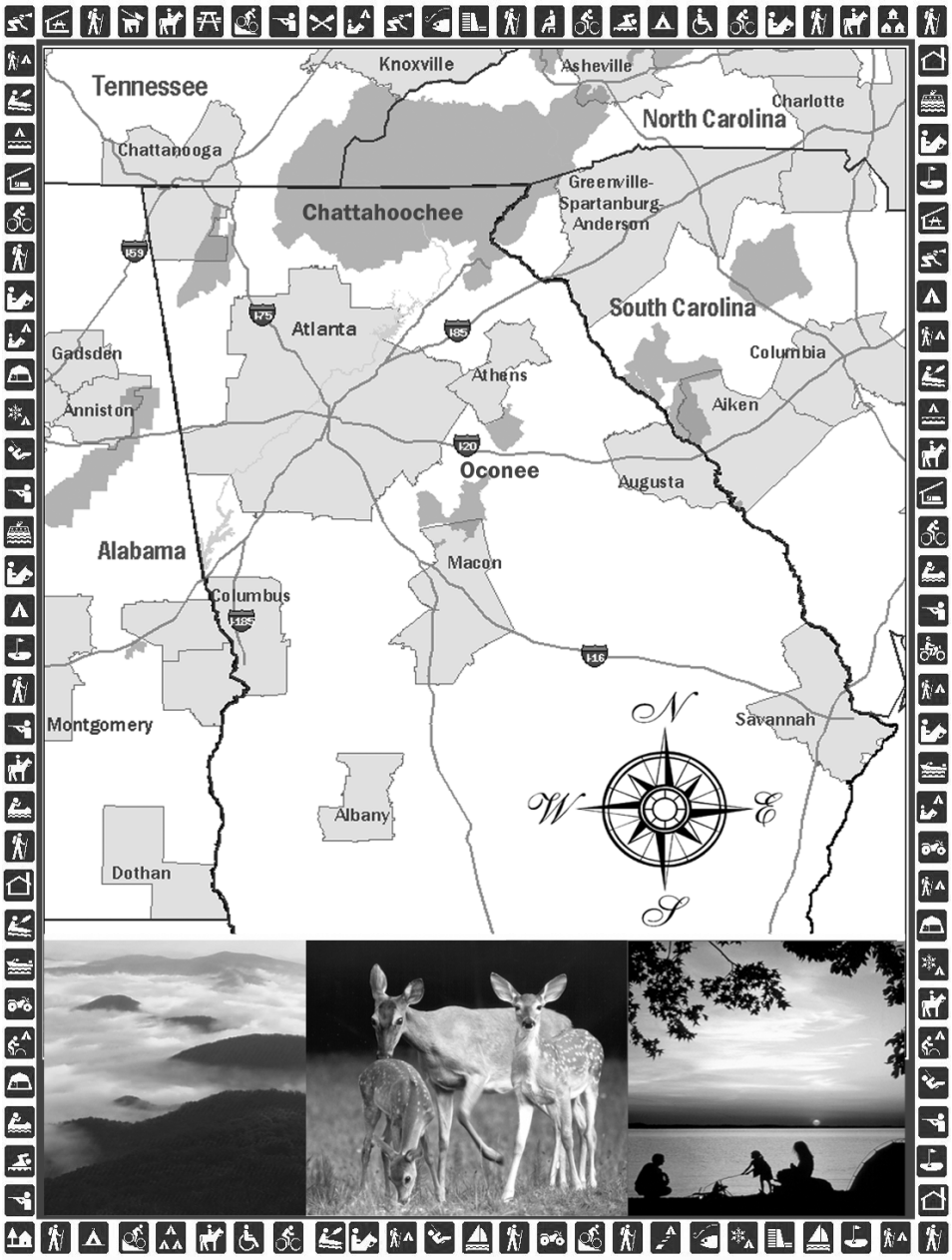
United States
Department of
Agriculture

Forest Service
Southern Region

Summary
Final Environmental Impact Statement and Land and Resource Management Plan

