger. (Get more for your wood if it's managed well.)
67. What is the effect of even-age management across the South? Look at hydrological, diversity of species in the soil, look at herbaceous layer, understory and canopy. Look at an overview of the whole thing – water, air, and soil.
68. How do these layers and species help and support the forest health?
69. What job opportunities could be offered to people in timbering to restore forest health?
70. Look at how the composition of the forest is changing through systems of cutting (i.e., clearcutting is reducing number of oaks).
71. Respect for the integrity of the “web-of-life” and the welfare of all. Sustainability must be a prominent issue and approach for this study.
72. BMPs are not being followed by a vast majority of the loggers. Find a small area where the BMPs have been followed and compare that to what else is happening.
73. 80% of the land of the South is under private ownership. How should we teach individual landholders to maximize the education of the private landowner? Very few of the forests are managed at any level except by loggers.
74. Look at how the health of our forests affect us. A new paradigm will give an economic incentive to preserve the forests rather than cut them. This paradigm is health related. Look at how the

health of the forest is related to our health. These forests are vital to our health.

75. Private landowners are forced to cut just in order to pay taxes. This should be looked at.
76. A silviculture view of forest health is not the only view of forest health.
77. Alternative ways for society to fund a full stand of mature woods, especially when our carbon sinks are dwindling rapidly.
78. There is a religious campaign for forest preservation; a different view of the forest is emerging.
79. Non-timber effect – over-harvesting of herbaceous layer and the soil layer and get answers of exposure of the soil to this as well as to herbicides and insecticides. J.J. fears that the study will be too biased by input of Forest Service. Let's get independent ecologists and specialists in here.
80. Let's get more meetings (like one halfway through) and add meetings.
81. Let's not use studies that have been done. We need new studies.
82. Study cumulative effect of invasive pests. This is a growing problem.
83. Distinguish between natural deterioration of the forest deterioration due to new outside stressors.
84. How will pines hold up under hot, dry conditions vs. mixed mesophytic forest?
85. Probability factor, what is the projected view – long-term – of our forests.
86. Like to see other studies incorporated into this study. Learn from their mistakes and achievements.
87. Look at alternative policy decisions that are in effect around the world. We need descriptions of what is working elsewhere.
88. Where is the money coming from? Is there enough money? The assessment needs to be a condition wherein audits can be done.
89. An age indicator alone is now considered the indicator of forest vulnerability. Other indicators besides age need to be considered.
90. How is the age-class of harvestability changing?
91. Evaluate repeated harvest of pine on soil quality.
92. Used to be 40,000 board feet per acre. Now 10,000-12,000 per acre. Hardwoods need topsoil. Consider extending time between cuts to 100-150 years. Study old forests like Joyce Kilmer. Consider forest health not just in relation to age. Need to give

- credit to very old forests.
93. Need input and funds from other groups for this study. What is available?
 94. Decline in native pine and increase of pine plantations – is diversity a value? We can have recommendations in form of values, not prescriptions.
 95. Identify most endangered species in our area.
 96. Agriculture land vs. total forest land. Concern of conversion to plantation.
 97. Land use change and species composition – how much hardwood.
 98. What are perceptions as to ownership issue?
 99. In some areas we are cutting 3rd or 4th generation timber from the same spot and this will continue. The area of forest will increase. Ownership will go more and more to corporate giants. As crops change forest will be relegated to poorer and poorer soils or wetland areas.
 100. I am concerned about the credibility of the report because of the age of the data being used (FIA data 10+ years old in some states). Need USFS to put high priority on getting as much FIA data as possible before the analysis is begun. Don't understand why FIA budget was not substantially increased after the clear direction given by congressional appropriations committees in the cost budget authorization.
 101. How can the question relate to the economic demands from Federal, State and local laws?
 102. How is the history of the land use in the South going to be determined? How far are you going back? (Clearly define/describe limitations of information for the study.) (Incorporate all tree sizes in report.)
 103. Is there a distinction between a natural stand and a planted stand?
 104. Are the cumulative effects of invasive species going to be considered in the study?
 105. Documentation/proof showing there is diversity on the 89% of private lands?
 106. What percentage of people take advantage of available free programs?
 107. Define forest health and sustainability better?
 108. What has been the effect of the exclusion of fire from the forests?

109. How have past agriculture practices affected the existing forests health?
110. How will the practices of future family farms affect the forest?
111. How have Federal & State regulations affected the forest status/ownership, planting and health?
112. The change caused by urban expansion in the southern forest? How does it affect the present and how will it affect the future? Compare the effects on forest between those who use BMPs and those who don't.
113. How have past agriculture practices affected the existing forests health? How will the practices of future family farms affect the forest? How have Federal & State regulations affected the forest status/ownership, planting and health? The change caused by urban expansion in the southern forest? How does it affect the present and how will it affect the future? Compare the effects on forest between those who use BMPs and those who don't.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of the structure of forests in the South (age, species composition, stand size, stand origin, fragmentation)?"

1. Age Class and Distribution - Preliminary data from the North Carolina chip mill study shows a dramatic loss of late successional forest communities.
2. What forestry practices cause the most dramatic changes in age structure?
3. Are younger forests more susceptible to disease outbreaks?
4. What is the current average size of pine plantations? What is the current average age of pine plantations? What, from a biological standpoint is lost when a natural forest is converted to a pine plantation - species diversity, structural diversity and genetic diversity?
5. Thorough analysis of the impacts that conversion of hardwood forests to predominantly pine plantation ecosystems will have on southeastern forests and streams.
6. What ecosystems are threatened under current management schemes (e.g. shortleaf pine)?
7. Converted to Loblolly Pine only and the hardwoods are being killed or set back to earlier successional stages so they will never reach the canopy. There used to be dense hardwood understory and a multi-layered canopy and not the forest is being opened up to more sunlight which raises the temperature and reduces moisture.

8. I believe current measurements of forest removal versus growth are skewed. It is easy to figure what has been taken, but I think it unfair to consider what may never be taken. I think land that owners never intend to cut should be removed from the equation. Is public land included in the "growth" factor? It might be more fair to remove all naturally-regenerated forests from the equation, and simply look at growth versus removal on pine plantations. In this scenario, I think we would get a startling account of what is happening in the South -- too much being taken too quickly. It can not last. Not at this rate. No matter how you figure it, it can't go on like this.
9. An analysis of the change in forest composition within the region, for example, the degree of decline of native forest ecosystems and the increase in pine plantations within different parts of the SE.
10. I hope that by "likely future" of forests, the intent is to pose various scenarios for future management and protection and predict the many possible futures, from the most optimistic to the most pessimistic. I would like to see the description of the forest expanded to include not just tree "stand" size, age, and species composition, but all forest biota, community structure, and ecosystem processes.
11. Examine short-rotation silviculture by clear-cut regeneration methods on a long-term, landscape basis, with emphasis on potential age-class distribution, fragmentation, site degradation, and aquatic impacts.
12. Institute harvesting practices that emulate the longer natural cycle of events, rather than the short rotation period that emphasizes the early successional stages. This will reverse the trend towards younger forests and increase the proportion of an ecoregion in mature to late successional stages while increasing the carbon storage in trees and forests. Manage in ways that mirror the heterogeneous conditions in natural forests, with many species, age classes, and sizes, thereby reversing the trend towards forest simplification.
13. What are the history, status, and potential future conditions in the structure, of forest ecosystems (in terms of age classes, species composition, habitat dimensions, forest origin, fragmentation, and edge effects)?
14. What the history, status and likely future of losing longleaf pine ecosystem to loblolly pine because of the higher commercial value in growing loblolly pine?
15. What is the history, status and likely future of bottomland hardwood lost to artificial lakes built in the south?

16. These chip mill operations convert natural, mixed forests into scrub lands or at best, land suitable only for forests under intensive management. This latter should be discouraged throughout the Southeast because of the heavy use of fertilization, pesticides and herbicides, and the impacts on our wildlife and water quality.
17. What are the effects of dogwood anthracnose?
18. The replanting of trees should be mandatory with good, hardwood trees, not with pine or other softwood trees.
19. Please address the function of the Dogwood tree in it's role as a first successional calcium provider for pursuant forest growth and health. With the loss of a species, like the Dogwood, how might we expect the remaining forest to function or to fill the gap of this loss? How soon might we see the return of Dogwoods in healthy condition, to pre-acid rain levels of understory development?
20. Address the USFS study of yellow pine growth in the Southeast showing a 50% decline in growth rates from acidification and nutrient consumption. What are the implications of this acidification, on soil ecosystems, beneficial fungi, plant communities, projected growth rates of plantations, plantation sustainability, native forest health and resiliency, and forest buffering capacity to protect aquatic ecosystems from acidification.
21. We are going to face a major increase in demand for forests, intensive agricultural land use of Short Rotation Woody Crops (SRWCs) and other intensive land management schemes develop as biomass energy is promoted by the TVA. There are some serious concerns that need to be addressed on Biomass Energy (BE) in the context of all the other pressures on lands and forests for limited resources.
22. The likely future is complete ecological collapse if issues like global warming, acid rain, urban sprawl, and mindless extraction are not addressed IMMEDIATE
23. How do new silvicultural practices impact productivity of southern forests?
24. What is overall impact of modern forestry practices – assessment done by subregions & ownership?
25. How much land is being harvested in the region, by practice?
26. Rate of conversion of natural hardwood or pines stands to pine plantations.
27. Overlap of plant and animal species that occur in natural and planted forests.

28. Document conversion to other non-forest uses (urban, etc.)
29. Biodiversity differences between NIPE and other large landownership.
30. Compare soil erosion by timber volume across all forest types (plantation, natural, mixed etc....) and by silvicultural practices.
31. Compare siltation/nutrients among [aquatic] forest practices, with agriculture, other land uses.
32. Effectiveness of [aquatics] BMP's in various regions of the south and various site conditions.
33. Should address trend toward monoculture in some areas/ownerships.
34. Should examine trends in rotation age and implications for forest age distributions.
35. Should address differences of objectives of ownerships and their implications for age, type, diversity and other forest conditions.
36. Address how forest management (including health treatments) influences insect and disease occurrence and severity. How does land ownership affect these interactions?
37. Should recognize positive effects of forest management on forest health.
38. Evaluate the hazards of expanding monocultures (or declining gene pool) in terms of insect and disease epidemics. As in host-pathogen relationships related to monoculture. Can BMPs address this concern?
39. All questions should be addressed in light of productivity, diversity, and sustainability.
40. Should address the implications of intensive management/investment across the landscape (substitution).
41. Land ownerships are getting smaller, fragmenting the forest, but how is this affecting diversity on the landscape level?
42. Public lands will be kept or returned to native forest types rather than converted or maintained in plantations.
43. Rotations decreasing continually in pine management as mills use smaller stems, products (OSB vs. plywood) genetics, etc.
44. Incentives for landowner for maintaining natural vs. plantation management.
45. Use tools available from original surveyors to evaluate and document historical forest conditions. (Pre-European)
46. Draw the line at European settlement, or as far back as can be documented.
47. Old farms reverting to nature. Is there a need for management?

48. What is role of forests in urban forests?
49. Age will decrease, species will diminish, stand size will be smaller, stand origin using genetically improved seedlings, and fragmentation will be increased due to more over-sized haul roads.
50. There have been proposals by the Dogwood Alliance to consider the impact of wood product production as a threat to forest fragmentation. For example, chip mills and OSB plants are driving economic forces, which create the need for more and more wood products, thus creating the need for more and more timber harvesting. As a NCFA member, I would like the assessment team to strongly consider the overwhelming impact of population growth in the southern region as a factor in this fragmentation. This will not be possible to assess with the current FIA information. Hopefully, a smaller area study could be done, particularly in the NW and Piedmont regions of North Carolina.
51. How has urbanization and preservation of forests affected the health and growth of various forest land? No management = no growth, no regeneration, no economic return, no sustainability.
52. How has intensive forest management impacted forest structure?
53. What is the basis of saying what the future is? Who is making the determination?
54. Are the effects of genetic altered plant stands going to be considered? How have the stands added to the availability of disease, insects, etc.?
55. Will there be any on-the-ground study on how forests are going to be managed?
56. How many rotations of trees can be grown on a parcel of land before land is worn out? How long is the rotation? How is it managed?
57. How much of the South's land can support extension forestry?
58. Distinguished between a pine plantation and a forest?
59. What intent and intensity of management can aid in a pine plantation conversion to a forest?
60. How are past practices accounted for in how a stand is regenerated?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What factors (insects, disease, fire exclusion, environmental stressors) have and could continue to influence the overall health of the South's forests?"

1. Once a threatening tree feeding pest encounters a monoculture forest, they multiply quickly and consequently weaken the health of these forests.
2. How do short cutting cycles impact soil?
3. Are pine plantations more susceptible to disease outbreaks? What are the potential consequences of such an outbreak? How does intensive pine management impact the composition of soil (microorganisms and nutrients)?
4. Herbicides and fertilizers are used with increasing intensity in modern pine plantations. The effects have not been properly studies.
5. What is the effect of herbicide and fertilizer use on ecology of forests? What the state of knowledge of the toxicity of these chemicals? What types of forest use the most herbicides and fertilizers? How has herbicide and fertilizer use changed over time? How is it predicted to change in the future? How does herbicide use effect the availability of food? How does the use of herbicides affect available cover? Are herbicides getting in streams? If so, how does it affect stream life? Are they getting into residential drinking water? Is fertilizer use causing eutrophication? Are other wetlands being impacted? What animals are at particular risk?

6. In determining what factors have and could continue to influence the overall health of the South's forests, the Assessment should include positive factors, or those that could contribute to health improvement, not just negative factors. Forest management, for example, has been shown to result in improved overall forest health, reduction in the spread of insect attack, and improved vigor of managed stands. Prescribed fire has also been shown to reduce the threat of wildfire and improve wildlife habitat.
7. Impacts due to air pollution. SPB is a natural disturbance and successional factor which the FS refuses to allow to play its aural role. Too frequent burning is destroying the biological diversity of the Loblolly Pine and hardwood forest. The FS has never researched and determined what the natural disturbance acreage is for SHNF in an average year. The FS needs to do this and then manage to take advantage of natural disturbances so a shifting mosaic with functioning ecological processes is created.
8. Overlogging is the biggest stressor in SHNF, Sabine, and Angelina NF last year. Important habitats were logged, streamside areas were violated snags and coarse woody debris were destroyed, and soil disturbance was high.
9. Monitor pollution hotspots over time. Monitor distributional changes relative to climatic change.
10. Monitor sites both with and without perceived problems.
11. Climate Change information--local rainfall, local temperatures, hydrology/water levels, relative humidity.
12. What is the quality of the air for human consumption in urban settings, streets and highways, new home and shopping center developments, agricultural and forest would be of interest. What species and groupings and ages of trees are best suited to give humans the highest quantity of oxygen. Are managed timberlands more or less beneficial to providing good quality air and water for human consumption as compared to unmanaged woodlands?
13. Include explicitly the biggest environmental stressor of all, timber harvest. It is unbelievable that nowhere in the set of preliminary assessment questions is logging explicitly mentioned as a factor that impacts forest sustainability. It is even absent from the Timber Markets category. How have commercial clearcutting and other types of logging adversely affected forest ecosystems, terrestrial and aquatic community structure and health, water quality, and biodiversity?
14. The planning process indicates that forest health and productivity varies significantly by land ownership. Poor forest

health is one of the major resource management challenges facing forest managers across the South. Assessment should identify how forest management can help maintain and improve the overall health and productivity, and thus reduce the spread of insects and diseases to adjacent forest lands.

15. How should "harvesting" levels be limited given the serious decline of the health of our forests? We are loosing our forests to air pollution. I think this should be the number one factor in any evaluation of the sustainability of our forests.
16. The trend toward fire elimination should be reversed.
17. Given the interdependence of species, maintain some organisms that were once considered pests (fungi and insects, for example) because they are essential to maintaining healthy ecosystem function.
18. What factors (insects, disease, fire exclusion, environmental stressors, silvicultural practices) have influence, and could continue to influence the ecological sustainability of forest ecosystems?
19. Active forest management can improve forest health and increase productivity of southern forests.
20. The RPA planning process indicates that forest health and productivity varies significantly by land ownership. The Southern Assessment should identify how forest management can help maintain and improve the overall health and productivity, and thus reduce the spread of insects and diseases (Southern Pine Beetle) to adjacent forest lands.
21. Assessment should investigate the improvements made in the detection of wildfires, bug infestations and forest diseases. Assessment should document the annual amount of forestland protected and saved through the use of silvicultural techniques, pesticides and other practices to stop or prevent infestations. "Natural" forest ecosystems, such as Wilderness and forest set-asides, usually must combat insect and disease outbreaks without intervention by man. The Assessment should document some of these cases in order to highlight the trade-off between active and passive management scenarios. In addition, the Assessment should examine the growing problem of exotic plants and animals and their affect on southern forest ecosystems.
22. Identify how forest management can help maintain and improve the over-all health and productivity, and thus reduce the spread of insects and diseases.
23. Only active forest management can improve forest health and

raise the level of Southern Forests productivity. Without active participation in the management of areas that develop problems whether it be insects, disease or fire hazard, the state of our forest will only decline

24. What is the present health of the various forest ecosystems, and considering present trends, what is the likely future in 20, 50 and 100 years? There are at least five major categories of influence to consider: 1) Development--population growth and shifts, roads, urban sprawl etc.; 2) Climate trends and changes, whether influenced by humans or not; 3) Pollutant loading, doubtless linked with categories 1) and 2); 4) Exotic and invasive organisms; 5) Human "forest management" practices for timber production.
25. The health of the forest and the diversity of the ecosystems need to be considered, as the acreage of pine farms increase, cutting cycles decrease, the use of pesticides, herbicides, fire suppression, clearcutting, off road vehicles and the effect of ozone increase, and the percentage of hardwoods decrease.
26. I strongly recommend a thorough investigation of the potential impacts of global warming on our forests, to measure and document changes as they occur, and to research types of forestry management practices which could help mitigate the process of climate change, and provide an overview of resources and information available on those findings.
27. The frequency and scale of today's clearcutting, along with the vast clearings of modern civilization--highways, malls, cities--are magnitudes greater than those made by nature hundreds of years ago. Today forests face unprecedented stresses.
28. A complex of parasitic wasps is important natural predators of southern pine bark beetles. These wasps depend on the nectar of certain flowers for food. When human management practices change the forest structure so that these flowers are diminished in numbers, the wasps disappear and the pine beetles flourish.
29. Potential pests are limited naturally in diverse ecosystems by the high cost (in time and energy) of locating suitable resources.
30. Perhaps the most profound effects of global climate change will be on the disturbance regimes--frequency, intensity, scale and locale--of droughts, wind and rainstorms, and outbreaks of pests and pathogens. Pollutant loadings of all types, including photooxidants, ozone, acid precipitation, and heavy metals, are increasing. Such pollutants typically behave in concert (synergistically), further accentuating their impact on productivity. Reduced growth, reduced reproduction, and

increased mortality due either to increased susceptibility to pests or pathogens or direct induction of disease, are typical at intermediate pollutant dosages, such as occur in Tennessee. Highly elevated levels of mortality and complete elimination of species may result from high dosages.

31. What changes in forest communities are occurring in response to natural processes or human caused disturbance? How is the health of Tennessee's forests being affected by exotic pests? How is past and current management affecting the health and integrity of forest communities? Factors such as increased carbon dioxide levels and airborne concentrations of ozone and sulfates, sulfur and nitrogen oxides; and the deposition of sulfates, nitrates and ammonia should be considered in the broader context as stress-inducing agents to the forest.
32. Is there any evidence that clearcutting may be harmful to the long term health of the forest? Have studies been made comparing forest health in clearcut tracts against forests in other cutting regimes? Do mature, mixed age forests tend to be more or less susceptible to drought, pests and pathogens than those under even aged management? How critical are the effects of clearcutting on earthworms, other invertebrates, ants, fungi and bacteria involved in nutrient cycling, seed dispersal and to long term soil fertility? How important are these biota to the health of the forest ecosystem?
33. Is it possible that in wholesale logging practices, such as pine plantations and large clearcuts, forests are losing some measure of natural protection from disease?
34. Extreme changes can jeopardize the continuing ability of forests to meet basic needs for material products such as wood, clean water and clean air. What are the limits of our forests, not just in best case of a rosy future, but considering that there are many current and potential problems in forest management? Including global climate change, whether human induced or not, pollutant loadings-including photoxidants, ozone, acid precipitation, heavy metals and other toxins, unprecedented mobility of pests and pathogens, changes in species composition, soil compaction from industrial logging and loss of soil nutrients, synergistic fungi and anthropod populations, tree species, understory and soil biodiversity.
35. Ecological Services.
36. Does the technology exist to create man made facilities to provide basic processes to create clean air and water, carbon cycling, and other ecological and meteorological tempering dynamics. What would it take to secure the long-term provision

- of these processes through the natural processes of forested lands? What are the costs?
37. Soil assessments should be incorporated as well.
 38. What are the projected effects on soil fertility? Will there be a growing vulnerability to disease and pests as forests lose their biodiversity and biological vigor in favor of economic simplification? What are the projected effects of climate change when the landscape changes now underway are factored in? Are southern forests now a net carbon source because of harvest levels? What are the ecological implications of reforestation plans that focus on young fast-growing tree farms that can take up carbon quickly? What are the combined effects of projected climate change and continuation or acceleration of the demand pressures currently being put on southern forests.
 39. What are factors through which, and degree to which, increased forest clearance facilitates spread of invasive species and exotic pests?
 40. I am growingly concerned about the state of our air and water.
 41. What is the impact of forest health on climate and climatic changes? Will biological points of view be considered in determining forest health?
 42. The effect of deforestation and various timber management regimes on temperature control (i.e. global warming, carbon sequestration, and the like).
 43. The effects of intensive clearcutting and widespread replacement of native stands with monoculture on the biological health and vigor of forests, in particular on their ability to adapt to projected climatic changes and future pest infestations.
 44. How successful are attempts to sow or revegetate soils after road building or harvesting? Are these generally infertile soils suited to tree plantation agriculture in terms of initial and multi-generational loss or gain in fertility, and erosion? Soil depth, soil fertility, nutrients and biology should be measured in native hardwood forests and compared to pine plantation soil after 1, 2, and 3 harvest rotations.
 45. Are soils suited to clearcutting and hardwood regeneration in terms of initial and multigenerational loss or gain in fertility and erosion? Locate relatively old hardwood forests and compare the soil depth, fertility, nutrients, and biology to soils in hardwood forests that have been clearcut several times and left to regenerate naturally.
 46. What is the long term effect on the soils of using heavy equipment to harvest the forests? Determine compaction and

erosion on roads, skidder trails, log landings, and harvest sites that have been harvested with various types of heavy equipment 1,2,3...10 years ago. Determine how much soil loss has occurred because of the failure of these sites to revegetate absorb water.

47. How important will intact forests become to stabilizing and protecting water quality and volume in the future if current weather changes (warming) and fluctuations continue?
48. What is the water percolation rates of soils (after heavy rains) in natural stands, vs. regenerated stands where the soil had be sub soiled prior to planting.
49. What is the rate of carbon sequestration by 10 yr. Old stands of plantations vs. carbon sequestration rates of mature forest stands?
50. Include invasive exotic species (not just pathogens) in the list of factors considered.
51. What are the effects of pesticides, herbicides, fertilizing, fire exclusion, on the forest's overall health?
52. How much of the invasive disease and pest problem is the result of the irresponsible logging and fires suppression practices used in our forests? Which practice destroys more watershed, aquatic/riparian ecosystem: Logging or Grazing?
53. Intact forests provide environmental amenities that do not currently carry market values, but which we must understand and preserve (like water purification, erosion prevention, and air filtering). I would like to see your study evaluate the extent to which these environmental benefits are being compromised.
54. Project under various demand scenarios how many acres of native forest will be converted to agricultural tree plantations and the effect of intensive harvest on soil fertility and productivity. Look at the effect of increased fertilization, pesticides, and herbicides required for intensive forest management on aquatic and terrestrial species as well as human health. What factors (pesticides, herbicides, fertilizers, fire exclusion, human stressors such as clearcutting, off-road vehicles, and human produced pollution like ozone, etc.) have and could continue to influence the overall health of the South's forests?
55. What effects acid precipitation and ozone are having on South's forests and their productivity (tree growth)?
56. Forests are essential for recreation, clean air & water, and responsibly harvested wood.
57. What will the effect be of increased chemical fertilization,

pesticides and herbicides required for intensive forest management on aquatic and terrestrial species, as well as human health. How will these practices effect the overall health of the Souths forests?

58. Soil ecosystems are virtually ignored in industrial forestry practices. Soils, treated as dirt, are subject to total canopy removal, loss of buffering acidification capacity, destruction of symbiotic michorhizal fungi communities, loss of decomposer arthropod species, increased heat, dryness, and ultraviolet radiation, increased sheet and wind erosion, compaction and subject to increasing toxicity from aluminum. Please address how many times this can occur to forests before there is irreversible damage.
59. Discussions of forest soils invariable focus on 5 macro-nutrients. Please address the fate of the dozens of other nutrients contained in forest soils that support the plant life and forest community as a whole. How are these other nutrients affected by the assaults mentioned above? How will these nutrients be re-established when washed out consumed by taken biomass, fried, or blown away on the winds?
60. Please address the conditions that would contribute to the greatest loss of nutrients off-site from clearcuts. Is the time of year, amount of biomass removal or rainfall amounts the largest variable? What conditions that contribute to nutrients flushing would have the greatest overall effects on both site quality of soils and water quality? What are the optimum conditions and optimum least damage forest practices needed to minimize loss of nutrients and soil health.
61. Please address the causes of Waldsterben, the widespread forest death of Europe and western asia and the potential for such a decline in forest health on a landscape scale here. How many plant species are now suffering significant damage from ozone, acid and other factors in the Great Smokey Mountains? At what altitude is acid/ozone induced forest damage occurring in the southeast's forests? Has the damage ocured substantially below 3000 feet ASL? If not how long before we might expect to see damage to other forests species at lower elevations.
62. How much can various forest types throughout the southeast be simplified before they become more susceptable to increased disease and pestilence infestations? Address the role of ecosystem diversity in maintaining ecosystem health and resiliency, Can pine farms/deserts be sustained without pesticide inputs to control pine beetles that prey on those simplified systems?

63. How do pine farms clean air compared to native forests? How much native forest cover can we sacrifice before air quality decline becomes even more noticeable than it already is?
64. How much forest acreage in the study area is affected by invasive plants like honeysuckle, Chinese privet, English ivy, kudzu, an other understory and forest displacing exotics?
65. The Tennessee River (AKA the Scenic Sewer of the South) has serious problems with nutrient overloads like the 60 million gallon per day sewage discharge coming out of the Moccasin Bend Sewage Treatment Sphincter. How have the Tenn-Tom, Black Warrior, Tombigbee rivers changed in nutrient levels, herbicide levels, turbidity, and siltation.
66. Please include the findings on soil acidification increasing 38% in just 3 decades, done by researchers at the University of Georgia School of Forest Resources, Duke and North Carolina State.
67. Are the BE (Biomass Energy) crops that actually fix nitrogen in soils and improve soil health, tilth, fertility and productivity. What BE energy crops could be grown in perpetuity (sustainably) on CRP lands? Since, as a nation, we've lost approximately half of the topsoil present before we broke ground, how are topsoil loss rates doing in this decade compared to previous decades? How do topsoil loss rates from SRWCs compare to other industrial agriculture practices? How do they compare to unmanaged native woodlands? How much time does it take for us to replace just one inch of living topsoil?
68. Include invasive exotic species (not just pathogens) in the list of factors considered
69. What is the water percolation rates of soils (after heavy rains) in natural stands, vs. regenerated stands where the soil had be sub-soiled prior to planting?
70. What is the rate of carbon sequestration by 10 yr. old stands of plantations vs. carbon sequestration rates of mature forest stands?
71. What are the effects of pesticides, herbicides, fertilizing, fire exclusion, on the orest's overall health?
72. How much of the invasive disease and pest problem is the result of the irresponsible logging and fire suppression practices used in our forests?
73. My most immediate concern is the cumulative impacts of chip mills on the forest environment; maintaining diversity of trees and other vegetation in forested lands and impacts to wildlife habitat. Also, the history of chip/pulp mills to extract all

commercially viable wood products from large and/or expanding source area then move on to other areas.

74. Human greed and ignorance, global warming, acid rain, urban sprawl, and lack of consideration for the health of the ecosphere are the most critical factor.
75. Examine forest health by balance of native species, ages, (what pops. are declining and exploding, their implication for forest health.)
76. How do varying forest types sequester or produce carbon? Air implications.
77. Socio-economics. What implications tax policies and various landowner incentives have on forest ownerships and management approaches? How do these effects translate to the community at large?
78. How might forests change with eroding private property rights over the long-term?
79. Landowners adjacent to intensively managed land, what are their rights?
80. To the extent that the study evaluations sustainability, the definitions, criteria and indicators need to have input from the public.
81. Loss of prescribed burning due to burns in state adversely affects biodiversity and certain species dependent on it.
82. How does forest health compare in wilderness-like forests vs. actively managed forests?
83. Is prescribed burning being done in some ecosystems to the detriment of those systems?
84. Be certain to factor in ownership patterns when evaluating insect and disease control, fire, etc.
85. Be certain to understand the implications of management actions of one landowner on others. (Southern Pine Beetle Control on NFG and effects on adjacent forests).
86. Education of landowners can help to keep effects of these factors as positive as possible and minimize negative effects.
87. What effect will increasing use of herbicides have on the overall health of the forests?
88. Control burning is an important factor.
89. Ownership – public lands vs. private lands handled differently.
90. Eco-region analysis – never been done before.
91. Availability: landowner attitudes – survey.
92. Physical availabilities – What is industry answer to availability?

Urban-rural interface.

93. What are estate tax laws/policies (arising in land fragmentation)?
94. What are the things the public wants – (1) wildlife, (2) recreation?
95. Fire exclusion – prescribed fire – what are cost benefit ratios?
96. Pesticides – water quality – watersheds that deal with issues.
97. Insect and disease controls will need closer monitoring. Fire and controlled burns need to be brought back into the management equation. Environmental stresses like air and water pollution will increase the severity and frequency of storm events will probably increase causing more and more problems.
98. Past logging practices have had severe impacts on soils in the western North Carolina Mountains. Why is the timbered areas and tree growth continued to grow and improve since this severe logging of the past? Is it because trees are renewable and mother earth can and will continue to heal her?
99. Management vs. non-management on insects, diseases, fire exclusions, universal stressors (active vs. passive management).
100. How is the use of chemicals (in lieu of fire) going to affect the forest? Positive or negative?
101. How is taxation going to affect ownership patterns in health of forests?
102. How is monoculture going to be affected? How is wildlife going to be affected?
103. How are experiments and research improving the health of the forests?
104. How does urban encroachment affect forest health? (Urban use should be added as a stressor.)
105. Are the stressors manageable or irreversible?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

General Comments--Forest Extent, Conditions, and Health

1. Trends appear to be cut & run - Far too many clearcuts; Far too much pulpwood extraction; Far too little attention to forest health.
2. Old growth remnants of the original forest should be left intact (including not cutting within 300 feet of their borders) in order that they remain a seed bed of the original biology and a laboratory for biological and pharmaceutical study.
3. The native forests belong to the people because they are a part of our everyday lives. We need them for ourselves and our planet to survive.
4. Monoculture pine plantations do not support the eco-system like the native hardwood forest.
5. A combination of not using chipmills and planting will help the ecosystem in Georgia tremendously.
6. Need to do a better job of identifying sources of pollution, regardless of geographic source or location.
7. Flash floods have become more prevalent in these forested regions, and local inhabitants decry the disrespect and abuse of the land imposed by absentee landowners who sell their timber for chips.
8. This federal study will hopefully provide the information needed to protect our forests.
9. I must first point out that it is interesting that you have a public comment period, and yet you don't allow the possibility for

answering questions other than these four; very craftily chosen, they were. As 60% of the nation's clean drinking water comes from forest watersheds, it is vital that forest health continue as human growth expands. Forest health means limited cutting. Period.

10. We need to protect Southern forests.· Forests provide clean drinking water, protect habitat for hunting and fishing, and improve the quality of life for families throughout the South.· We aren't against cutting down trees, but we are against industrial-scale chip mills eliminating Southern forest heritage.· Corporations must not build any new chip mills until we have more information about their impact on forests and have adequate safeguards in place for the forests. Please save what's left!
11. Suggested contacting Orié Loucks, professor at U. Miami(Ohio); conducted a study of the mixed mesophytic forest health through SAFAP??
12. What are the impacts of different forest pests/invasers on forest health?



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of water quality in Southern forested watersheds?"

1. Flash flood effects are becoming more common, downstream erosion problems, and the general decline of water levels.
2. Documentation should be made of water quality or lack there of coming from managed forest areas to see if there is a real problem as some state.
3. It should use the extensive research and assessment data which is currently available in evaluating the favorable impact of streamside management zones on non-point source runoff from forested sites.
4. Currently as well as in the past riparian zones and watersheds have been cut to the banks. Huge amounts of sediment erode into ephemeral, intermittent, and perennial streams as is easily seen by the large sand loads and deeply incised stream paths.
5. Measure and monitor water quality, including hydro-patterns (rainfall, temperatures, water levels, relative humidity, UV-B), basic water chemistry, presence or absence and quantity of chemical compounds, Establish a baseline for assessing the effects of pollution (direct and indirect)--need reference sites.
6. A comparison of the stream water quality in and from urban settings, streets and highways, new home and shopping center developments, agricultural and forest would be of interest.
7. Clearcutting (which has now become common around here) and any untreated discharge from the mill would allow sudden turbid

and high BOD runoff which would have an adverse impact on local and downstream water quality.

8. What are the history, status, and potential future conditions for water quality in and around forest ecosystems?
9. Document the roles state forestry associations play in addressing private forestland management concerning water quality.
10. The role of states in addressing private forestland management, particularly in regards to water quality and reforestation, should be documented and recognized.
11. Water Quality should be addressed as point source and non point source, clean water and safe drinking water.
12. How have forest operations effected the water storage and water supply on a watershed basis?
13. Have forestry practices--clearcutting and softwood agriculture--contributed to the decline in water supply for water districts in the area? What role does the holding capacity of intact forests play in the sustained water supply to growing communities?
14. Will water quality be approached as point source and non-point source? Will wetlands mitigation impact forests? Does BMP directly reduce non-point source pollution? Can it be verified?
15. "Future" denotes prescriptive, not descriptive assessment. What methods will be used to predict the likely future?
16. Chipmills promote sedimentation of our rivers and streams.
17. What effect is the increased deforestry activity having on sedimentation rates in reservoirs? Dams have been referred to as "sediment retention structures" by the DOE. What are the implications of accelerated sedimentation on aquatic biology, the life expectancy of reservoirs, and drinking water supplies and quality? What are the implications of increased reliance on chemical fertilizer needed by the pulp and paper plantations to make up for nutrient losses? What percentage of rivers and streams in the study area are eutrophic and to what degree and what are the trends?
18. Which practice destroys more watershed, aquatic/riparian ecosystem: Logging or Grazing?
19. Clarify differences between point and non-point sources.
20. Does this question describe ALL impacts on water quality from activities other than forestry such as point source facilities and other sources of non-point source pollution?
21. This project has two different aspects – drinking water and recreation. Designated beneficial uses need to be addressed as

- well as links to state water quality standards, don't drop out any uses.
22. Several agencies within each state manage point and non-point sources. Which mandates or regulations affect forestry? Under point source management describe which State has primacy.
 23. Water quality is generally good in SE based on experience and available [information].
 24. Do comparison of forested & non-forested land uses by watershed.
 25. Need to consider that different forest types drive different water quality impacts.
 26. What recourse do downstream landowners have from impacts to water quality, caused by upstream activities?
 27. NCSU and Duke have looked at water quality--see them for information. Also, check with Drs. Skaggs and Gilliam, and Delegate Bud Phillips – VA legislature.
 28. Consider the impact of herbicides, applied fertilizers on WQ conditions. The fate of herbicides applied and the differences between low and high intensity management should be considered (Coweeta research).
 29. What are the impacts of new technology/harvesting techniques (chip mills) to be able to harvest previously unharvestable areas, specifically to water quality?
 30. Identify reasons for lack of water quality data.
 31. Concerned about decreasing water quality and quantity related to timber harvesting activities; provided an example watershed - Rockcastle River Watershed.
 32. What is the sustainability of drinking water resources for the future, based on current and future forest practices?
 33. How do different ownership practices affect water quality? Need to address how various land use changes are impacting water quality.
 34. What are the effects of different harvesting and management techniques on water quality, specifically use of pesticides?
 35. What are the social and economic impacts of water quality degradation?
 36. Can sedimentation be examined as part of water quality?
 37. What is the total maximum daily loading for a stream associated with silviculture activities? What is the status of designation of TMDL for streams from non-point source runoff?
 38. What is the percent of streams affected by projected land use

changes?