Chattahoochee-Oconee National Forests



The revision of the Land and Resource Management Plan for the Chattahoochee-Oconee National Forests is presented in the following set of USDA Forest Service Management Bulletins for Region 8:

Record of Decision for the Final Environmental Impact Statement for the Revision of the Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113C. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

Summary of the Final Environmental Impact Statement for the Revision of the Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113D. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

Final Environmental Impact Statement for the Revision of the Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113B. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

Appendices to the Final Environmental Impact Statement for the Revision of the Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113F. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113A. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

Appendices to the Chattahoochee-Oconee National Forests Land and Resource Management Plan. 2004. R8-MB 113E. Atlanta, GA. U.S. Department of Agriculture, Forest Service, Southern Region.

The original distribution of these documents included, at a minimum, a printed copy of the Record of Decision and the Summary, as well as a CD containing all of the documents in their entirety and allocation maps. For further information, refer to the Chattahoochee-Oconee National Forests website: www.fs.fed.us/conf.

The cover - The cover graphic shows National Forest (dark gray) in the context of states, interstate corridors, and surrounding metropolitan statistical areas (medium gray) from Census Bureau year 2000 data. The encircling border of international symbols typifies some of the mounting use pressures affecting the Chattahoochee-Oconee NF.

Summary of the
Final Environmental Impact Statement of the
Land and Resource Management Plan Revision for the
Chattahoochee-Oconee National Forests

Chattahoochee National Forest – Banks, Catoosa, Chattooga, Dawson, Fannin, Floyd, Gilmer, Gordon, Habersham, Lumpkin, Murray, Rabun, Stephens, Towns, Union, Walker, White, and Whitfield Counties

Oconee National Forest – Greene, Jasper, Jones, Monroe, Morgan, Oconee, Oglethorpe, and Putnam Counties

State of Georgia, USA

Responsible Agency: USDA - Forest Service

Responsible Official: Robert Jacobs, Regional Forester
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January 2004

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SUMMARY OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE REVISION OF THE CHATTAHOOCHEE-OCONEE NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN

PURPOSE AND NEED

This summary of the Environmental Impact Statement (EIS) describes the analysis of several alternatives considered in proposing revisions of the *Land and Resource Management Plan for Chattahoochee-Oconee National Forests* (Forest Plan) and discloses the environmental effects of these alternatives. The companion document to the EIS is the revised Forest Plan.

The Final Environmental Impact Statement will be used in future environmental analyses through "tiering." That is, environmental analyses and documents prepared for projects arising from the Forest Plan will refer to the Final Environmental Impact Statement and Forest Plan. Tiering avoids repetitive review of the same issues, and is appropriate when the sequence of statements or analyses is: from a program, plan, or policy to a site-specific statement or analysis (*40 CFR 1508.28*).

The Forest and Rangeland Renewable Resources Planning Act (RPA), as amended by the National Forest Management Act of 1976 (NFMA), requires that each national forest be managed under a Forest Plan. Regulations require that Forest Plans be revised on a 10- to 15-year cycle, or sooner if conditions of the areas covered by the plan change significantly. The current Forest Plan was approved in 1985, and the revision effort began in 1996.

DESCRIPTION OF THE PLANNING AREA

The planning area for the analysis consists of the approximately 750,000-acre Chattahoochee National Forest and the approximately 115,000-acre Oconee National Forest. The Chattahoochee NF is located across the northern portion of the state with lands in 18 counties. The Oconee NF is located in the Central/Piedmont portion with lands in 8 counties. The lands within each forest lie within either a proclamation boundary or a purchase unit. A proclamation boundary is established by Executive Order and provides that existing National Forest System lands, or lands to be acquired for national forest purposes, shall be a part of the National Forest System. The Secretary of Agriculture may establish a purchase unit to create a new boundary or to adjust or expand an existing boundary, within which federally-acquired lands will become a part of the National Forest System. The two National Forests in Georgia are administered by one Forest Supervisor, headquartered in Gainesville, GA.