39. How will streams be defined or classified?
40. Need to include springs, seeps, and caves in water quality assessment.
41. What streams are currently being monitored?
42. What are the impacts of sedimentation and siltation of rivers/creeks?
43. Need to assess upstream vs. downstream effects of clearcutting in the small area assessments.
44. What are the effects of different sizes and manner of clearcuts on water quality?
45. What are the impacts of chip mill technology to water quality (and all other categories)?
46. Need to use land use plans for cities/counties to get an idea about projected future land use and impacts to watersheds.
47. Are you looking at stormwater volumes? Increase in stormwater volumes are associated with forestry activities.
48. What are the impacts of recreation on water quality?
49. What are the impacts of forest roads on water quality?
50. How effective are use of buffer zones/streamside management zones in protecting water quality?
51. Is landscape management feasible for protection of water quality?
52. Need to compare pesticide/fertilizer use in urban vs. forest managed watersheds.
53. Need to identify specific streamside management zone formulae to determine appropriate width of buffers.
54. Need to look at Coweeta watershed studies and data.
55. What are the impacts of urban growth and industry on water quality and the surrounding forests?
56. What are the downstream water quality effects from siltation? What is the current sediment loading? Are you measuring total suspended solids?
57. Can you separate out sources over time and space?
58. What are the impacts of new pesticides?
59. What is the thermal effect of deforestation on watersheds and the landscape?
60. What is the economic cost of increased sedimentation, e.g., impact on water treatment plants and the health risks when systems fail?

61. How do we identify highest priority watersheds for restoration? (Especially from a water quality standpoint.)
62. We need to focus on forested watersheds with highest aquatic diversity areas; at impacts of forest practices in forested watersheds on drinking water.
63. What were water quality levels of past and how do they compare with today's?
64. As hardwood forests age, how will this affect water quality?
65. How will increased recreation use affect water quality?
66. How do we measure water quality degradation attributable to silviculture and identify those with short and long-term impacts.
67. We need to understand the individual effects of all land uses on forested watersheds and water quality.
68. Forest industry focused recently improving water quality. Need to document improvements in water quality by Forest industry.
69. How do we separate effects of historic land use from effects of current use?
70. Show where changes in land use & water quality occur; show link between land use & water quality.
71. If the forest is left uncut the watershed is good. If the watershed is clear-cut without any S. & E. controls then the watershed is in bad shape. Forester should not be exempted from filling a sediment and erosion control plan and then be forced to live up to that plan.
72. Compare and contrast water quality in forested vs. other land uses
73. Document water quality from actively managed watersheds.
74. How have levels of nutrient input affected water quality -- including TDs, sediment...
75. How have pulp mills and chip mills affected tannin login levels, suspended solids, by land use types.
76. Document impact of recreation and tourism on water quality in forested areas



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999

webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of forested wetlands in the South?"

1. It should also recognize the impact of current federal regulation, via the Federal Clean Water Act, on forestry operations today. The Assessment should recognize federal "NO NET LOSS" regulations regarding forested wetlands.
2. An assessment of the quality and accuracy of wetland delineations should be conducted. The smallest of these systems are not well documented.
3. Forested wetlands are being cut down just like pine dominated forests.
4. Wetland species should never be logged, even if the wetlands are seasonal. Cypress mulch is an atrocity to God.
5. Most of the amphibian and reptile (herps) biodiversity in the southeastern United States is dependent on the existence of seasonally-fluctuating, natural wetlands AND the opportunities for these animals to move between wetlands. Most of our wetland herpetofauna use surrounding forested habitat as adult habitat (pond-breeding salamanders and tree frogs), as terrestrial refugia during times when the wetlands are seasonally dry (several turtle species), or as corridors to other wetlands and other water bodies (other turtle and snake species). The conservation of wetlands WITH associated forested buffers and corridor habitats are issues that I feel the USFS must address in their Assessment.
6. Forested wetlands provide habitat for colonially nesting wading

birds, migratory and resident waterfowl, furbearing animals, and freshwater fishes. The upland longleaf pine ecosystem provides optimal habitat for the endangered red-cockaded woodpecker and the threatened gopher tortoise, and for the Louisiana pine snake, Bachman's sparrow, eastern wild turkey, and northern bobwhite quail.

7. What are the history, status, and potential future of forest ecosystem wetlands?
8. Document that the National Wetlands Policy Forum Report identified forestry as an environmentally compatible use in wetlands.
9. What has been the cumulative impact at the watershed level of permitted wetlands mitigation in the South by the U.S. Army Corps of Engineers? How effective has this mitigation been? Do we have a no-net-loss of functional wetlands in the South?
10. The procedures for wetlands determination in forests under different ownership should be studied, as well as legal mechanisms for protection and mitigation. "Track record" of large industrial forestry operations regarding wetlands impacts should also be studied.
11. What is the water quality and the biological diversity of the smaller streams and wetlands in the region? How do relatively undisturbed streams and wetlands compare to those in areas of logging disturbance in terms of water quality and biological diversity?
12. We need the US COE at the table to assess jurisdictional wetlands.
13. What percentage of current wetlands losses are attributable to conversions to pine farms? What percentage of wetlands losses are the result of the USACE permitting process disregarding NEPA, the Clean Water Act and other applicable laws? How will the new 26A wetlands permitting of the USACE affect continued wetlands losses?
14. What are the impacts to wetlands biodiversity from herbicide/pesticide runoff and drift from forest consuming industries?
15. Some claim there is little activity that will not affect the wetland, while others claim that group selection can occur without significant harm. TVA's EIS on potential to alter wetland functions. Why then are any wetlands activities permitted?
16. Wetlands are considered by some to be an arbitrary term subject to interpretation by some depending on motive. Describe the difference between what deforestry industries consider wetlands

- to be and what wildlife agencies and scientists consider wetlands to be. What is the effectiveness of voluntary BMPs in protecting wetlands resources?
17. The status of forested wetlands will vary too much to accurately describe or characterize them.
 18. Identify what incentives exist which allows small, non-industrial private landowners to manage or restore wetlands (e.g. permanent easements, hunting leases, etc.).
 19. Increase of wetland forests (FL) last 10 + years due to better utilization of hardwoods.
 20. Wetlands impacted by development in the past, quality of wetlands important, losing high quality.
 21. Better management of forested wetlands, reforestation increases, better utilization of wetlands vs. permanent losses to development.
 22. What are the impacts of U.S. Army Corps of Engineers activities on loss of forest resources and can they be reversed or minimized?
 23. Include estimation of current amounts of forested wetlands. Are any being protected? Can you predict the localized impacts, amount of pollution from different demand scenarios?
 24. Will there be an evaluation of types of wetlands, both quality and function? Need to emphasize on smaller, at-risk areas, or at least on identifying them.
 25. What are the impacts of reforestation programs on fiber prices of hardwoods (econometric study)?
 26. What are the causes of conversion of forests in the past i.e. agricultural, etc?
 27. Hardwood management is more difficult than pine; need more emphasis.
 28. What are the WQ differences between managed pines and hardwoods?
 29. We need to allow more use of and management of forested wetlands for timber production and other uses (not so much single use).
 30. We need to recognize all of the different types of these wetlands and their unique characteristics that influence their protection and management approaches. We also need to identify this term explicitly.
 31. What is the current and historic distribution and area of forested wetlands (of all types).
 32. We need large, unfragmented tracts of habitat, including

- forested wetland habitat (e.g. >100,000 Acres.)
33. Are we going to target analyses of forest wetlands in an area that has experienced great losses.
 34. We need to include a thorough discussion of the biological value of natural forested wetlands and pine plantations, to which many of them have been converted.
 35. We need to examine the extent to which state and federal government programs continue to support conversion of natural forested wetlands to pine.
 36. Make sure we use accurate numbers when describing forested wetlands, and base science on those. We need to recognize benefits of good forest management on forested wetlands.
 37. We need to look at benefits of forest management in forested wetlands for better water quality and quantity.
 38. Forested wetlands may not be recognized and preserved for their value in their natural state. Especially W.R.T. species habitat, hydrological benefits.
 39. What is the role of forested wetlands in water quality?
 40. There are unanswered questions about delineation of wetlands.
 41. Vagueness of wetlands definition effectively nullifies federal management agreements.
 42. How do all land uses affect forested wetlands?
 43. Maintain timber productivity in flatwoods and other wetlands without degrading wetlands function.
 44. Potential for forming coordinated interagency management of federally administered and publicly owned wetlands. Second Part: Potential for acquiring some kind of management agreement with privately owned adjacent wetlands or corridors?
 45. What about accountability of COE?
 46. Assess cost/benefit/effectiveness of public ownership vs. private ownership in achieving water quality, wetlands, and aquatic habitat.
 47. Impacts of wetlands mitigation and construction? Other wetlands enhanced programs.
 48. Agriculture conversion to forest?
 49. Forested wetland in eastern North Carolina needs help. Most are in fair condition and several corporate giants are trying to do the right thing but several subcontractor or independent loggers cause a lot of problems. Stream monitoring and water quality sampling had helped. Another important factor is that North Carolina has very strong S. & E. laws that should be enforced.

50. How has ditching and draining affected forested wetlands habitat quality?
51. How has conversion of forested wetlands affected water quality, wetland habitat, and forested wetlands?
52. How does altering the migratory pattern of species affect the forested wetland?
53. Document the cause and amount of permanent forested wetland loss in the last 100 years -- include temporary.
54. Define "loss" of forested wetlands. Document forest management compatibility with forested wetlands; other land uses.

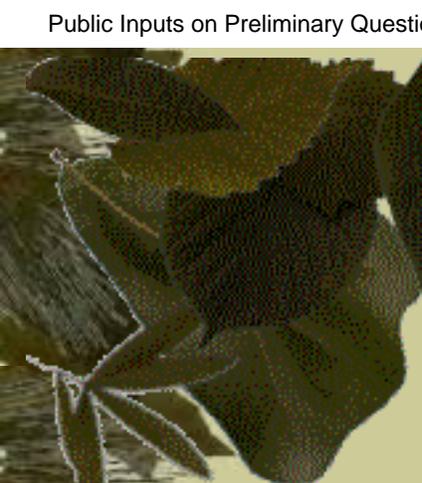


[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"How have forest management activities and other forest uses influenced water quality and aquatic habitat in forested watersheds?"

1. Where are the ecological hot spots for aquatic diversity in the region?
2. In addition to evaluating aquatic habitat, the Assessment should evaluate how forest management activities have influenced municipal watersheds.
3. The Assessment should limit its assessment of aquatic habitats to forested aquatic habitats, and should recognize the lack of historical data in this area. It should also use caution in speculating the "likely future" of aquatic species.
4. Mussels, fish, amphibians, and reptiles that depend on water are declining in numbers and range. This will continue with the present intensive management on both public and private forest lands and only get worse. We are losing the habitat battle.
5. How have forest management and other forest uses influenced water quality and aquatic habitat in forested watersheds?
6. Assessment should recognize the high water quality and diversity of aquatic species associated with forested watersheds relative to other land uses. Water quality can best be protected by retaining forest land in forest cover.
7. The study doesn't include an evaluation of the impacts of clearcutting on plant diversity or aquatic species.
8. Big timber companies could care less about how aquatic systems are affected by their management practices. Scraping the ground

bare like they do, when it rains, tons of silt flows into streams, marshes, and ponds, causing death of aquatic life due to siltation. Not to mention all the erosion on the uplands. I think a minimum of several acres should be left as a buffer along every streamside in any timber or ag lands, commercial or private.

9. Riparian forests, along with bottomland hardwoods, other forested wetlands, and upland forests are not only essential wildlife habitat for species like neotropical migratory songbirds, but also play a key role in maintaining water quality and retaining flood waters.
10. Define aquatic habitat. Is it the water and associated system or does it also include riparian area? Clarify definition and scale of aquatic habitats.
11. I know that whenever a large amount of organic life is removed from a track of land, such as with a logging operation, that alot of topsoil is lost due to erosion. Whenever erosion occurs the soil moves first to the streams and then on to the rivers. Rivers are by nature going to transport a lot of silt and sand anyway but when topsoil is added due to erosion it causes a whole lot of additional problems. The pH of the water can change because of the dissolved phosphorous and accompanying minerals drastically altering the life of streams as well as the river itself. The eroded topsoil also makes it incredibly hard for aquatic life such as spawning fish to complete their delicate cycle. **IN OTHER WORDS I DON'T THINK THAT OUR PRECIOUS SOUTHERN FORESTS SHOULD BE CUT DOWN.** For the sake of everyone, for the sake of the rivers and streams, for the sake of the Seventh Generation of human beings which will be following us after we are long dead.
12. Mussels and fish are mentioned in the assessment plan, but need to include all riparian-dependent species such as neotropical migratory songbirds, mammals, reptile, etc.
13. Need a baseline/benchmark for aquatic habitats, present & future, and describe assumptions for each. What are the habitat needs for specific sensitive aquatic species?
14. What aquatic species will be studied? Just T & E species or other indicators? **ADD** question - effect of exotic species on forested watersheds including aquatic habitat.
15. **ADD** question - effect of exotic species on forested watersheds including aquatic habitat.
16. **ADD** question - address the frequency and occurrence of aquatic species in forested watersheds versus other land uses, i.e. species richness and diversity information.

17. How will FIA data be used in the assessment?
18. What is the impact of exotic species on forested wetlands?
19. Include discussion of hypoxia in Gulf of Mexico as it relates to forest, non-forest in the Assessment Area.
20. Legacy issue - Piedmont- some past practices are responsible for sediment/WQ problems; focus on future & don't dwell on past practices.
21. Other inputs - agricultural & urban uses - locating a watershed with primary forest influences is difficult.
22. Water quantity, not just water quality, is also a factor.
23. Exam the impact of 404 Regulations on forest practices. What are the restrictions?
24. Focus should be on the bottomland hardwood impacts from chip mill activity.
25. Differentiate hardwoods by age distribution, quality factor - old growth, river bottom.
26. Not just age but size and quality with active management (better).
27. Factor in land acquisition programs, purchase greenways, ex. FL.
28. What is WQ? Will be different for each physiographic region; state have different reference streams; can you account for the variability.
29. Development/zoning regs impact on rural forest conversion.
30. Forested watersheds impacts broader than forest activities.
31. Why focus on WQ impacts from forestry practices; other activities - recreation, 2nd home development may be causing bigger problems.
32. Extent of forested wetlands - how good is forested wetland info (use available data; one outcome is that it may not be totally answerable).
33. Look at past history; forests help managed soil (better than agricultural activities).
34. Large river system - function of system - shift of activities from hardwood to CPR pines.
35. Hardwood management - long-term management having 60-80 year horizons with natural revegetation.
36. Relative impacts on mussel populations hard to sort out; other perturbations like agricultural are ongoing issue in Piedmont but also S. Appalachacia. - ``Splash dams".
37. Pine straw contracts - short-term 2-3 years - impacts/reduce

- nutrients.
38. Issue: Discuss population trends with regard to Threatened & Endangered Aquatic Species.
 39. We need to separate historical from modern activities in analyzing effects of activities on habitat.
 40. We need to understand links between habitat characteristics and individual's species needs.
 41. Concern: Where is the study going to find the reliable data to answer all-important questions?
 42. Issue: Use good data to identify aquatic habitats and identify species involved.
 43. Concern: Forestry will be blamed for many or all problems with regard to these habitats and species, whereas forestry may in fact be part of the solutions.
 44. Concern: We need to recognize the effects and measure the effects of exotics and native pests on forested wetland aquatic species and habitats.
 45. Sturgeon listing in Alabama and its possible effects on timber industry. Lack of data (historical) on sturgeon numbers.
 46. How is "aquatic habitat" defined?
 47. Question validity of the statement that lowland forests are steady.
 48. Overuse of "gray literature." Ensure sound science on high level of scientific peer review.
 49. What is the real future of aquatic habitat with continued dredging, channelization, "drainage improvement," flood control, etc.?
 50. Impact of exotics?
 51. Feasibility of correction of problems with exotic species.
 52. Negative impact of population growth on aquatic habitat.
 53. What is the trend of research?
 54. Amount of studies pertaining to aquatic habitat.
 55. How does forestry affect migratory patterns -- by species, by habitat, by management activity?
 56. What are documented bio-indicators, status, and future?
 57. Document what habitats are fragile.
 58. What is the exposure to detrimental activity?
 59. What affects does the conversion of forest wetland have on people and communities who depend on them?
 60. What effects of different land uses on drinking water -- quality,

quantity, cost?

61. Provide regional cost/benefit analysis when values can be determined.
62. Determine impacts of forest fragmentation and shifting of forest land use into other uses on water quality and wildlife habitat.
63. What affects of human development in riparian areas on water quality and aquatic habitat?
64. Likely future use of southern forest watersheds for waste applications and the impact on water quality.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What are the implementation rates and effectiveness of BMP's in the South?"

1. How does increased logging affect temperatures of streams, and how does this affect stream health and species diversity. How does increased cutting change affect peak flow (flooding), and what are the ecological and economic costs?
2. What are the effects of increased cutting on fish, macroinvertebrates, mussels, water fowl?
3. How is aquatic diversity impacted by increased sedimentation?
4. What are the effects of increased cutting on aquatic Threatened or Endangered species?
5. What have been the effects of water quality of various forest management techniques? How might water quality be effected by predicted future harvesting levels?
6. Surveys in the southern forest need to include aquatic faunal surveys as well as terrestrial.
7. Besides causing tremendous erosion in the streams, there is degradation in aquatic habitat and spawning areas for fish and other aquatic life.
8. CLEAN worries about the mud that runs off from the now-common clearcuts and what that mud is doing to our other renewable resources such as the fisheries in the estuary and the recreational boating industry.
9. What are the loopholes in current regulations, policies, etc. relating to forest management that allow for degradation of aquatic systems?

10. Monitor chemicals commonly used in management (e.g. Rotenone).
11. Concern about an indirect effect of such discharges for toxic chlorocarbons such as the PCBs, hexachlorobenzene, and hexachlorobutadiene. Even though such molecules (and their relatives, the dioxins and furans, for which there may eventually also be regional advisories) are water insoluble, turbid water contains clay particles to which the toxic substances attach electrostatically. That mechanism allows poisons which would otherwise be sequestered in the bottom sediments, to instead be kept resuspended in the water column where swimmers and seafood can come into direct contact with them, exacerbating the exposure hazards.
12. The direct and indirect impacts of logging must explicitly address aquatic ecosystems.
13. Assessment should document the high water quality and diversity of aquatic species associated with forested watersheds, relative to other land uses. Research and management programs underway by public agencies and the private sector designed to further improve water quality should be highlighted.
14. Assessment should document that water quality and wetlands can best be protected by retaining forest land in forest cover. Forest lands will need to be actively managed for forest products and recreation that provide an economic return, or landowners will be pressured to convert those lands to higher economic uses that are less protective of water quality and aquatic habitats.
15. We encourage a particular focus on the effects of timber management activities on the aquatic resources of our region.
16. We are interested in the potential participation of industrial and private landowners in the restoration and reforestation of the alluvial floodplain.
17. In terms of their sustainability, what are the history, status, and potential future conditions of aquatic habitats and aquatic species?
18. Assessment should document the high water quality and diversity of aquatic species associated with forested watersheds, relative to other land uses. Research and management programs underway by public agencies and the private sector designed to further improve water quality should be highlighted.
19. We would like to see the Assessment compare and contrast water quality studies from forest landscapes, rowcrop agriculture, livestock agriculture (including mass production swine and poultry operations), urban runoff, and other

- non-forest non-point sources of pollution.
20. Document the high water quality and diversity of aquatic species associated with forested wetlands.
 21. The Assessment Report should document that water quality and wetlands can best be protected by retaining forest land in forest cover. Forest lands will need to be actively managed for forest products and recreation that provide an economic return, or landowners will be pressured to convert those lands to higher economic uses that are less protective of water quality and aquatic habitats.
 22. To adequately assess the full impacts of timber cutting on landscapes and water systems, the study will need information about the impacts of not just siltation, but of the commonly applied herbicides in forest "management".
 23. What effect does clearcutting have on the siltation of streams, especially in the mountainous areas of the Southeastern mountains? How long does it take a stream to recover from the siltation of a clearcut and what is the impact to the stream, the wildlife, aquatic life, and human life in the time that it takes to recover?
 24. What are impacts or potential impacts on effectiveness of hydrological functions of forests, I.e. regulation of water supply and volume, from increased industrial logging?
 25. Where have water quality and aquatic habitats been effected by sedimentation from logging operations?
 26. How have changes in forest type (hardwood conversions, cutting older stands) effected water quality and aquatic ecology? Which past and current forestry operations have effected 303d listed streams? Which may be effected by future operations?
 27. Do current management practices consider effect of massive clearcutting on water quality? Have aquatic species in areas of vast clearcutting been affected?
 28. We are naturally concerned about forested wetlands in Louisiana's coastal zone. In the most southern parts of the state, some areas of forested wetlands have already been impacted by salt water intrusion as a result of coastal land loss and sea-level rise. Other areas stand to be impacted if projections of continued land loss come to pass. We are also cognizant of the risk of accelerated sea-level rise from climate change, and the projected effects this would have. Projections about the future of forested areas in Louisiana's coastal zone therefore seem somewhat uncertain, since the extent of future land loss, climatic and human impacts, and protection and restoration efforts all have to

be factored in. Forested wetlands areas are being affected by urbanization on a large scale.

29. We are also concerned about the health of coastal river systems, and the downstream effects of upstream activities.
30. The impact of past and present timber practices and management regimes on biodiversity in southeastern watersheds, including the conservation potential for aquatic species throughout the southeast.
31. Examination of state lists, prepared pursuant to Section 319 of the Clean Water Act, in order to identify the sources of nonpoint source pollution in southeastern states. This information should then be used to determine the nature and extent of nonpoint source pollution attributable to forestry practices in those states.
32. The impact of various timber harvest and management scenarios on water quality and watershed health. The impact on water quality and watershed health, including human health and the health of aquatic and terrestrial species, of the increased use of fertilizers, pesticides, and herbicides associated with intensive forest management. The impact of deforestation and attendant increases in the speed and rate of runoff on aquifer recharge. The cumulative environmental impact, including water quality degradation, increased siltation, and the like, of intensive clearcutting or other intensive harvest regimes on downriver ecosystems, such as the Gulf of Mexico.
33. The landscape effect of timber harvest practices such as simplification of forest system, soil compaction and treatment with herbicides, and effects on aquatic ecosystems and waterways.
34. What are the consequences of forestry related soil erosion on water quality?
35. The Assessment Report should document that water quality and wetlands can best be protected by retaining forest land in forest cover. Forest lands will need to be actively managed for forest products and recreation that provide an economic return, or landowners will be pressured to convert those lands to higher economic uses that are less protective of water quality and aquatic habitats.
36. Document effectiveness of in-place voluntary BMPs in the South using data already collected by state agencies.
37. Many permits for wetlands disruption are given to riverside demanding industries who then proceed with their activities to adversely affect wetlands off site by their cutting and landscape manipulation practices. Though this is reasonable foreseeable in

- the permitting process, why are these impacts ignored by the permitting and consulting agencies?
38. Address the impacts of deforestation, pine conversion, and other landscape changes in increasing flood levels and frequencies? What are the implications of these increased flood levels and frequencies on re suspension of sediments and toxins buried in sediments in affected rivers? Please address the change in water temperatures from upstream impacted waters flowing into the main river systems. What effect do those increased water temperatures have on the aquatic life of the main streams and the feeder streams themselves?
 39. Address the loss to fisheries and coastal aquatic ecosystems from ballast water discharges of exotic aquatic species into US waters, associated with the global trade in forests and chips occurring out of southeastern and southern export terminals. Did they call them "terminals" on purpose? Red tide is one of the more heavily traded exotics causing the greatest damage to fisheries. What percentage of red tide algae are imported through exporting vessels associated with chip and pulp trade?
 40. Big timber companies could care less about how aquatic systems are affected by their management practices. Scraping the ground bare like they do, when it rains, tons of silt flows into streams, marshes, and ponds, causing death of aquatic life due to siltation. Not to mention all the erosion on the uplands. I think a minimum of several acres should be left as a buffer along every streamside in any timber or ag lands, commercial or private
 41. Just go to any city and get in a canoe and go down any river and you will see the problems. We need to put a tax on businesses whose products pollute. The tax should cover the cost of cleanup. For example, Coke and Pepsi cans and bottles are all over our rivers. This is a cost that rich companies, like coke and pepsi, should pick up. Why let companies make profits by polluting and shifting the costs to the taxpayer.
 42. Variations in enforcement of voluntary BMPs: state-by-state and region.
 43. Document effectiveness of voluntary BMP's that are currently in place in the south.
 44. Current laws are reactionary. BMPs are a response to a problem rather than a solution.
 45. Voluntary BMPs are ineffective and destructive. (Make speed limits voluntary).
 46. Compare water pollution levels where BMPs are strictly

- enforced vs. where voluntary. Also the cost of cleanup.
47. Use a cost-benefit analysis to compare voluntary vs. mandatory BMPs.
 48. How do these reduce or increase the incentive to practice forestry (e.g., timber harvesting bonds)?
 49. Relate historical forest management activities (or lack thereof) to present conditions and include historical conversion of forests to agricultural use. Compare cotton fields to forests from a sustainability aspect.
 50. How does private ownership affect habitat/habitat requirements for aquatics?
 51. What are the impacts of different forest management activities (clearcut vs. selective cut) on water quality?
 52. What are the differences in impacts to water quality from recreation vs. forestry use?
 53. Can source of contaminants be described?
 54. How do you anticipate land-use changes from forest to non-forest and how do these changes affect forest resources? Interstate 69 proposal was mentioned as example.
 55. Relate this question to Sodbuster, Swampbuster and other reforestation programs and mandates since agriculture incentive programs such as WRP, CRP, CREP, EQUIP, etc., affected water quality.
 56. Concern: Currently, only forestry agencies at state level are cooperating. To answer this question, we must involve non-forestry agencies. (I.e., water quality, wildlife commissions and programs.)
 57. Issue: Compare impacts of various land uses on habitats with forest use impacts.
 58. How do lands managed for forestry differ in effects on water quality from other management purposes? Aquatic habitat?
 59. What are all land use effects on water quality throughout the forested watershed?
 60. Consider maintaining and increasing biodiversity in streams and wetlands, i.e., concern for T&E.
 61. Consider spatial relationships between kinds of aquatic habitats and types of terrestrial habitats.
 62. Consult Oxford Hydro Lab in this assessment.
 63. More research needed in water quality and aquatic habitat. (We know so little about this subject.)
 64. Need increased public education on importance of watersheds to

water quality and aquatic habitats.

65. Urbanization impacts on coastal areas (ridge to top to coastline).
66. What are costs benefits or effectiveness of regulation vs. non-regulation (punishment vs. rewards) in achieving water quality/aquatic habitat/forested wetlands protection and/or enhancement?
67. Greater forest harvest pressure (clear cutting) is adversely impacting water quality.
68. The biggest problem now with forest in Eastern North Carolina is size of clear-cuts with inadequate S. & E. controls and over-sized haul roads with canals. The miles and miles of old farm drainage canals are what caused the swamp-buster laws to be written. These canals are sometimes now in forested land and probably should be recovered as wetlands. This is going to take a case-by-case study for some of these canals are over 200 years old and is the only means of egress.
69. How has natural to managed stands affected water quality and aquatic habitat?
70. What is 'baseline' for "natural" stand?
71. What land use has least negative impact on water quality and aquatic habitat?
72. What are benefits of forested wetlands (economic, ecological)?
73. Compare and contrast forest management on water quality by prescription by geophysical region, by land uses.
74. Document affect of herbicide spraying on forested wetlands and water quality.
75. [Consider] other introduced anthropogenic chemicals.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

Below is the original wording of one of the preliminary questions and public suggestions or concerns submitted about it--for details see our [Public Input](#) or [Methods](#) pages

"What is the history, status, and likely future of aquatic habitats and species in the South?"

1. What is the percentage of sedimentation problems in the region due to logging? What are the ecological and economic costs of increased silt?
2. Would these costs be mitigated by increased compliance with Best Management Practices?
3. Of critical concern is that BMP's have not been well monitored or followed.
4. Increased cutting and poor adherence to Best Management Practices has led to increased siltation.
5. The Assessment should recognize the role BMPs have played in defining Streamside Management Zones (SMZs) and resulting high water quality in managed forests.
6. In evaluating the implementation rates and effectiveness of BMPs in the South, the Assessment should note in which states BMPs are regulated by law and in which they are voluntary. Implementation rates and effectiveness of BMPs should be evaluated and reported by state, not in aggregate. Evaluation procedures of BMP implementation rates and effectiveness should be in accordance with those of the overseeing body or agency within each state.
7. The BMP's do not work because the very veins of streams, the ephemeral streams, are not protected and BMP's are voluntary and not mandatory. There is no law enforcement presence to make sure that BMP's are followed and loggers rationalize they

have to log riparian zones or some other logger will do so and will not log as well in these areas as they will.

8. BMP's are a failure. Voluntary programs do not work. We need regulations with teeth.
9. The TFS will tell you they are very high. But their program is inadequate. Their sample is not large enough to provide an accurate picture of how well BMP's are being implemented. We are not impressed with the Texas, voluntary, BMP program.
10. Please look also at the effectiveness of Best Management Practices. In my neck of the woods, I can't see that they are working. What must we do to put teeth in them? They should be mandatory, not optional. If we stiffen and enforce the punishment for BMPs, and enforce the Endangered Species Act, there would be habitat, and less ditching of wetlands, for example. And wouldn't BMPs be more effective if we required rules like the 30-foot stream buffer, but made a practice like single tree selection (where you harvest individual trees over decades instead of clearcutting the entire forest and thus destroying it) the optional management practice to shoot for?
11. Analysis of the need for region-wide uniformity of compliance of Best Management Practices (BMPs); not excluding recommendation of complete change of this 'voluntary' policy that often does not adequately protect riparian systems before the fact.
12. Is there a significant difference in water quality between States/Counties with required BMP's versus those where BMP's are voluntary?
13. Develop BMP's for herp conservation (with focus on agricultural lands, vernal pools, subdivision/residential areas and road construction).
14. BMP's. Ultimate goal is to prevent erosion. Of the total land use within the south, what is the percentage of sedimentation from the urban settings, streets and highways, new home and shopping center developments, agricultural, and forest? What is the cost benefit ratio between clean up or correctional costs and regulated enforcement expense for each of the above.
15. Assessment should document the high water quality produced for forested watersheds that are actively managed with high rates of BMP implementation by the forest industry and forest landowners. The effectiveness of BMPs in protecting water quality should also be documented using the results of state forestry or environmental agency BMP assessments.
16. The Report should point out that the state forestry agencies have

had the primary responsibility for promotion, education, and implementation of state best management practices. The role of states in addressing private forestland management, particularly in regards to water quality, should be documented and recognized.

17. But I want to know if there exists a region-wide attempt to educate landowners to protect our watersheds; any attempts that have teeth? How many counties lack effective policies and staff to do the job? Should such protection be mandatory? We certainly know the data in VA reflects the voluntary BMPs are a joke.
18. We are also interested in the success of Best Management Practices (BMPs) in controlling siltation in forested wetlands and in upland streamside management zones. State BMPs should be evaluated for their effectiveness in protecting freshwater mussels, limiting logging damage to natural regeneration, and discouraging high-grading.
19. Decrease sedimentation loading in streams and rivers.
20. What is the implementation rate and effectiveness of BMP in promoting ecological sustainability of riparian and wetland systems?
21. Forest industry and landowners implement BMPs at a high compliance rate and the study should document the results of state assessment reports.
22. Assessment should document the high water quality produced from forested watersheds that are actively managed with high rates of BMP implementation by the forest industry and forest landowners. The effectiveness of BMPs in protecting water quality should also be documented using the results of state forestry or environmental agency BMP assessments.
23. The Assessment should query all southeastern states to best determine compliance rates with state BMPs. The result should be stratified by landowner type and timber purchaser.
24. Results of state forestry and environmental agencies assessments concerning BMPs and their effect on water quality should be used as part of the assessment. State Forestry Agencies throughout the South have the responsibility for overseeing BMP implementation. This role played by individual states should be documented and used in developing the final results for the assessment.
25. Please point out the important role that the state forestry agencies have had in the promotion, education, and implementation of state best management practices.

26. The study should look at localized effects under various demands with and without strict, enforceable Best Management Practices. It should look at localized effects when BMP's are not followed and compare the cost savings to the cost to the public in water pollution and soil loss.
27. The Report should point out that the state forestry agencies have had the primary responsibility for promotion, education, and implementation of state best management practices. The role of states in addressing private forestland management, particularly in regards to water quality, should be documented and recognized.
28. To what extent do scenarios such as this occur: Landowner put 160 acres of timber land up for bid to be clearcut, not requiring BMPs. Timber Company A successfully bids on tract and voluntarily implements BMPS, including a significant area of Streamside Management Zone, to their economic disadvantage. Afterwards, Landowner hires Logger to harvest Streamside Management Zone. Logger does not follow BMPs. How can this be addressed?
29. To what extent can it be verified that BMP implementation has directly contributed to reductions in non point source pollution with a resulting increase in water quality?
30. Blanket figures on compliance must have some substantive basis, and the methods for compiling them must be clear. For the federal study to be credible, it cannot accept bald or blanket assertions from state agencies or the timber industry about the extent to which BMPs are being implemented. The methods for arriving for any figures, and the limitations of such methods - indeed, whether they have any real value in assessment - must be openly discussed by the federal study.
31. In regard to reforestation efforts, it should be clearly stated whether standard BMPs incorporate ecological considerations.
32. What impact would mandatory BMP's with enforcement requirements, as opposed to voluntary BMP's with no enforcement, have on the forests of the Southeast?
33. Include methods of BMP implementation, where these are mandatory and effects of voluntary/regulatory BMPs on various indicators.
34. This is a very important issue warranting thorough evaluation; including compliance records, BMP models and their differential adequacy, and attitudes among public and forest user groups toward BMPs and their role in forest protection.
35. How many logging operation are using experts, consultants or

- technical assistance in planning and implementing a forest harvesting plan and how may are not? Re: water quality. What are the relative water quality impacts associated with planned or unplanned logging sites? Are voluntary BMPs sufficiently protecting water quality and sensitive species when used?
36. Is the existing number of forestry service personnel able to monitor the increased rate of harvesting that is occurring in the Southeast with regards to gross negligence of BMP's? Are the existing deterrents for gross negligence of BMP's by loggers sufficient or is it more cost effective for them to ignore BMP's and hope that they don't get caught and more economical for them just to pay the fine if they do?
 37. The accuracy of state reporting regarding Best Management Practice (BMP) implementation. The methods, if any, of verifying the accuracy of self-reported compliance with BMPs, or determining the type and extent of compliance with BMPs in the absence of self-reporting. The effectiveness of BMPs in reducing erosion and preventing water quality degradation in local watersheds associated with intensive timber harvest, particularly in light of the apparent conflict between state reported BMP compliance exceeding 90% and continuing evidence of ever increasing nonpoint source pollution throughout the Southeast. The existence of enforceable, versus voluntary BMPs, in Southeastern states and a comparison of the effect of BMP implementation in voluntary versus compulsory BMP states on levels of nonpoint source pollution in those states.
 38. Are the state's BMPs protecting the various soil types of the region? Soil on recent and older forest harvest sites as well as non harvest sites should be studied and compared. Soil profiles should be collected and comparisons of compaction, available water capacity, water percolation and permeability, thickness of various layers including loam, erosion factors, pH, and productivity should be determined.
 39. Are the State's voluntary BMP's adequate to protect water quality in areas with steep slopes and erodible soil?
 40. I'm concerned that pressure from environmental groups might cause the USFS to stop commercial timber sales. I've always view the FS a leader in hardwood timber management and providing on the job training for loggers in best management practices in the eastern mountains. If the FS is not there to set a good example, who will? Will we continue to improve as much as we have?
 41. The Report should point out that the state forestry agencies have

had the primary responsibility for promotion, education, and implementation of state best management practices. The role of states in addressing private forestland management, particularly in regards to water quality, should be documented and recognized.