There are three other areas administered by the USDA Forest Service in the State of Georgia. The Hitchiti Experimental Forest and Scull Shoals Experimental Forest both lie within the Oconee NF, and are administered as part of that Forest. The Forest Service also administers a two-acre Experiment

Station office site in Athens. All of these areas are managed under the direction of the Research Branch of the Forest Service.

The ecological context of the Forests is described by the Forest Service national ecological classification system. The national ecosystem hierarchy includes four planning and analysis scales: ecoregions, subregions, landscape, and land units as shown in Table 1.

Table 1. Forest Service National Hierarchical Framework of Ecological Units

Planning and Analysis Scale	Ecological Units	Purpose, Objectives, and General Use	General Size Range
Ecoregion			
Global	Domain	Broad application for modeling and sampling, strategic planning and assessment	Millions to tens of thousands of square miles
Continental	Division		
Regional	Province		
Subregion	Section --- Subsection	Strategic, multi-forest, statewide, and multi-agency analysis and assessment	Thousands to tens of thousands of square miles
Landscape	Landtype Association	Forest, area wide planning and watershed analysis	Thousands to hundreds of acres
Land Unit	Landtype --- Landtype Phase	Project and management area planning and analysis	Hundreds to less than 10 acres

Both the Chattahoochee and Oconee National Forests are within the Humid Temperate Domain ecological unit. The Oconee and the western portion of the Chattahoochee are within the Subtropical Division unit and the Southeastern Mixed Forest Province unit. The mountainous part of the Chattahoochee is in the Hot Continental Division and the Central Appalachian Broadleaf Forest-Coniferous Forest-Meadow Province."

The scales are further divided into domains, divisions, provinces, sections, subsections, landtype associations, landtypes and landtype phases. The lands of the Chattahoochee-Oconee National Forest occur in three sections in Georgia as shown below.

Sections (broad areas of similar topography, regional climate, and potential natural vegetation)

A. **Blue Ridge Mountains** (M221D) - includes the southern portion of the Appalachian Mountains in Georgia, North Carolina, and Virginia. Occurs only on the Chattahoochee NF, does not include the Armuchee RD, and the portion of the Chattooga RD east and northeast of Clarkesville, Georgia.
B. **Southern Appalachian Piedmont** (231A) - includes the Oconee RD and the Chattooga RD east and northeast of Clarkesville, Georgia. Represented by irregular plains, plains with high hills, open low hills, and tablelands of moderate relief.
C. **Southern Ridge and Valley** (231D) - located only on the Armuchee RD of the Chattahoochee NF and is characterized by parallel ridges and valleys.