42. Look at localized effects when Best Management Practices (BMP) are not followed and project increased damage with increased demand and harvest activity; compare the cost savings to a logger who doesn't follow BMPs to the cost to the public in water pollution, soil loss, and environmental services such as air quality, water filtration, and water quality and quantity.
43. Compare BMPs by watershed types or land use – forestry, agriculture, urban, etc.
44. In most areas BMP's are only voluntary so there are really no solid laws regulating how the logging will be done. State forestry personnel are already spread too thin to oversee the big increase in cutting. The relatively low price paid for wood cut for chipping does not allow for better timber management such as selective practices. At \$5 a ton, everything gets cut and loaded on the truck as fast as possible.
45. I am appalled that Best Management practices are not mandatory. Yes, the forester can execute some power in making loggers adhere to certain regulations, but the reality is there are no good, solid, regulations, and often punishment is too little, too late. Quality of life is seriously diminished by destructive logging practices. This disregard could be largely eliminated by making Best Management Practices a way of life for all members of the timber industry.
46. Look at localized effects when Best Management Practices (BMP) are not followed and project increased damage with increased demand and harvesting.
47. What is the success rate of wetlands "mitigation" (panacea) measures? How much time does it take for a mitigated "wetland" to support the full spectrum of biological functioning as was provided by the displace native wetland? What level of forestry activity can be performed in a wetland before there is significant impact to the functioning or health of the wetland ecosystem.
48. How extensive are the BMP's being ignored especially on private land? With current over harvesting will the introduction of new markets, particularly chip mills, multiply the rate of overharvesting?
49. Point out limitations of current research on BMP effectiveness monitoring.

50. Can you correlate water quality conditions, BMP implementation, and status of research?
51. Explore good things that have been accomplished by state non-point source agencies in protecting water quality in partnership with forestry community.
52. Tie-in weather database from EPA and relate it to climatic regimes.
53. How do you define “implementation rates”? (94% implementation means what)? Clarify difference in implementation versus compliance since this varies state by state agency.
54. Use of implementation rates is invalid since it perpetuates a less scientific approach to BMP monitoring. Suggest use of compliance versus implementation.
55. Implementation rates are relative over time, so keep this measure in order to not lose BMP information, even if you cannot directly link implementation rates to water quality parameters. It does offer a measure of program success and promotes watershed partnerships between timber industry, state and federal agencies.
56. Water quality parameters such as TSS are setup in non-forested watershed. We need data for forested wetlands.
57. Define what is normal for water quality parameters and relate to water quality standards. How do you consider agricultural runoff, non-forest road construction, and other activities when discussing sustainable forestry?
58. Are there mechanisms in place to address poor practices (=bad actors) that result in water quality degradation? Who, what when and where?
59. ADD question: “What landowners incentives exist (or where do you get information on incentives) for implementing forestry BMPs”? Address financial incentives, peer pressure, conservation group/state/federal partnership programs, etc.
60. High BMP compliance rate in FL 85 %; good training -master loggers certification. FL BMP study done.
61. Good BMPs provide good protection of the wetland system - (FL exp).
62. Better BMP implementation, better self policing - greater education & awareness.
63. BMPs are not really voluntary, but regulatory via the WQ criteria. GA Pacific has good info. (NASA conversion study/analysis information?)

64. Greater public education - difference in attitude between resident & absentee landowner.
65. Cost/ benefit of successful BMPs vs. cost of WQ/stream cleanup.
66. State by state differences in BMP's - logger may need to know differences - FL/GA reciprocity cross state training.
67. GA Pacific believes that BMPs should be tailored to terrain, soil and eco-regions etc.
68. Assess the sufficiency of current or proposed BMP's on paper as written prior to studying implementation.
69. Assess all of the costs to the public when BMP's aren't followed, with regard to water degradation.
70. Assess the usefulness of education programs for BMP's implementation rates.
71. Evaluate implementation differences between states that require BMP's vs. those that support voluntary BMP's.
72. Address the differences in each state's BMP's, and evaluate their effectiveness.
73. What is actual NPS pollutant loading from forestry to non-forestry? BMPs to no BMPS?
74. Perception is there is low BMP implementation in MS, i.e., logging up to the stream (on private lands). Not consistent across land ownerships.
75. Incentives to encourage BMP implementation.
76. Actual BMP implementation is relatively low despite implementation reports.
77. Implementation rates now fairly well documented. It is time now to document and/or BMP effectiveness on protecting water quality.
78. Education about and expanded use of NPS BMP implementation, not just forestry.
79. Acknowledge progress in forestry BMP implementation.
80. Validity of the literature review on BMP effectiveness; would really like to see bibliography.
81. Would like to preview work in progress, to review any models, to review any data.
82. Effectiveness of BMPs on private/government/corporate lands. Assess cost of BMPs.
83. Why are attitudes different from one landowner type to another?
84. How will water quality be measured? Compare source of contaminants? Impact from roads?

85. The Neuse Rule in North Carolina may not be able to affect this study, but it may in the future provide good data on implementation rates. (Previously, BMPs were voluntary; with passage of rule, they've become essentially mandatory). It may also show what is more acceptable to the various landowners. This Rule doesn't much affect forestry, but may give data that can be extrapolated.
86. Compare legal requirements by states.
87. Start with published reports on BMP implementation by states.
88. How are BMP requirements being enforced by each state?
89. Document the effectiveness of BMPs as enforced by the states.
90. Document the existence of and effective of BMP training program for getting them "on the ground".
91. Compare and contrast BMPs for other land uses.
Implementation and effectiveness
92. What are costs and benefits of mandatory BMPs? Prior notification of timber sales? How does prior notification affect BMP compliance?
93. List of BMPs by state and Nationwide.
94. What are costs to individual landowner, loggers, and timber buyers -- to implement BMPs?
95. What are pros and cons of the voluntary nature of BMPs in South?
96. BMPs effectiveness study available for FL.
97. BMPs - not just sediment load also- temp. carbon. Is the 35-foot buffer adequate?
98. Need to exam the BMP implementation rate, Raburn Co. BMP Study. Exam specific elements and not just the average compliance.
99. How are BMP ratings made - better consistency among states - FL, AL, GA.
100. Buffer requirements under BMPs are not adequate to protect the eco-functions in some instances.
101. Acknowledge work by forestry in achieving high quality water through use of BMP.
102. How are state incentive programs working for BMPs?
103. How will this study impact industry compliance with the Clean Water Act?
104. Who enforces existing/current regulations? How do they enforce? Can they effectively enforce and who pays for it?
105. What is effectiveness of mitigation practices?

106. Compare watershed conditions with and without BMPs.
107. Conduct a comprehensive literature search on BMP compliance and water quality impacts.
108. What is the difference in effectiveness between voluntary BMPs and mandatory BMPs?
109. Does the timber harvester have any economic benefit from ignoring BMPs and how could this affect the productivity of the land?
110. How are BMPs developed and updated?
111. Need to compare the effectiveness of BMPs along physiographic lines - soil types, vegetation types, slopes, etc.
112. One person suggested using data from the National Council for Air and Stream Improvements - specifically have data that compares voluntary vs. mandatory BMPs.
113. How effective is the USFS in utilizing BMPs to protect water quality?
114. Federal managers (USFS) “teach” achieving good water quality through BMPs, but seemingly not with private lands. Need to have more educational efforts to reach private landowners about BMPs and good water quality.
115. How has water quality progressed since BMP implementation?
116. BMP's - Frank Green - Athens Data (EPA?) show forested watersheds better than non-forested.



[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)

Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

General Comments--Watersheds, Aquatic/Riparian Ecosystems, and Forested Wetlands Category

1. Clear-cutting of large tracks of land can destroy plant and wildlife habitat, lead to soil erosion (which leads to decreased ability of a forest to absorb heavy rainfall and eventually causes flooding), and the siltation of streams and reservoirs.
2. What conditions will be needed to sustain/restore watersheds, aquatic/riparian ecosystems, and forested wetlands in the south?
3. Between 1830 and 1930 when King cotton reigned we have lost 1 1/2 ft of topsoil. All of it went to our rivers and streams. That is why every river in Ga is brown.
4. Define watersheds and differences between watershed, sub-watershed. Define landscapes. Clarify what a forested wetland is.
5. Please define "Best Management Practices."
6. What are the impacts of fertilizers and pesticides to water quality and other potential receptors?

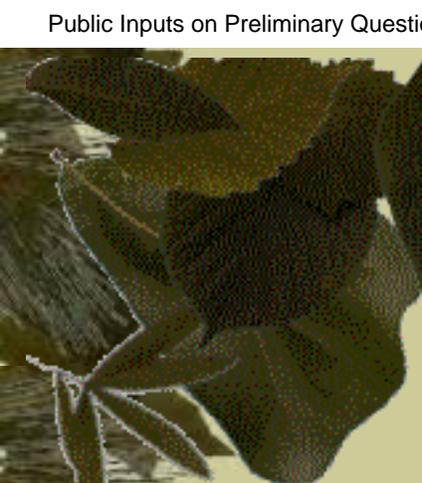
[Question as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)





Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

Assessment Methodology

1. We believe that your proposed timeline will not give researchers enough time to adequately address all of the issues before you in this assessment. After the completion of the initial conclusions in this two-year assessment, we hope you will consider continuing the research.
2. I encourage the Fish & Wildlife Service and Environmental Protection Agency to provide similar amounts of staff time and other resources that the Forest Service has committed to this study.
3. If the findings could be reviewed by a "panel of experts" before it is made public, so much the better.
4. The good intentions of those involved in the study are too often defeated by a limited range of perspectives, initial presumptions controlling the evaluation process, and short-sightedness in the consideration of impacts.
5. Enclosed are the comments of the Houston Sierra Club (HSC) for scoping for the two year assessment of forest resources of 13 southern states. We request that we be placed on the mailing list to receive any and all documents or information about this proposed study. We would appreciate it if you would send us the most current information that you have on the study.
6. I recommend the Forest Service and other cooperators begin planning for the next step after the two-year assessment. For example, based on the information gathered, prepare guidelines for management of southern forests that could be disseminated to other Federal agencies, State agencies, local governments and

private landowners.

7. I would like the task force to adopt a more complete definition of ecological sustainability, somewhat akin to that developed in the Journet and Logan paper available at: (<http://cstl.semo.edu/journet/bi684/LoganC.htm>), namely: "Sustainable management will: Provide from the forests to current and future generations (in perpetuity) a wide array of goods and services in addition to wood products, while protecting biodiversity, maintain ecological processes and the ability of ecosystems to respond to disturbance and accommodate change while recognizing the ecological limits imposed by a planet with finite resources, promote forest health and productivity, prevent industrial pollution and waste, while promoting resource use efficiency (reducing consumption). In addition, sustainable management will assure social justice through allowing equitable access to and consumption of natural resources. While the principles of sustainability do not prescribe management techniques, employed strategies and techniques will be socially responsible, and will promote management of complete ecosystems. Finally, ecologically sustainable management will acknowledge the intrinsic value of the natural world." I also think the questions for which data are sought should explicitly focus on 'ecological sustainability' rather than 'forest land base' and the like, indicating that the goal is to assess sustainability not just how many harvestable trees are out there.
8. Evaluate forest quality on a landscape rather than a stand level, and attempt not just to maintain quality, but to enhance it.
9. Your definition of sustainability as contained in the handout is right on target.
10. I believe maintaining biological diversity is the key concern. Without biodiversity, human health, wildlife habitats and rural community stability are challenged.
11. Perhaps this study of our Southern forests could go beyond the protection of wildlife habitats to include humans as well. The diminishing of soil, water and air quality, the dependence on aerial spraying of herbicides, the uncertainty of timber markets, the short life of chip mills, the loss of farmland to feed ourselves -- these can greatly undermine human health and security. Uncertain profits from commercial timberland will not be enough to repair the damage.
12. One of your team members has shown a definite bias against private property rights. How will you assign and distribute your work load to ensure all team members are fairly considering the job at hand?

13. Will you attempt to come up with a definition of sustainable?
14. The term "forest" is used generically, and it is not clear how rigorous and specific the study intends to be in its use of the term. Ecologically, a forest refers not just to tree species, but also to understory plants, animals, and the interactions between them. Native forest ecosystems, and in particular mature native forest ecosystems, are under the greatest threat.
15. Initially, the GRN would like to recommend to the report authors that additional federal agencies actively participate in the study. The study authors should work closely with the U.S. Army Corps of Engineers (Corps) to determine the impact of the Corps' regulatory/permitting activities on the nature, extent, and health of forested wetlands, NOAA to ascertain the impact of present and future forestry practices on coastal water quality and fisheries habitat, the study authors must work with the Corps, NOAA, the U.S. Fish and Wildlife Service, the U.S. Environmental Protection Agency and other federal agencies to determine the role the federal government has played in the staggering loss of bottomland hardwood forests in the Louisiana and Mississippi Deltas and the potential contribution federal agencies and the policies they implement will have in continued losses of these forests in the future.
16. The term sustainability should be considered from both economic and environmental standpoints, and it should be clearly stated which sense of the term is being employed.
17. As I read through your questions, I see many references to ""the likely future"" of various forest elements and values. You do not say what assumptions this ""likely future"" will be based on. It is important to recognize that people have considerable control over that future. What is the ""desired future"" of these elements and values?
18. I am concerned that the wording of several sections and questions suggests that what already is will have to continue to be. You should assess the opportunities for restoring more natural ecosystems and wildlife habitat to benefit wildlife, clean water, etc. The focus appears to be on what the future may hold for forest products at the expense of other values. Your scope should be broad and include consideration of the cumulative effects of management for commercial products on functioning ecosystems, wildlife, and other noncommercial values, also.
19. The Southern Forest Resource Assessment, having just read your methodology and the questions generated for the assessment, hugely impresses me. What a good combination of brains and empiricism. Would that all forest decisions could be

based on your model.

20. Will/Can a map be developed that coordinates data and is consistent across watershed and forest? Developing a usable, consistent, translatable or common language physical and digital map of the Southeast Forest resource is the most important goal to accomplish. The mapping should be able to coordinate and dovetail with Federal and state watershed assessment maps. Having a usable map will make all other study and conclusion fall into place. We have to know what we are dealing with before we deal with it.
21. Regarding who participates in the study, we believe that it is essential that state natural resource agencies and water quality agencies be included in this assessment from the beginning. We believe that if the study will be imbalanced if the Forest Service as the lead agency only brings state forestry agencies and not all the pertinent players to the table.
22. We are concerned about the Forest Service taking the lead in this study. With all due respect to the members of the Southeastern Natural Resource Agency Leaders Group, many of the problems we now face come from past policy's of the Forest Service.
23. Define "history."
24. The study should not concentrate merely on the long-term availability of logs for lumber or chip mills, but also on the overall environmental impact of logging, including water quality, forest undergrowth, wildlife of all kinds, tree species diversity, tourism, long-term economic health of the region from which trees are extracted, and the time required for ALL plant types lost as a result of a clearcut to regenerate on the cut site.
25. For the study to have any credibility, there must not even be the slightest appearance that the timber and chip mill interests have in any way taken control of it or biased the focus away from such things as biodiversity and general environmental impact.
26. What is your definition of forest? A plot of land of a minimum size covered predominantly by trees? It might be advisable to make a definition that distinguishes between ecosystems created by God or nature and those created by humans.
27. PLEASE SEPARATE/DIFFERENTIATE PINE FARMS FROM "FOREST COVER" REFERENCES. THEY ARE MORE AKIN TO MONSANTO CORN FIELDS THAN FORESTS. ALLOWING MAN-MADE PINE DESERTS AND OTHER PLANTED MONOCULTURES TO BE CALLED FORESTS IS A TRAVESTY.

28. We need to be very consistent and explicit about wetland terminology.
29. Historical part of this question is unanswerable.



[Questions as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

Scope of Assessment Process

1. I believe it is very important that these agencies address the issues of recreation, ship mill permits, water quality, and clearcutting so that these forests can be enjoyed by future generations.
2. The timeline for the Small Area Assessments should not be limited by the timeline for the broader, regional analysis.
3. Ecological Impacts - We are particularly concerned about the ecological costs of modern forestry including the loss of biological diversity (including species diversity, genetic diversity and structural diversity -- horizontal and vertical), damage to aquatic systems, and increases in planted pine. Your researchers should identify and map rare or threatened ecological forest types (I.e. long-leaf pine ecosystem and incorporate the most up-to-date available from state heritage programs into the ecological analysis. Reliance on FIA data for the ecological analysis is inappropriate, as FIA forest types do not coincide with ecological forest types. Likewise, your researchers should identify and map large tracts of mature contiguous forests and conduct an analysis of how modern industrial forestry practices impacts the dynamics of these areas.
4. I am writing to request that this study encompass ecological concerns in addition to silvicultural and economic considerations. Include water quality and wildlife habitat along with recreation, tourism and other economic effects on the rural communities involved.
5. Conducting a study, while having no controls in place over

continued chip mill production during the two-year study period is naïve and potentially harmful.

6. A primary goal of managing a watershed is to consider the range of impacts and benefits of individual activities within the context of larger ecosystems such as ecological hubs, which are connected to one another and to other conservation areas by greenway corridors, protection of the state's ground and surface water resources, protecting wetlands, minimizing downstream watershed impacts, and protecting riverine corridors, and implementing forestry Best Management Practices. The Forest Service should give complete consideration to the relationship of the resources it manages to the natural systems that extend beyond its forests' boundaries. In order to accomplish this, it will be necessary to replace an emphasis on resource rather than political boundaries.
7. I hope that the findings will be descriptive rather than prescriptive. Everything presented should be scientific, and it should be valid science, not speculative science.
8. Over the last several years, southern forests have been playing a larger role in supporting forest industries as much of the harvesting from the Pacific northwest has relocated to the south. It is therefore an appropriate time to evaluate the overall trends in production, use and environmental quality of southern forests and provide a peer reviewed, technically-based evaluation of forest conditions.
9. The assessment will be descriptive in nature and not prescriptive. Describing or identifying potential challenges to regional sustainability will be an appropriate role for this assessment to undertake. Any prescriptions, actions, or strategies to address forest sustainability issues should be developed separate of this assessment.
10. Sustainability should be defined for several management alternatives or goals. Some examples of sustainability would be:
 - (a) keeping total forest tree volume growth greater than removal,
 - (b) keeping saw timber growth greater than removal (and other timber objectives),
 - (c) sustainability of various levels of wildlife habitats and populations in addition to the timber sustainability,
 - (d) adding sustainability of recreational and other social and economic values.
11. We believe that the proposed action is timely and important. The Assessment should include the long term protection of public lands, restoration of forested habitat and particularly riparian habitat, enhancement of aquatic habitat, delineation of rare, threatened or endangered species habitat, and identification of

technologies or procedures that will accomplish these commitments as part of the federal agency process or procedures. We would recommend that continued surveys of the project lands be conducted as part of the Assessment. Our staff has been working to identify rare, threatened or endangered species habitat within the U.S. Forest Service's lands in Tennessee. The results of our Departmental data bases review does not mean that a comprehensive biological survey of the U.S. Forest Service's lands has been completed. Because of the presence of State and/or Federally listed species near or within the Assessment lands, the U.S. Forest Service should commit to identification and protection of biodiversity on public lands. It is probable that a recorded species will occur in the project area if suitable habitat exists.