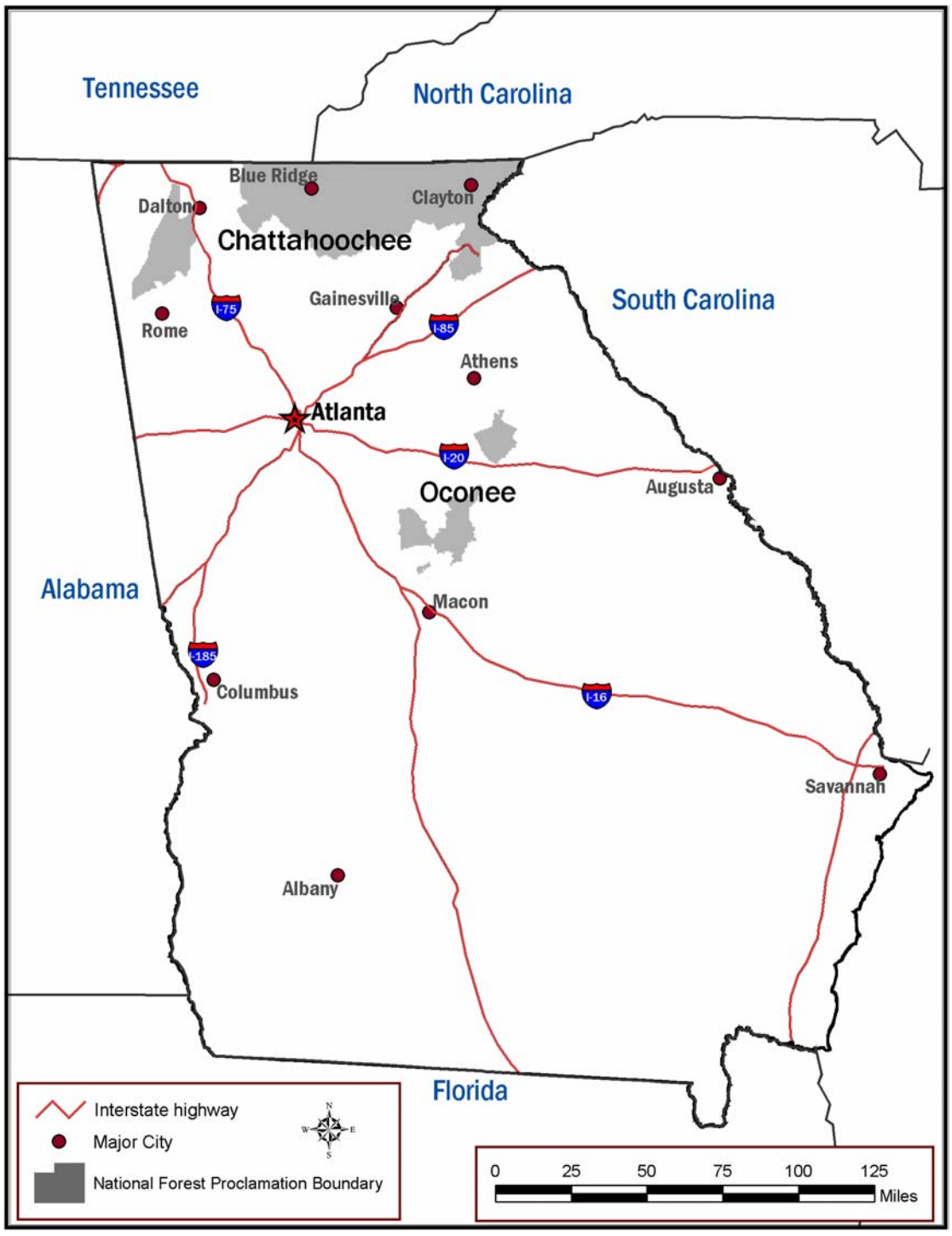

Figure 1. Location of the National Forests in Georgia

PLANNING, ENVIRONMENTAL, AND DECISION PROCESSES

Forest planning occurs within the overall framework provided by the National Forest Management Act (NFMA) and the National Environmental Policy Act (NEPA) and the agency regulations for their implementation. National, regional, and individual forest planning form an integrated three-level process. In this structure, regional planning is the principal channel for conveying information between forest and national levels.

STEPS IN THE DEVELOPMENT OF THE REVISED FOREST PLAN AND EIS

Planning actions required by the NFMA and used in this planning process are:

1. Identification of issues, concerns, and opportunities
2. Development of planning criteria
3. Inventory of resources and data collection
4. Analysis of the management situation
5. Formulation of alternatives
6. Estimation of effects of alternatives
7. Evaluation of alternatives
8. Recommendation of preferred alternative
9. Approval and implementation
10. Monitoring and evaluation

When a need to revise the Forest Plan is identified, whether due to the mandated planning cycle time or changes in conditions, the steps required by NFMA and NEPA are quite specific.

Desired Future Conditions. Existing and desired future conditions (DFCs) must be determined. Possible changes in management practices that would result in movement from the existing conditions to the desired conditions are proposed. The proposed action must be formally stated, along with the purpose and need for the Plan revision.

Scoping. A "scoping" stage is required to determine the range of actions, alternatives, and impacts that must be considered in the EIS. Information about the proposed change is shared with the public, and public comment is solicited. Opportunities for public review and comment must be publicized and made available on a regular basis.

Issue Identification. Issues identified by the public and the Forest Service are recorded and analyzed to determine priority and scope. (Can the issue be addressed by activities on the Forest, or is it broader in scope than that?) Alternative management strategies to address the issues are formulated and evaluated, again with public review and comment.

Management Areas and Prescriptions. The Forest is subdivided into smaller areas for the application of specific direction. There are two levels of such subdivision; management areas and management prescriptions. In the Chattahoochee and Oconee National Forest Plans, management areas are large-scale watersheds in the range of 50,000 to 100,000 acres. Each watershed management area is also identified as a hydrologic unit, providing a level of analysis and a sense of place. Forty-three (43) watershed management areas are delineated on the forests.

Management prescriptions are smaller areas developed to delineate management emphasis, desired future conditions, and general management direction for a wide range of area types such as wilderness study areas, dispersed recreation areas, riparian corridors, old growth areas, and special use areas. These areas are defined within (and occasionally across) the management areas that encompass the entire Forest. Each individual management prescription is described in the Land and Resource Management Plan with emphasis, desired conditions, and specific direction.

Effects Analysis. Based on results of the scoping stage, the expected effects on a range of Forest resources and programs must be analyzed and disclosed. This is the core of the EIS. Potential effects were analyzed for numerous resources and programs such as watersheds, major forest communities, rare communities, various wildlife habitats, recreation opportunities, scenery, and social and economic environments in the areas near the Forest.

Goals, Objectives, Standards, and Monitoring. Forestwide goals and objectives were developed to shape management direction and guide project-level activity. Forestwide standards were put in place to ensure compliance with laws and regulations, to facilitate progress toward desired conditions, and to mitigate possible adverse effects identified in the effects analysis stage. There are also standards that apply to specific management prescription areas. Monitoring and evaluation methods were specified to measure progress toward objectives and effects on Forest resources.

Implementation. The Plan will be put into practice through the implementation of specific projects. Projects follow a similar track as did the Forest Plan but the time frames are usually much shorter. Projects that involve the commitment of natural resources typically have their own public involvement, notification, documentation, and appeal procedures.

It's important to note that the Forest Plan is not a collection of projects to implement. The Plan makes no site-specific decisions; such as where recreation facilities are to be developed or which forest roads may be improved or decommissioned. The purpose of the Plan is to provide programmatic, strategic direction on a forestwide basis. Strategic direction concerns where we want to go. A forest plan establishes overall, multiple-use goals and objectives, as well as forestwide management requirements. It provides general management direction at the level of defined management areas, and identifies lands suited, or not suited, for resource use and production. The plan also identifies areas to be studied or recommended for inclusion in congressionally designated preservation systems, such as Wilderness Areas or Wild and Scenic Rivers. Monitoring and evaluation requirements are defined.

Forest plans are often compared to city zonings. The zoning plan is a programmatic decision document that incorporates goals and desired conditions for a given locality. It divides the area into zones and establishes standards (or ordinances) for development by zone. The zone ordinances do not require any projects to occur, but rather permit development projects that conform to the standards.

When a need or opportunity for change on the Forest is identified, the existing and desired conditions are defined, and the opportunity for movement toward the desired condition is assessed. Possible interventions or management projects are reviewed for probability of effecting the desired change, possibility of adverse effects, cost, and consistency with the current Forest Plan. Project-level decision making is thus about how we get to where we want to go - or tactical decisions.

Amendment Process. If the project or activity is not consistent with the current Forest Plan, or not within the scope of the current plan, an amendment to the plan may be proposed. The Forest Plan is intended to provide guidance for a period of 10 to 15 years. For it to remain viable and pertinent, ongoing amendment of the plan is necessary and expected. Adoption of an amendment requires applicable effects analysis (tiered to the EIS), public review and comment, and final approval at the same level as the plan itself.