12. We urge this group of agencies to truly address the problems of forestry in the South. We need to protect and restore the diverse ecosystems that exist here. The South has more biodiversity in its forests than almost any other temperate forest in the United States.
13. Thank you for initiating a study of Southern forest sustainability. It's high time we looked judiciously at the state of our forests -- we are losing them at too rapid a rate and will not be able to quickly restore, if at all, what is lost.
14. You have accepted a tremendous task here, one that we should have initiated years ago. Thank you, thank you, thank you. I hope from your work -- from the scientific data and recommendations you give to Southern policymakers and forestry bureaucrats, as well as to the public -- we are able to slow the rate of destruction and manage to retain some of the glorious ecosystems that make up our landscape.
15. The preliminary assessment questions posed at the workshops encompass most issues the Service would want addressed in any forest assessment. However, their broad scope provokes the concern that the Forest Service will have so much information to gather that the assessment cannot possibly be done in a meaningful way in two years. In past discussions regarding this project, there was preliminary proposals to gather general information about all the forest but focus more attention on "hot spots." Such a strategy would enable more specific answers to questions such as "what conditions will be needed to sustain plant and animal habitat associations?" or "what is the history, status and likely future of aquatic habitats and species in the South?" Considering recent forest-clearing trends in certain areas of Tennessee, North Carolina, and other states, finding a "hot spot" to focus on would likely be simple. The focus areas

would serve as case histories to be used for comparison by resource agencies when developing new or revised conservation measures for other forest systems.

16. What Is a Prudent Course of Action, Given that We Don't Yet Know What the Full Ecological and Economic Consequences of Widespread Logging Will Be?
17. Some of the conceptual issues remain unresolved, the analytical models are immature, and the data are limited. Nonetheless, the agencies must not allow these difficulties to become an excuse for doing nothing. Those interested in understanding the outlook for southern forests cannot be fully informed without the best possible description of the uncertainty and risk--both ecological and economic--inherent in widespread logging.
18. My greatest concerns are that the stated objectives of the study are misleading, the actual benefits of the study as it is currently outlined are minimal, and that the 2-year time-frame to complete a study of forest sustainability is unrealistic. My fear is that the bound documents produced at the end of the study will contain conclusions or be used to draw conclusions about forest sustainability when such conclusions are inappropriate given the primitive nature of the data. Policy makers will use the documents to make important decisions that impact forests, thinking they have sufficient information. However, because 2 years is not enough time to collect the information that is needed, and because current information is inadequate for decision making, the end result will be inappropriate policy by misinformed decision makers.
19. An assessment of southern forest sustainability in 2 years cannot be achieved. Instead, I hope a more meaningful scientific study will be undertaken that will truly assess impacts of chip mills and related industries on natural ecosystems and provide responsible opinion about possible future trends in biodiversity and its significance to humanity. Such an undertaking will certainly take many years and millions of dollars to complete, and may take 2 years or more just to design. Considering the value and extent of the resources in question, this investment of both money and time is appropriate.
20. The ability of forests to produce our current or future needs for paper and building products should not be included in an assessment of forest sustainability. Instead, once we determine how we will manage the forest to make it sustainable for the more-critical projects it produces (e.g., the biodiversity that supports life itself), we can determine how much we might use for wood and paper without impacting sustainability. The focus

should be on watershed health and restoration--to be certain, wood fiber and jobs will follow from many of these efforts but only as a function of restoring the health, diversity, or productivity of the land. An alternative to the presently-proposed study is the funding of a study to assess impacts of chip mills and related industries on natural ecosystems. Such a study would not only look at acreage of forest cleared per year, but would incorporate a before-and-after approach to data collection. Detailed data would be gathered on all plant and animal species present on forests selected for clearing and the structure and functioning of the ecosystem supporting them. Simultaneously, control sites (protected from logging) would be evaluated identically. Following logging, both impacted and control areas would be monitored over the next several decades to evaluate community and ecosystem structure and functioning. This model would be followed on multiple areas within each of several geographic regions and ecosystem types within each region. The study would not add to the forests being exploited by chip mills, but would incorporate areas already scheduled to be cut. A book or books that outline our current state of knowledge will not all us to assess sustainability. For that reason, I suggest the title and objectives of the presently-proposed study are misleading. Because critical questions about sustaining biodiversity cannot be answered in two years, the study should not be called an "assessment" of forests, and an objective should not be to provide data on which to base decisions about sustainability. If the goal is to gather all data currently available on the distribution of forest land and the historical impacts of tree harvest on that distribution, then, perhaps, that can be done in 2 years given sufficient funding and personnel. Unfortunately, because we have almost no control areas (areas not previously logged) as a basis for comparison, very little can be said about the impact of harvest on forest health or the economy. If the goal is to evaluate the state of knowledge on forest sustainability, such a study could look at all research conducted to date on impacts of logging, including impacts on wildlife populations and their habitats, plant and animal community structure, ecosystem wildlife populations and their habitats, plant and animal community structure, ecosystem structure and function (including the physical environment, of course), local economies, and sociological impacts. If the goal of the study is to assess sustainability of forests in 13 southeastern states, it will fail, because necessary data are not available, and cannot possibly be collected within 2 years. Ultimately, of course, the goal is forest sustainability. To achieve that goal, a document that summarizes or current state of knowledge on the

subject is appropriate. The set of preliminary questions outlined by the federal team, however, does not necessarily lead to such a document.

21. What is the definition of ecosystem sustainability? What steps are required to insure ecosystem sustainability in the future?
22. Identify the issues & resources of concern, including their location. Define the time & space scales for analysis. Identify the magnitude of risk to resources, adjust the scope of the analysis according to the likely cost to resource values of a wrong answer and select the appropriate level of effort for the analysis. Identify key cause-and-effect mechanisms. Estimate the range of natural variability and relative condition(s) for the resource(s) of concern. Identify past, present, and expected future activities in the area of concern & evaluate the relative impact of past, present & future activities. Evaluate the validity & sensitivity of the predicted cumulative effects. Identify key data gaps & monitoring needs. Identify possibilities for modification, mitigation, planning & restoration.
23. I strongly support a scientifically based forest resource assessment in order to provide objective and credible information that forest owners, industry, and state governments can then use to adjust strategies and programs to work toward ensuring the sustainable management of the South's forest resources. I applaud that the assessment will not make policy judgments or decisions about future forest uses, nor will it recommend mechanisms for managing resource extractions or services. The Assessment should be on the sustainability of the forest resource, and not on how wood and paper products are processed or manufactured.
24. We support the agency effort to undertake a detailed study of Southern forests and the threats posed to them by a variety of factors. These include escalating harvest areas in certain geographic areas which may be related, in part, to changing technologies, such as high capacity chip mills. These developments, when considering in combination with such external factors as increased population, all re-enforce the need for this detailed Assessment. Our primary, overarching concern is that the study be structured in all respects to result in the highest possible relevance to ongoing policy development and decision-making by state and federal agencies and legislative bodies. While we understand that (for better or worse) the Assessment will not make recommendations for action per se, we suggest that the utility of the effort be evaluated largely by whether the resulting product actually helps decision-makers take action to address current problems and potential threats to

- our forest ecosystems. Descriptive responsible officials.
25. With the proliferation of chip mills and industrial scale forestry throughout the south east, particularly on private lands, what agency will track the OVERALL impacts? Who will coordinate region-wide assessments of timber harvesting: amount of cutting, location of cutting, and environmental impacts. State studies are clearly insufficient to cover, even at a state level, the key questions of environmental and economic impacts. How will you involve state agencies like the Dept of Forestry, Game and Inland Fisheries, Dept of Conservation, Natural Heritage Programs in this study?
 26. What regional agency will oversee lax state agencies to insure a sustainable forest ecosystem?
 27. We suggest that the concept of sustainability be defined to include ecosystem functions (e.g. primary productivity, nutrient cycling, floodplain storage, and natural disturbance regimes), as well as the economic return from forest-related resources.
 28. When future likely conditions or trends are described, it should be very clear exactly what assumptions are implicit in these predictions. If we are genuinely to wish to move towards ecological sustainability, a desired future condition should be the preferred or default option.
 29. Temperate but endangered planet, enjoys weather, continental drift, photosynthesis, and evolution. Seeks caring relationship with intelligent life form.
 30. We agree with the agency's decisions that the assessment will not make judgements or decision about future forest uses, nor will it make recommendations for managing resource extractions or services. We also agree that the focus of the Assessment should be on the sustainability of the forest resource, and not on how wood and paper products are processed or manufactured. Our members are concerned as to how the Assessment will scientifically evaluate whether sustainable forestry is being achieved or maintained. We hope that you will better inform our membership on the criteria and indicators that will be used in the scoping process and on what scale the Assessment will be used to evaluate the sustainability of the southern forest.
 31. The forest industry offers strong support to the USFS in its role as the lead agency in conducting an assessment of the sustainability of the Southern forests. We applaud the agency's decision that "the study will not make judgements or decisions about future uses nor will it recommend mechanisms for managing resource extractions or services." The forest industry

- also agrees that the focus of the Assessment should be on the sustainability of the forest resource, and not on how wood and paper products are processed or manufactured.
32. The forest industry is uncertain how the Southern Assessment will scientifically evaluate whether sustainable forestry is being achieved or maintained at both regional and sub-regional scales. An issue that will need to be addressed early in the scoping process is what criteria and indicators will be used, and on what scale will the Assessment evaluate the sustainability of the Southern forest.
 33. Since the Assessment will likely be used by agencies and elected officials to develop policy and steer regulation, the results of the Assessment are of utmost importance to forest landowners and the forest industry. An accurate, non-biased assessment should provide us with information regarding what we know about our forests. But, just as importantly, clearly state what we don't know and not make subjective judgements when incomplete information does not allow accurate conclusions.
 34. The Assessment should strive to look at the long-term sustainability of the forest.
 35. The most important thing to come out of the study will be to reflect a precise picture of the actual conditions of the Southern Forest as it exists today and where it is headed. This is not to be a recommendation for policy changed or decisions about future forest use. It is imperative that the results of the assessment be placed into the hands of the forest owners. Only by providing this information to the people who own and manage the land can the assessment be used to impact the region in a positive manner.
 36. I also agree with your commitment that the final analysis deal with the analysis of data and not with recommendations for changes in policy and/or forest management practices. In regards to your preliminary assessment questions I believe it would be better to state them in an objective manner and not a subjective one. I think you can see what my concern is. The use of the word "likely" in all of the preliminary questions indicate that speculation or subjectivity must play a part in the answer. The only indication that we have of what may or may not happen in the future is what we know has happened in the past. If you want to compile and present the data as you say you do you will not speculate on what will be "likely" to happen in the future.
 37. An objective assessment of forest resources should be conducted immediately to determine the status of forest ecosystems and

- associated aquatic environments, forest health and productivity, and social/economic factors that are relevant to the practice of forestry in the Southeastern United States. The assessment will only be useful if it is scientifically based. The issue of forest resource sustainability will be a key factor in the assessment. Early in the process, the agencies will need to determine what criteria and indicators should be used to measure sustainability.
38. I believe that your five part outline is unwieldy at best, and possibly more confusing than enlightening. For example, there are two categories--Forest Extent, Conditions, and Health, and Landscape/Terrestrial Ecosystems could better be rolled into one called Forest/Ecosystem Health.
 39. The purpose of your Assessment is to "describe, not prescribe". Nevertheless, decisions will be made. Lacking omniscience, our planning errors must be on the side of caution and conservation since, if our forest communities ARE endangered, there will be a point in time--as has happened in other geographic regions through history--at which there will be no real recovery.
 40. Mr. Greis, take a new direction for the Forest Service. Lets have unbiased study, not a hoax to satiate yet another corporation. Put the health and the future of the earth and humanity before next quarter's earnings.
 41. You started late. You spent too much time introducing the meeting. The facilitators did not explain clearly enough (nor did the two of you) that the break-outs were to clarify the questions, not to express opinions. You had a difficult job to do and I appreciate you doing it. Maybe if you have another series of meetings you could consider my comments above.
 42. No where did I read anything that said this process was about whether to permit chip mills. It should not be about specific issues of yes or no on individual projects.
 43. I am requesting that the state of Missouri be included in this study, as the Ozark forest can only benefit from the data collected regarding productivity, ecological diversity, and sustainability. It is my concern that if Missouri is the only state with chip mills that is being left out of the study, that future decisions regarding the Ozark forest, will be made on limited and possibly outdated information, the result of which could be harmful to the forest.
 44. If common sense tells us that richness in biological diversity is valuable and healthful, it is likely that system stability is also important.
 45. My concern is that, even though your handouts suggest that you want to include ecological considerations in the assessment, the

individual group discussions as well as the comments provided by the speaker during the initial gathering indicated that the major mission would actually be to assess forests of the south for TIMBER resources. It appeared to me that all other considerations would be incidental to all timber-related concerns.

46. Your initial presentation provided not one bit of concern about the serious decline in biodiversity of southern forests. Yet, quite a rosy picture was painted regarding current and future availability of timber. As what cost to declining biodiversity?
47. The cumulative effects of acid rain/ozone depletion, urban sprawl, exotic species, habitat fragmentation, etc. is causing a general trend of forest decline here in our southern forests. Water treatment plants and air purification systems are costly and inefficient. Can we afford to continue to argue differences of opinions and effectively ignore these critical benefits during this assessment?
48. We are concerned that a bias is already reflected in the apparent prominence of timber over the other products, uses and services. We would like to point out that the mention of certain important influences are noticeably absent from the document: chip mills, air pollution, and alternatives.
49. Education and Science.
50. How can the future of the forest be limited to a 10 year span as mentioned in the scope of this study?
51. First and foremost, I recommend that the team identify and evaluate current threats to the sustainability of the south's diverse forest ecosystems. These threats may include, but not be limited to, certain kinds of forest management practices (e.g., practices that encourage fragmentation, result in unsustainable rates of timber harvest, significantly change species composition, result in water pollution, etc.) and conversion of forest stands into other uses.
52. The GRN would recommends that each of the issues, questions or concerns identified by the agencies, the GRN, and other commentors be considered in the context of tree factors: productivity, ecological biodiversity, and sustainability. This will ensure that the report when produced is a truly thorough and comprehensive assessment of our southern forest resources.
53. Based on the stated purpose of the study, we urge that the assessment explicitly evaluate the efficacy of current federal and state policies and practices in promoting ecological sustainability in southeastern forests.

54. I understand the USFS has not solicited the involvement of state natural resource agencies. While the expertise of state forestry commissions is indeed critical to this assessment, the expertise of state natural resource agencies is equally important. State forestry agencies tend to focus on commodity-based timber production and do not have relevant expertise on ecological issues.
55. It appears that the federal study is going to focus too much on economic and silvicultural impacts rather than on potential impacts to fish, wildlife, clean water, and other forest values. This seems likely since the study is relying on existing information, and southeastern forest schools and agencies have funded endless forestry and logging research.
56. We urge that the study include economic projections for the export of wood fiber products from the Mississippi River region, and utilize specific information about how this would affect both the region and its ecosystems.
57. We recommend that Missouri should be included in this study.
58. Are you considering smaller areas?
59. With the direction of the study being determined via public opinion, I feel I should voice my belief that the focus should be on preservation and conservation.
60. I believe that it's critical that the agencies address the issues of clearcutting, habitat protection, water quality, chip mill permits, and preserving our forests for future generations.
61. This is a huge study area with multiple, cumulative, additive, and synergistic degrading influences affecting the forested landscape and dependent ecosystems. This study has the potential to set precedent to assess a situation and provide information to rectify the situation before it reaches the emergency ward. Please take this task seriously, uphold the public trust, and do what is right.
62. How will you be reporting the information? By state, ecoregion, watershed?
63. [Study] Needs to be an integrated assessment.
64. Don't emphasize the Lower Mississippi alluvial plain so much when describing forested wetland loss: address it region-wide.
65. Describe the effectiveness and impacts of South's forest management practices and those of other regions (N.E., Great Lakes)
66. Describe history of N.E., Lakes states and South with regard to regulations on forest management.



[Questions as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

Project Data Management

General Data Comments

1. Exclusive reliance on outdated FIA inventory analysis is inappropriate. We urge you to supplement FIA data with the use of satellite imagery, GIS mapping and other advanced forms of spatial analysis.
2. Aerial photographs are available through the US Department of Agriculture for all 13 states in the Southeast region. These photographs can be used to document forest changes over time and should be used in any small area assessment as they can provide more detail on a smaller scale than satellite imagery.
3. This assessment would incorporate information founded on peer reviewed, scientific study. We fully support this approach and suggest this issue be emphasized throughout the process and in any final documents.
4. It is extremely important that all data be collected in a scientific manner, and that it be peer reviewed by professionals from the pertinent field of study.
5. If the study arrives at conclusions regarding sustainability, all sources of data and assumptions used to determine sustainability should be clearly documented.
6. Your studies are so important and need to be as unbiased as possible and solutions be as creative and innovative as possible.
7. We encourage the USDA Forest Service to draw upon the expertise of related agencies, (EPA, USFW, and State natural

resource agencies), mentioned in the preliminary USFS SE Assessment materials, to the greatest extent possible. Like the NC Chip Mill study mandated by Gov. James Hunt, the utilization of knowledge across agencies, disciplines, and fields can be invaluable to the validity of a study's end result.

8. The agencies should at least meet--and, preferably, exceed--the analytical standards established by recent, similar studies in other regions.
9. While it may be anticipated that no data or limited data will be available to answer many questions "regarding the forest ecosystem's status, diversity and sustainability," I am concerned that the focus will be on the rudimentary data that are available, and users of the document will try to base management decisions on those facts.
10. At our meeting at Emory University, there was a great deal of interest in Geographic Information Systems (GIS), and how GIS can be used in the currently proposed study. As powerful as the GIS tool is, it cannot overcome a fundamental lack of data on biodiversity, ecosystem functioning, and what it takes to make a forest sustainable in the broad sense of the word.
11. What data are needed to evaluate ecosystems as to sustainability? What of these data are available presently? How can these data be collected and evaluated in the future?
12. Scientific literature should provide the foundation for information reported in the Assessment. Subject to peer review source of all information, including use of anecdotal information and opinions, should be clearly referenced.
13. FIA information in the South is the best information available, but is outdated in some states and of somewhat limited usefulness in drawing conclusions about the "sustainability" of the forest resource. Assessment should clearly explain the objectives and limitations of the FIA program and the currently available information. It should also clearly outline the sources of other resource information and their completeness or limitations for assessing "sustainability."
14. Richard A. Harper, R.F., Clemson Extension Forester, Forest Resource Analyst, would like to reiterate my interest to assist the Southern Forest Resource Assessment team in this study. I am willing to be a point of contact to coordinate a literature review of existing research. There is no need to "reinvent the wheel" when the southern universities should have volumes of appropriate research from which to start the study. Dr. David Van Lear (Forest Resources) has an excellent presentation of how historical disturbances have shaped the forest ecology

throughout the Southeast. It begins about 18,000 years back in time and demonstrates how anthropogenic and natural disturbances shaped vegetative patterns and processes. It also shows how many silvicultural practices are designed to mimic there natural processes.

15. Our membership believes that a scientifically based forest assessment is in order, because it will provide objective and credible information.
16. Scientific literature should provide the foundation for information reported in the Assessment. Such studies and papers, whether from the public or private sector, should be subject to peer review by professionally qualified experts prior to being accepted and included in the Southern Assessment. The source of all information, including use of anecdotal information and opinions, should be clearly referenced.
17. A & PA supports a number of programs and initiatives that have developed detailed information about the status of the South's forest resources. This information can be very valuable to the U.S. Forest Service as it initiates its assessment of the sustainability of the Southern forests.
18. Scientific literature should provide the foundation for information reported in the Assessment. Such studies and paper, whether from the public or private sector, should be subject to peer review by professionally qualified experts prior to being accepted and included in the Southern Assessment. The source of all information including use of anecdotal information and opinions, should be clearly referenced.
19. In order to achieve the best Assessment possible, we strongly encourage you to utilize only the best scientific, up-to-date and peer reviewed information available. Anecdotal evidence or assumed cause-and-affect conclusions related to forest management and harvesting should be avoided.
20. It is my hope that you as leaders in this assessment will filter out all biased and misleading information that will be attempted to be a part of the record.
21. Your commitment to data contained in scientifically peer reviewed studies is commendable. I am sure that a bibliography of the sources used will accompany any reports, both preliminary and final, that are released to the public.
22. 8 of the 10 subparts are being conducted by the NC State School of Forestry which is funded by the timber industry! This is not a neutral school which advocates increased intensive forest management (clearcuts). How can he be objective?

23. I understand that you will accept data from almost anywhere. It is VERY important that you use credible science and peer review. How will you be doing the peer review?
24. I think that the over-arching need that can best be addressed by this study is the need for a usable map, physical and digital, that show what the forest resource is, what factors are adding to the resource base and what factors are contributing to removal. Whatever basemap is used, this map should be coordinated with the USGS Hydrologic Unit Code (HUC) maps and each state's unified watershed assessment maps. The Lower Mississippi Joint Venture Office in Vicksburg, MS, has mapped and evaluated all of the forested tracts in the lower Mississippi Aluvial Valley. (Charles K Baxter, 2524 Frontage Rd, Suite C, Vicksburg, MS, 39180, 601-629-6604)
25. I hope that journals such as Conservation Biology will be consulted and that you will decrease or eliminate your apparent reliance on unpublished, biased 'grey' literature (i.e., literature that is not subjected to scientific scrutiny and usually self-generated). A way to rectify the scientific credibility of your assessment would be to intimately include scientists who are knowledgeable about southern terrestrial and aquatic ecosystems; conservation organizations such as the Sierra Club; and National Forest watchdog groups such as the Dogwood Alliance or Heartwood. I hope that your efforts to assess southern forests will broaden beyond the needs of the timber industry. If so, your document might be the one that could carry us through to a future that includes healthy, diverse southern forests.
26. Quality of live and the future of our children depend on sound science and a greater understanding of natural processes of forestland and watershed ecosystems. Don't our grandchildren's children deserve equal if not better opportunities then we had?
27. What are the inventory and monitoring studies that need to be conducted throughout our southern forests? What high school and/or college programs could be employed to assist in the gathering of this data? How many dollars could be saved by combined funding through education and research programs?
28. The study should utilize GIS and other visual information about the present state of southeastern landscapes from the US Geological Survey, the Nature Conservancy, and other public agencies and private entities.
29. The information being generated by the Watershed Assessments being undertaken by states as part o the Clean Water Action Plan should be incorporated into the study, yet the adequacy and

completeness of this information will vary across states. How will the study account for any "holes" in information resulting from incomplete or unavailable state assessments?

30. The study team should maximize the use of existing reports and data and identify data gaps up front.
31. We hope that the agencies utilize the full range of information available from public and private sources to present a comprehensive picture of the current status of southern forests and projections of their future.
32. The method for arriving at figures must be clearly stated. If information about some issues that the study seeks to examine remains unavailable or cannot be verified, that must be clearly stated. Sources of information and methods for obtaining information cannot be considered proprietary if the study is to achieve validity.
33. Utilize All Sources of Information: Maps and satellite images should be obtained from federal agencies such as the US Geological Survey, National Oceanic and Atmospheric Administration, and Forest Service, as well as state agencies, state and federal GIS projects, private organizations such as the Nature Conservancy, the timber industry, universities, and private-public efforts such as the Mississippi River Joint Venture. Industry projections for future demand, sourcing areas, export figures, etc., should be utilized, as well as projections for global demand being done by agencies such as the UN Food and Agriculture Administration. Information being collected by the Unified Watershed Assessments being carried out by state and federal agencies, along with state and federal information about endangered species, should also be incorporated.
34. On site research should be used whenever possible rather than computer modeling and new data should be collected if existing data is more than a few years old.
35. How far can you go back to get wildlife statistics?
36. Where will data from this assessment be stored? Will it be available to others? Will data manipulation by others be possible?
37. Will IUCN data be used? Some say it shows that the U.S. has a "bad record" relative to effects of human activities on wildlife (or is it really that the U.S. just has better data than most countries?).
38. How to measure quality? How current is the data? Is it biased for a certain conclusion?
39. Concerned about bad data, not recent enough, bad sources.

40. Need to use 303(d) listed GIS data for analysis.
41. Need to use existing water quality data to "rate" watersheds and water quality based on land use; use 303(d) lists of impaired waterways.
42. How will you solve differences in data between states - related to how data is collected and analyzed?
43. Will you make recommendations for data sharing and consistency?
44. Who makes the determination on the use of data? Can you use multiple sources?
45. Need to use historical data on forest impacts to water quality, even back to pre-settlement.
46. Study should identify future research/data needs based on the limited scope and budget available. Can the schedule be extended?
47. Consult with TVA and GSMNP for excellent data sources.
48. Is there data supporting any historical problems in water quality?
49. The core of this [study] will be based on data gathered from aerial photos and images--leads to inaccuracies.
50. No fully forested watersheds in the south.

Landscape/Terrestrial Ecosystems

1. See "American Forests: A History of Resiliency and Recovery" by Douglas McCleery, US Forest Service.
2. Information on the distribution of different plant and animal communities and ecosystem types within our National Forests system is building but primitive. Almost nothing, however, is known about private forests which dominate the total forest acreage in the southeast. Studies should be initiated over the next few years to begin to gather these data, but there certainly are no data today on which to base decisions concerning sustainability in the broad, meaningful sense of the word. Although we have a rich base of aerial photographs, topographic maps, and satellite images for the region, only limited uses of these data have been validated by data collection in the field. Indeed, it has not even been demonstrated that the age and species composition of trees can be assessed from these sources. If we cannot assess the acreage of various age-classes and species of trees over the large landscape with any reasonable validity, how then can we survey the herbaceous plants and animal life and attributes of the physical environment, not to

mention the complex processes that make up ecosystems? GIS will be a tool sometime in the future to help us evaluate forest sustainability, but we have not earnestly begun to collect the data to use as input. I think some will say that we CAN evaluate forest age and species composition from available aerial photographs and satellite imagery, but I challenge them to produce real scientific evidence of this. Indeed, I would like to see funding placed in the area of validating the use of remote sensing for such purposes.

3. Enclosed is a copy of the draft entitled "Do We Clearcut to Manage Deer Habitat?". "Do Appalachian Herbaceous Understories ever Recover from Clearcutting?" by Duffy and Meier; "Are We Really Managing Deer Populations?" by A., Sydney Johnson and et.; and "Timber and Wildlife Implications of Fire on Young Upland Hardwoods" by Huntley and McGee. Recent work by Van Lear hopes to restore oaks on mesic sites by using so much fire changed them to xeric. It makes better sense to let oaks grow on xeric sites instead of forcing them to be pine stands. McGee says that oaks will dominate on a lot of intermediate and lower quality sites if given the chance. Van Lear's conclusions are quite speculative.
4. The wildlife impacts analysis relies solely on computer modeling, and NOT on site specific field research.
5. Dickson et.al, *Silviculture in Central and Southeastern Oak-Pine Forests*, from *Ecology and Management of Neotropical Migratory Birds*, Franzreb and Phillips, *Neotropical Migratory Birds of the Southern Appalachians*, USFS Southern Research Station, General Technical Report SE-96, 1996. Petranksa et al, 1993, "Effects of Timber Harvesting on Southern Appalachian Salamanders."
6. Experiments by Stuart Pimm and Mac Post at the U of Tennessee in 1985 measured the success of alien species invading an existing community and the effects on the community. Success was easy in species-poor communities and difficult in species-rich communities.
7. The 1997 World Conservation Union-IUCN Red List of Threatened Plants for its relevant US botanical data.
8. Consideration should be given to historical levels of biodiversity identified within southeastern states by the World Wildlife Fund in *A Conservation Assessment of the Freshwater Ecoregions of North America*, conservation Science Program (World Wildlife Fund, to be published December 1999 by Island Press).
9. How far can you go back to get wildlife statistics?
10. Developing a usable, consistent, translatable or common

language physical and digital map of the Southeast Forest resource is the most important goal to accomplish. The mapping should be able to coordinate and dove-tail with Federal and state watershed assessment maps. Having a usable map will make all other study and conclusion fall into place. We have to know what we are dealing with before we deal with it.

11. Where will data from this assessment be stored? Will it be available to others? Will data manipulation by others be possible?
12. Will IUCN data be used? Some say it shows that the U.S. has a ``bad record" relative to effects of human activities on wildlife (or is it really that the U.S. just has better data than most countries?).
13. Examine data concerning particular species that are dependent on a narrow range of habitat to see what effect changes have occurred. Breeding bird surveys and forest stand data.
14. The data on assessing plant and animal populations are too abstract. Are they reliable? Be aware that a lot of data are missing in the Forest Service database relative to ``old growth" due to the historic lack of interest in this age class by the FS.

Social and Economic Factors

1. The economic analysis must not rely exclusively on the IMPLAN model. The USDA Forest Service, utilizing the IMPLAN model, forecasted a loss of over 15,000 jobs in the Pacific Northwest if Spotted Owl habitat were protected. Instead, total employment in the owl region rose 27 percent.
2. The following studies should be incorporated into the economic analysis: Neimi and Whitelaw, Assessing Economic Tradeoffs in Forest Management, USDA Forest Service, Pacific Northwest Research Station, General Technical Report PNW-GTR-403 (August 1997). Overdevest and Green, Forest Dependence and Community Well Being: A Segmented Market Approach, (USDA Forest Service, Southeast Forest Experiment Station, 320 Green Street, Athens, GA 30602) Society of Natural Resources Vol. 8 P 111-131 (1994).
3. Courant, P. N., E. Niemi, and E. Whitelaw. (1997). The Ecosystem-Economy Relationship: Insights from Six Forested LTER sites. Report to the National Science Foundation. Eugene, OR: ECONorthwest. Describes similarities and dissimilarities in the forest-economy relationship in six regions of the U.S., including the Southern Appalachian Highlands.
4. Haynes, R.W. and A.L. Horne (1997). Chapter 6: Economic

Assessment of the Basin. An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins, Volume IV. T.M. Quigley and S.J. Arbelvide (editors). Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. June. General Technical Report PNw-gr-405.: 1715-1869. The most comprehensive analysis ever produced by the Forest Service of the modern economic consequences of forest management.

5. Holmes, S. and Sustain, C.R. (1999). *The Cost of Rights*. New York, Norton & Company. A comprehensive discussion of the costs society bears to enforce property and other rights, and an exploration of the interaction between property-owners' rights and their obligations.
6. Niemi, E. et. al. (1999). *The Sky Did NOT Fall: The Pacific Northwest's Response to Logging Reductions*. Eugene, OR: ECONorthwest. Explains how nearly all communities adjusted quickly and smoothly.
7. Neimi, E. et. al. (forthcoming). *Salmon, Timber, and the Economy: The Potential Economic Consequences of Restricting Logging to Save Oregon's Salmon*. Eugene, OR: ECONorthwest. Detailed treatment of the six questions, in the Pacific Northwest.
8. Power, T.M. (1996). *Lost Landscapes and Failed Economies: The Search for a Value of Place*. Washington, D.C.: Island Press. A thorough discussion of how changes in the economy have diminished the importance of resource extraction.
9. Power, T.M. et. al. (1995). *Economic Well-Being and Environmental Protection in the Pacific Northwest*. Missoula, MT: Economics Department, University of Montana. A statement by more than 60 economists of how protecting and enhancing environmental quality in the Pacific Northwest enhances the regions' economic well-being.
10. Currently available scientific data is at variance with your statements that urban areas are stable in size. What about the grave problem of urban sprawl? What about the loss of prime agricultural land to urbanization?

Timber Markets and Forest Management

1. It is not demands we should talk about but needs. There are a lot of alternatives to wood use. This study and others conducted in the past have not talked about alternatives to wood use. Kanaf, hemp, cotton, steel, straw bale houses, earth and tire houses,

reduced junk mail, reuse of hardwood pallets, plastic pallets and substitutions, bamboo, flax, salvaging wood from landfills, using more efficient milling equipment, recycling paper, bagasse, bananas, and many other alternatives can reduce wood use. Why does this study not look at wood alternatives?

2. Encourage alternatives to the use of hardwood chips for the production of paper.
3. If an alternate fiber could be used to replace wood that was more economical industry will change to use it. After all, we are capitalist and want to increase the bottom line.
4. Substitute products can be produced efficiently, creating as many jobs, if not more, than those lost by a decline in logging and wood-processing. Just because we have obtained paper and two-by-fours from a forest in the past, it does not mean we should do so in the future.
5. Serious investigation of alternative crops for paper pulp, such as kenaf and hemp, could potentially benefit forest habitat conservation.
6. Could demand for timber be offset through the increased use of recycled materials, agricultural wastes and fiber crops such as kenaf?
7. We need to start reducing our wasteful use of wood and paper products and start using alternative fibers to relieve the demand on our forests. And we need to start using alternative sources of energy instead of fossil fuels to significantly reduce the effects of acid rain and ozone depletion.
8. Study Promotional/educational efforts currently undertaken (by whom/extent/resources) to lessen consumption of wood products, especially paper, and practice and promotion of paper recycling by government agencies at all levels.
9. What disincentives to paper recycling (and corollary loss of jobs in recycling economy/faster landfill loss from paper disposal) arise from industrial forestry for chip/pulp use, and chip/pulp exports?
10. Impacts of alternatives to timber such as the use of recycled materials, agricultural residues and crops, such as kenaf and industrial hemp. This analysis should include consideration of the environmental impacts, both positive and negative, and economic viability of these alternatives.

Forest Extent, Conditions, and Health Data

1. As you said, the study must be science-based, but you must

realize that current data may not be sufficient, if it has been gathered under errant guidelines. For example, in your presentation, you said that 70 million acres of upland pine habitat once covered the Southeast. The figure used most commonly, by scientists like Dr. Reed Noss of the National Biological Survey, is 93 million. Declining from 70 to 30 million looks a lot better than declining from 93 to 3. Dr. Noss calls this a "critically endangered ecosystem," 99 percent reduced. I would ask you to be fair and impartial in your use of current statistics, and carefully weigh the source of your data. When you solicit peer review, I hope you will do so from biologists across the entire spectrum of forestry -- including those that embrace ecology as well as those that would turn their heads on the alarming loss of biodiversity evidenced around us here at the turn of the millennium. If the public could have a hand in deciding peer reviewers, I would be in favor of and eager to do so.

2. Some long term studies have been conducted that address commercial logging to a limited degree (e.g., the Hubbard Brook experiments of Bormann and Likens), but future studies need to investigate impacts on invertebrate and vertebrate communities, and not just the flora and physical components of the ecosystem.
3. The Assessment should explain the objectives of the Forest Inventory Analysis. Other sources of information and their completeness or limitation should also be outlined.
4. FIA information in the South is the best information available, but is outdated in some states and of somewhat limited usefulness in drawing conclusions about the "sustainability" of the forest resource. Systematic, south-wide information on other resources including wildlife, biodiversity, water quality, and forest health is even more variable and may prove to be unreliable in drawing conclusions over large areas. Assessment should clearly explain the objectives and limitations of the FIA program and the currently available information. It should also clearly outline the sources of other resource information and their completeness or limitations for assessing "sustainability."
5. Information gathered in determining the present state of the Southern Forests is the most critical part of developing an accurate assessment. All sources of data should be documented and made available to the public. Even the best available data may be outdated and other sources for information may be unreliable for such a vast geographical area. The varying information submitted or gathered can be as diverse as the regions of the South and can lead to a distorted assessment if not interpreted accurately. It is for these reasons that accurate

science has to be the measure for determining the conditions and health of the forests of the South.

6. Forest health is the "sine qua non" -- without a healthy forest, the rest of it fades into insignificance. For better answers to the above questions, I strongly urge your Research Group to contact all biologists in this area of study and ask for more direct testimony and research.
7. There will not be any field research analyzing the impact of clearcuts and pine conversions on the diversity of microorganisms in the soil.
8. My concern about the integrity of your mission began shortly after the speaker began to relate what he apparently viewed as "facts" about southern forest resources. You were apparently using "data" that was generated by entities concerned solely with timber production and that had not been published in peer-reviewed scientific journals. Your "data" regarding the relative amounts of hardwood growth versus removal are questionable. Your "data" must surely relate to early successional growth because the current scientific literature shows repeatedly that hardwood forest are in decline not increasing as you stated.
9. What is the impact to the soil and its components, such as the microrisal fungi, of the sun/temperature change on clearcut land?
10. The 1992 Southern Appalachian Assessment for its recency, its emphasis on forest management and involvement by the same major agencies.
11. A number of private organizations, such as the Nature Conservancy, and public-private partnerships, such as the Mississippi River Joint Venture, have mapped forested areas along the river corridor, and we urge you to incorporate this information into your study.
12. No comments on data needs recorded from public meetings for Forest Extent, Forest Conditions or Forest Health.