SOUTHERN APPALACHIAN FOREST COORDINATION

Information from the Southern Appalachian Assessment crossed state boundaries and involved multiple national forests. The Assessment has been key to the coordination of planning among the National Forests of the southern Appalachian region. On February 24, 1995, a Notice of Intent was placed in the *Federal Register* (Vol. 60, No. 37) that identified the relationships between the SAA and the Forest Plan revisions of the National Forests in Alabama, Chattahoochee-Oconee National Forests, Cherokee National Forest, Jefferson National Forest, and Sumter National Forest. Significant issues that crossed National Forest boundaries were developed in common for all of the Southern Appalachian forests. Each Forest also developed issues unique to them. Common alternatives and management prescriptions were developed In response to the 12 common issues.

ISSUES COMMON TO THE SOUTHERN APPALACHIAN FORESTS

The issues found to be common to all of the Southern Appalachian forests engaged in Plan revision are listed below:

Issue 1 - Terrestrial Plants and Animals and Their Associated Habitats
Issue 2 - T & E and Sensitive/Locally Rare Species
Issue 3 - Old Growth
Issue 4 - Riparian Area Management, Water Quality and Aquatic Habitats
Issue 5 - Wood Products
Issue 6 - Aesthetics/Scenery Management
Issue 7 - Recreation Opportunities/Experiences
Issue 8 - Roadless Areas/Wilderness Management
Issue 9 - Forest Health
Issue 10 - Special Areas and Rare Communities
Issue 11 - Wild and Scenic Rivers
Issue 12 - Access/Road Management (Travel Management)

ISSUES SPECIFIC TO THE CHATTAHOOCHEE-OCONEE NATIONAL FORESTS

In addition to the issues affecting the Southern Appalachian region as a whole, the following local issues were determined for the Chattahoochee-Oconee National Forests:

Issue 13 – Chattooga River Watershed
Issue 14 – Red-Cockaded Woodpecker
Issue 15 – Recreational Gold Collecting
Issue 16 – Special Uses

A region-level management team with representation from each Forest provided direction and oversight throughout the planning process. Interdisciplinary teams (IDTs) from all the Forests in the southern Appalachian region consulted frequently throughout the extended planning process with a view toward achieving consistency in alternative development and management prescriptions where appropriate, always considering the conditions and needs in the individual Forests.

USE OF ASSESSMENTS, INCLUDING THE SOUTHERN APPALACHIAN ASSESSMENT

The major assessments providing baseline information for the proposed Forest Plan revision were the Southern Appalachian Assessment (SAA) and the Chattahoochee-Oconee National Forest's Analysis of the Management Situation (AMS). The main objective of the AMS was to do the analysis leading to a proposal to change forest management direction. A key part of that analysis has been the SAA, which included large parts of the Chattahoochee NF and adjacent Forests with which Chattahoochee NF has coordinated plan development. Preparation of draft AMS reports was on-going concurrently with the SAA and used its draft products. The AMS has included updating resource inventories, defining the current situation, estimating supply capabilities and resource demands, evaluating the results of monitoring, determining the "need for change" (36 CFR 219.12(e)(5)), reviewing previous public comments, and participating in public meetings or other outreach.

The SAA culminated in a final summary report and four technical reports. It was prepared by the USDA Forest Service (the Southern Region of the National Forest System and the Southern Forest Experiment Station) in cooperation with other Federal and State agencies that are members of the Southern Appalachian Man and the Biosphere Cooperative. The SAA included National Forest System lands and private lands in the George Washington/Jefferson, Nantahala-Pisgah, Cherokee, and Chattahoochee National Forests, and parts of the Sumter and Talladega National Forests. It also included the National Park Service lands in the Great Smoky Mountains National Park, Shenandoah National Park, and Blue Ridge Parkway.