Watersheds, Aquatic/Riparian Ecosystems, and Forested Wetlands

1. Stream-side management zones width in Louisiana is not required. Many landowners cut timber on stream banks.
2. Is it possible to produce a coordinated, consistent map (physical & digital) of watersheds in the South?
3. I was also interested to see that a map created by the Nature

Conservancy (TNC) was shown to illustrate at risk fish and mussel species. Are you aware that USDA Forest Service research scientists (at the Oxford, MS, Hydrology Lab) have maps that are much more detailed and specifically for the southern United States? Unfortunately, your presentation revealed that the initial basis for the assessment is unscientifically based data.

4. Information about the cumulative loss of forested wetlands to development in Louisiana should be obtained from the US Army Corps of Engineers and the state Department of Natural Resources.
5. The state Department of Environmental Quality has been charged with carrying out assessments of the health of Louisiana's watershed, and we hope that the information from these assessments is incorporated into your study.
6. Hunt, Constance, Quinn McKew & Alice Taylor, eds., A Conservation Potential Assessment of the Mobile and Tennessee/Cumberland River Basins in Alabama, Georgia and Tennessee (WWF 1999)(working draft presented at the State of the Rivers Conference, Chattanooga, Tennessee, March 14, 1999.)
7. Need to use existing water quality data to "rate" watersheds and water quality based on land use; use 303(d) lists of impaired waterways.
8. Will/Can a map be developed that coordinates data and is consistent across watershed and forest? Will water quality be approached as point source and non-point source? Will wetlands mitigation impact forests? Does BMP directly reduce non-point source pollution? Can it be verified?
9. How will you solve differences in data between states - related to how data is collected and analyzed?
10. Will you make recommendations for data sharing and consistency?
11. Who makes the determination on the use of data? Can you use multiple sources?
12. Need to use historical data on forest impacts to water quality, even back to pre-settlement.
13. Study should identify future research/data needs based on the limited scope and budget available. Can the schedule be extended?
14. Consult with TVA and GSMNP for excellent data sources.
15. Is there data supporting any historical problems in water quality?

16. The core of this [study] will be based on data gathered from aerial photos and images--leads to inaccuracies.



[Questions as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

Public Involvement Process

1. We firmly recommend that you seek public comment on your final study plan, In addition, the assessment needs meaningful public comment throughout the process including an independent science advisory committee of technical experts and a peer review process before final publication.
2. All federal agencies involved in this assessment should prioritize engaging state natural resource agencies. While the expertise of state forestry commissions is indeed critical to this assessment, the expertise of state natural resource agencies is equally important.
3. I also hope that the final Phase I study plan be presented for public comment and that assessment leaders will summarize and consider incorporating the comments made by the public relating to this assessment.
4. We appreciate the opportunity to assist you with your pre-project planning and review of the document.
5. Agencies are genuine in their interest to fully and properly assess the issues? Being completely open in the conduct and process of the study? They are enlisting the services of people in all appropriate fields of involvement with the forests? Are regularly ensuring that all pertinent perspectives are being pursued and allowed presentation? Are likewise ensuring that these perspectives are accepted in a context of balance, logic and openmindedness? Conclusions will first be offered in a draft version so that interested parties may offer responses and clarifications? Responses will be given due consideration in the

preparation of a final report? This will be done through a fair and reasonable notice process.

6. Further distancing citizens from the process of governance and community building--their right and their responsibility--by promoting permitting procedures designed for implementation beyond sight and reach of most of the general public.
7. Under current policy throughout the Southeast, local citizens have little or no voice in the decision-making process relating to chip mills and clearcutting at the local, state, and federal level. We recognize that the Assessment will be primarily descriptive rather than prescriptive; however, without recognizing citizen concern and quality of life issues, the study will be invalid. You stated at the Study Workshop's initial discussion that this study is 'a contract with us and the public.' We expect the USFS to live up to that promise.
8. Finally, we demand that public participation become integral to the SE Forest Resource Assessment. The initial efforts of the USFS so far are not acceptable; we suggest stronger citizen input than that which is possible to be heard through email input or 'facilitated' small group workshops. Many citizens' voices are lost by those token methods; some portions of the public are not able to contribute by those means. A citizen advisory board like the NC Chip Mill Study has incorporated will be an excellent start.
9. I would like to encourage you to seek interaction with the newly-formed "Partners for Amphibian and Reptile Conservation" (PARC). I will send you some information about PARC, as well. I think that a collaborative approach will help make the Assessment a valuable document.
10. We strongly encourage that the federal agencies involve as full-fledged partners a variety of state agencies, not just the state forestry agencies. Additional agencies which are components of state government and which have much to offer include the Natural Heritage Programs and the water quality planners and regulators.
11. Allow all stakeholders, particularly local communities, to participate in developing management policy and decisions.
12. I urge you to extend the public comment period. I feel that the timber industry should be included on the Assessment Team.
13. Sustainability is a regional issue. The involvement of stakeholders will be particularly important during this phase.
14. I understand the Southern Forest Assessment is scheduled for completion within two years. I hope that interested citizens, such

as myself, will have opportunities to participate in its development.

15. I would like to call for the formation of a public advisory committee to augment your Federal study. I understand that such a system as worked well in North Carolina and would bring much-needed input to the current study.
16. QUESTIONS: Complete Answers Should be Made Public.
17. Forest landowners and managers need a predictable regulatory, as well as investment climate in order to make long-term forestry investments. The Southern Assessment should assess the benefits and costs of the various federal and state laws and regulations in promoting the sustainable forest management of the South's forests.
18. The League of Women Voters also holds, as you do, that resource management decisions should be based on current and thorough assessment of status, trends and needs and should include public involvement and participation in decision processes.
19. I would like to see a public advisory committee formed to oversee the study process, and I would like to see regular public meetings in cities like Atlanta, GA where large numbers of people would be more likely to attend.
20. This study is being undertaken by public agencies of the federal and state governments for the benefit of the public. Therefore, there should be complete transparency and openness in the process used to carry out the study. Information cannot be regarded as proprietary in this kind of study, and sources of information and methodology used to arrive at conclusions must be clearly stated.
21. Actually, I just want to be on your mailing list to receive any draft or interim assessment products and the final assessment in June 2001. I could not find on your website any other way to get this information to you. If this message is a bother to you, you might consider adding a place on your website to get other comments to you. Anyway, please add me to your mailing list.
22. I request (implore) that the time frame for public comment be extended and/or a framework for dialogue and resolution of the issues being addressed be created. This is a complex issue which, if it is to be openly and honestly addressed, will require an ONGOING process of input and evaluation by all interested parties, i.e. citizens, businesses and government. The limited timeframe for making comments (March 1999 to September 15, 1999) reflects a potentially shortsighted vision, smacks of ulterior motives, and does not favor input from citizens, to name

a few problems. Ultimately, these issues will go beyond the confines of the southeast and may set precedences that will affect other forests and lands across the country.

23. I must point out that it is interesting that you have a public comment period, and yet you don't allow the possibility for answering questions other than these four; very craftily chosen, they were.
24. There should be a citizen's advisory panel, which is actively involved in the process to facilitate ongoing public input and build public confidence in the study. An open process is essential to credibility with the public. In tandem with that, and to further establish the credibility of the conclusions of the study, it is essential that a separate scientific review board be established to review the methodology of the assessment, its progress and undertake or begin the final peer review process of the assessment when it is completed.
25. I believe the final study plan should be presented for public comment and that assessment leaders compile, summarize and make available all public comments related to the study.
26. citizen input at meetings take the one in Tifton must be part of the chip mill permitting process to protect plant, animal, and human welfare.
27. In future breakout sessions use flipcharts, have a tape recorder, and better facilitation.
28. There should be opportunity for public involvement at all stages of the study. This could take the form of a public advisory committee. There should also be hearings open to the public as the study progresses.
29. It is essential that boards, study commissions, or public representation include representation from environmental groups and academic environmental programs in universities, including non-land grant institutions.
30. A public referendum should be brought up for each one [chip mill] so that the public is aware of what is going on.
31. I found your public participation process to be inept at best. For future reference, you might try longer meeting formats, having facilitators that are in the field of expertise being discussed so they may understand the nomenclature, and to have adequate recording abilities.
32. What is the purpose of trying to put this vital study on the fast track? To rush through the process and come up with a half-"fast" panacea study to justify a pre-determined position? Please avoid this perception by allowing full public participation

and by taking adequate time to do this properly.

33. I request (implore) that the time frame for public comment be extended and/or a framework for dialogue and resolution of the issues being addressed be created. This is a complex issue which, if it is to be openly and honestly addressed, will require an ONGOING process of input and evaluation by all interested parties, i.e. citizens, businesses and government. The limited time frame for making comments (March 1999 to September 15, 1999) reflects a potentially short-sighted vision, smacks of ulterior motives and does not favor input from citizens, to name a few problems. Ultimately, these issues will go beyond the confines of the southeast and may set precedences that will affect other forests and lands across the country. Issues involving the environment will be paramount this next century. It is in everyone's best interests to take time, to learn, to question, to have discussions, over and over, until wisdom prevails. Again, I would encourage an extension of the comment period. Thank you.
34. Actually, I just want to be on your mailing list to receive any draft or interim assessment products and the final assessment in June 2001. I could not find on your website any other way to get this information to you. If this message is a bother to you, you might consider adding a place on your website to get other comments to you. Anyway, please add me to your mailing list:
35. Who are the end users of the Assessment?
36. Do you have enough funding? What are the chances of getting more money?
37. How can you answer questions without a thorough understanding of ecosystem dynamics and interactions?
38. Need to get multiple interests together (enviros, industry, govt) to identify and solve problems.
39. One person advocated a longer version of the study, in addition to the short, easy to read version.
40. Will there be a comprehensive bibliography?
41. Can you develop a long-term/after-the-study public forum for identifying additional research needs/data gaps identified by the study?
42. How can the public find out about interim results throughout the process?
43. Is there a process for public input for determining priority of issues to be assessed?
44. Need to get multiple interests together (enviros, industry, govt) to identify and solve problems.

45. Need to publish report widely; get it to individual landowners.
46. Need to focus on site-specific analysis instead of literature-based review.
47. Need to utilize collaborative partnerships to the fullest.
48. Need to include final scope of work and list of questions on web page. Use maps.
49. Need to consider Sustainable Forestry Initiatives by AF&PA.
50. We need to use reliable scientific data, not simulation models, to answer questions.

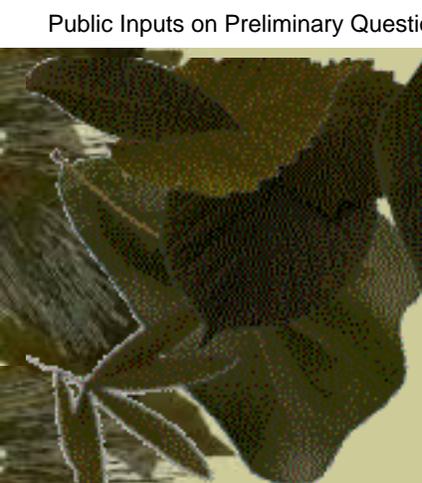


[Questions as revised in response to these comments](#)

[Previous Question](#) | [Next Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)



Southern Forest Resource Assessment

The suggestions or concerns below were submitted in response to preliminary assessment questions but did not directly fit with a particular question--for details see our [Public Input](#) or [Methods](#) pages

Sub-Regional Focus Areas

1. Any small area assessment should emphasize site specific research and de-emphasize broad sweeping generalizations. The purpose of the small area assessment should be to document the impacts of the current demands on the forests, watersheds, communities and local economies within a given area. With this in mind, each small area assessment should: 1) include a strong field research component; 2) emphasize the collection of site specific data relevant to the area; 3) involve experts with the relevant knowledge and background for addressing specific questions; 4) involve periodic fly-overs of the area for mapping and gathering data about current land use patterns; 5) involve strong collaboration between any scientists conducting the assessment and the federal agencies and 6) develop a framework for continued monitoring after the study is complete. The geographic scope and locations small area should be focused on areas where forest sustainability is of particular concern. 1) Do the area's forests supply wood to a number of chip mill, pulp mill and/or chip board facilities; and, for contrast, are there areas where demands for forest extraction is relatively low? Are there new mills under construction in or near the area that would increase the demand on the forests? 2) Is the area large enough to ensure that the USFS FIA data is statistically significant? 3) Do the FIA data for the area demonstrate that removals exceed growth or that there is a decreasing growth-to-removal ratio? or are there counties within the area where pulpwood extraction is relatively high? 4) Do planted pine plantations constitute 25% or more of the forests within the area? 5) Is there existing relevant

data already collected within the area that could be useful? 6) Are there competing economic demands for the forest resources within the area? Are there outstanding recreation opportunities within the area? 7) Is the Best Management Practices compliance rate relatively low? 8) Are there known locations of federal or state listed threatened and endangered species? 9) Are there areas chosen representative of geographic and topographic diversity? There is some discussion of allocating federal resources to North Carolina to conduct a small area assessment. The North Carolina study of the ecological and economic impacts of chip mills, is limited to a broad, generalized study of the impacts of chip mills across the state. Proposals: The Upper Yadkin River Basin in North Carolina would be an appropriate place to initiate a small area assessment. The Upper Yadkin covers a broad enough area to ensure the accuracy and statistical significance of FIA data. Potential locations for small area assessments include: forests surrounding the Tenn-Tombigbee Waterway, bottomland hardwood forests in Louisiana and/or Mississippi, forests in southern Arkansas, intensively managed pine plantations along the coastal plains of Georgia and/or South Carolina and the Upstate area of South Carolina.

2. While we fully support the small-area assessments' importance to the Forest Sustainability Assessment as a whole, we feel that two years is not a sufficient time-frame. Please be aware that the public recognizes that this is not enough time to gather accurate empirical data, and that citizens deem this small-area assessment critical. In addition, HA proposes the NW Piedmont, North Carolina as an excellent choice.
3. Criteria for site selection (monitoring) should include: statistically based general monitoring, Hot spot/specific species monitoring, adaptive management sites--monitoring before, during and after management implementation. Criteria for selecting which species to monitor: threatened and endangered species, keystone species, abundant and easily sampled species, indicator species.
4. Assessment should explicitly address how it will define and assess sustainability across the Southern regional landscape, as well as on sub-regional levels. Outline clear criteria for selecting sub-regions for analysis and describe how sustainable forestry will be defined and assessed. These criteria should be open to public input and review prior to initiating the sub-regional assessments.
5. We also support the idea of including "Smaller Area Assessments" within the study. Preliminary data suggest that some parts of our region are being harder hit by the increased

- 
- timber activities than others and the study needs to focus on one or more of these areas, perhaps at a watershed level.
6. Specific sub-regions should be well defined in all thirteen Southern states.
 7. A concern that I do have is the attempt to make any sort of smaller area assessment unless there is adequate data available. In the absence of adequate data it would be prudent to indicate where further study is needed rather than to present an analysis based on insufficient data.
 8. Forest resources may be shifting from place to place at the local level while they increase or remain fairly constant at the regional level. Change at the local level is inevitable, and it should not be a major focus of the assessment.
 9. Landowners are particularly concerned about how sub-regional assessments will be selected and conducted. The agencies should outline clear criteria for selecting sub-regions for analysis and describe how sustainable forestry will be defined and assessed. These criteria should be open to public input and review prior to initiating the sub-regional assessment.
 10. The use of small area assessments is critical to substantiate the need for site-specific information about the intensive clearcutting and conversions to pine plantations that we are seeing throughout North Carolina and the Southeast. We are encouraging you to consider North Carolina.
 11. Careful selection of smaller study areas and associated data collection and analysis can assure that some of these critical information gaps are filled, and help assure that data on regional and state-wide trends do not obscure what may be happening in particular watersheds or localities.
 12. We are also concerned about the adequacy of the small area studies. Obviously, many areas need to be examined to determine the scope and scale of regional impacts on forests.
 13. ...small areas studied more intensely using site specific research will provide valuable documentation of the consequences of high sustained demand or increasing demand on forest resources. Watersheds, flora and fauna, and economies.
 14. In order for a Small Area Assessment site chosen should be: diverse biologically and geographically; contain several centers of manufacturing as well as areas that supply raw forest products to several mills; have areas of population growth as well as stable rural areas; contain diverse forest types both native and planted, and contain protected (public) and unprotected (private) forests; an area that has recent water quality data; large enough

so that any data collected is reliable and significance can be achieved but small enough to make the SAE affordable and manageable.

15. Save Southern Forests: These Forests provide clean drinking water, protect habitat for hunting and fishing, and improve the quality of life for families throughout the South. Corporations must not build any new chip mills until we have more information about their impact on forests and have adequate safeguards in place for the forests.
16. Because the growth and proliferation of chip mills has been the driving force behind the public outcry, it is absolutely essential that the study explicitly address impacts of chip mills on ecological sustainability. Further because concerns over increased clearcutting of native forests and conversion to plantations are on the rise because of other industrial forestry pressures on southern forests besides chip mills (strictly defined), the assessment must also address expansion of current pulp and paper facilities, construction of new oriented strand board mills and increases in forest products industry capacity such as medium density fiberboard plants which are degrading southeastern forest ecosystems. Specifically, the study will be incomplete if it does not address how these pressures are impacting the resources over which federal and state agencies have mandatory or discretionary authority or over which they have influence.
17. Landowners are particularly concerned about how sub-regional assessments will be selected and conducted. The agencies should outline clear criteria for selecting sub-regions for analysis and describe how sustainable forestry will be defined and assessed. These criteria should be open to public input and review prior to initiating the sub-regional assessments.
18. Chip mills are an irresponsible solution to satisfy a hungry paper industry.
19. The multiple agency study should expend some effort studying site-specific effects as for example, a single watershed or a single sourcing area or the long range economic impact on a single community.
20. The chip mill infested corridor along the Tenn-Tom waterway must be included as a case study in this larger study. That chip mill infested area, along with the existing pulp and paper industries overlapping sourcing areas is an indicator of what is occurring throughout the study area.



[Questions as revised in response to these comments](#)

[Previous Question](#)

[Public Input Home](#) | [Methods](#) | [Assessment Home](#)

modified: 21-DEC-1999
webmaster: [John M. Pye](#)