The SAA supports the revision of the Forest Plans by describing how the lands, resources, people, and management of the national forests interrelate within the larger context of the Southern Appalachian area. The SAA, however, is not a "decision document," and it did not involve the National Environmental Policy Act (NEPA) process. As broad-scale issues were identified at the sub-regional level (Southern Appalachian Mountain area) in the SAA, the individual National Forest's role in resolving these broad-scale issues becomes a part of the "need for change" at the forest level. Public involvement has been important throughout both of these processes. Continuing public involvement leading to formulation of alternatives for the Forest Plan revision was conducted through the "scoping" period that followed the issuance on August 1, 1996, of the Notice of Intent (to revise the current Forest Plan).

Other assessments besides the SAA also informed the planning process, though not to the same degree. The Southern Forest Resource Assessment was issued in final form in 2002 and looked at the entire southern region, not just the Southern Appalachians. It identified broad trends in southern forestlands that gave an overall context for decision making. At finer scale within each Forest, watershed assessments looked at the health of individual watersheds.

Taken as a whole, the available assessments met the ecosystem management principles of looking at actions at both larger and smaller scales, looking across jurisdictional and ownership boundaries, and working in collaboration with partners.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

ALTERNATIVE DEVELOPMENT

The alternative development process consisted of four different phases. The process involved a coordinated effort of the staffs of the five National Forests of the Southern Appalachian area, with frequent meetings that were open to the public.

Phase I identified different ways the significant issues could be addressed.

Phase II developed four alternative themes using the information developed in Phase I. These alternative themes were the "starting points" for developing alternatives. The four themes were:

A. Produce high levels of goods and services compatible with local economies and communities.
B. Priority is given to restoring natural resources and processes.
C. Nature operates in conjunction with minimal human intervention.
D. Provide vigorously growing trees, commercial wood products and a variety of wildlife habitats in a generally naturally-appearing setting.

Phase III involved mapping the four alternative themes and "Current Direction". The Phase III maps showed the land allocations, with each allocation consisting of a management emphasis, desired condition, and applicable management direction.

The objectives of Phase IV of the alternative development process were to analyze the four alternative themes to determine whether modifications were needed, whether other alternatives needed to be developed, and whether there were any areas of consensus. Public participation in both Phases III and IV was extensive and critically important to the overall process of developing alternatives. A description of public meetings and public involvement activities is available in Appendix A of the FEIS.

Based on input from all five Southern Appalachian forests and the public on the five forests, changes were made and additional alternatives were developed to address a variety of issues and to provide a spectrum of alternatives to analyze and consider. The original four alternative themes (with some modifications) became Alternatives A to D, the Current Direction (No-Action) Alternative became Alternative F, and three new alternatives (Alternatives E, G and H) were developed.

Later, it was decided to develop a ninth alternative (Alternative I). A set of "design criteria" was developed for this alternative which incorporated those parts of Alternatives A-H where there appeared to be some general agreement from our publics. A hallmark of Alternative I throughout the process was that it was designed to 'roll' or change incrementally over time. As a result of this development strategy, Alternative I was often referred to as the "Rolling Alternative." Initially, this was to 'roll' the best features of each of the other alternatives into its earliest form. Later, it continued to change with analysis and more public input. Between draft and final, Alternative I 'rolled' once more in response to comment and to fulfill commitments made at the draft for rare community allocations.

Every affected topic was re-analyzed, and the analysis results were updated as applicable from those shown in the draft. Changes between draft and final were of two types - changes in land allocations and changes in plan direction. Forestwide goals, objectives, and standards as well as management prescription-specific desired future condition descriptions, objectives, and standards were intensively revised. However, the changes remained within the overall Alternative I emphasis as presented at the draft. These changes are described in chapter 2 of the FEIS.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

As was described above, there were originally nine different alternatives. However, as the planning process proceeded, it was determined that alternatives C and H did not need to be further evaluated in greater detail.

PRESENTATION OF ALTERNATIVES

All alternatives respond to the "Healthy Forests Initiative" by allowing for the management of forest vegetation and fuels, thus decreasing fuel-loading problems, the risks to other resources and to adjacent private lands, and the potential for severe wildland fires. Prescribed fire will be utilized to reduce fuel-loading and to maintain fire dependant communities.

ALTERNATIVE A

Alternative A would emphasize production of goods and services beneficial to local economies and communities. Local communities include any community that benefits economically from forest visitors and forest products. Timber management would provide sustained yield of wood products with emphasis on high-quality sawtimber. In areas where vegetation management is permitted, it would be actively pursued to reach and maintain a condition of low risk of insect and disease problems, especially in those areas where timber production would be emphasized. Wildlife management would put priority on public-demand species, including game and other species.

Highways and roads in the forests, trail and river corridors, and recreation-use areas would have forest stands with few, if any, broken views. Improved scenery values support tourism and local, rural economies. Developed and dispersed recreation opportunities and high-quality scenery would be provided in a variety of settings both natural and managed. Public access via travelways, use corridors, waterways, and trails (including those for off-highway vehicles) would be increased or improved in high-use areas to provide for more recreation opportunities.

Restoration of degraded watersheds would be expanded to improve aquatic habitats and water quality. Old-growth allocation and management would be primarily on lands already withdrawn (in current Forest Plans) from the suitable timber base. SAA-inventoried roadless areas adjacent to or in close proximity to wilderness areas that receive high-use would also be recommended for wilderness designation.

ALTERNATIVE B

Alternative B would be biologically driven and would emphasize restoring the natural resources and natural processes and creating and maintaining wildlife habitats. Emphasis would be on restoration of vegetation to potential natural vegetation (plant associations) based on the ecological potential and capability of the land and providing a mix of the wildlife habitats for game and non-game species. Restoration activities would occur in areas where technology is available to implement. When possible, natural processes would be mimicked in a natural landscape pattern. Restoration activities could produce both large and small openings. Long-term restoration goals would be established for areas where technology is not currently available or for areas where restoration activities cannot be implemented or completed within the life of the revised Forest Plan. A variety of recreation settings would occur in areas where they would be compatible with restoration activities and in areas where restoration is not occurring. Manage wood products only in concert with restoration and creating wildlife habitats. Timber sales would become a by-product of restoration management and wildlife habitats.

The long-term goal would be to provide old-growth conditions by old-growth community types within the ecological province or section similar to that existing before large-scale, extensive pioneer settlement and land uses. Riparian ecosystems would be managed to maintain water quality and aquatic ecosystems and to restore degraded conditions. Timber production would be a result of management

to restore and maintain specific impaired or degraded resources, natural processes, communities, and wildlife habitats. In some areas of the forests, scenic resources would move gradually toward “high” to “very high” scenic integrity. Restoration of areas would result in short-term, “low” to “moderate” scenic integrity, but with a long-term goal of a “high” rating. A wide variety of recreation opportunities would be provided. Roadless areas with identified forest type restoration needs or wildlife habitat needs in conflict with wilderness designation would not be recommended for wilderness; other roadless areas could be recommended for wilderness study. The role of native insects and disease would be accepted, except that epidemics would be suppressed to reduce large-scale catastrophic tree mortality. Exotics such as beech scale, gypsy moth, hemlock woolly adelgid, Japanese privet, and kudzu would be controlled. Any riparian restoration needs would be made compatible with wild and scenic river classification and its outstandingly remarkable values. Access to degraded resources, areas in need of restoration, or areas where wildlife habitat needs occur could be temporarily provided to maintain or restore desirable ecological conditions. Access would be reduced as needed to restore and protect aquatic systems, soils, and plant/animal communities.

ALTERNATIVE D

A major objective of Alternative D would be to reach and maintain a balanced age class. All lands not meeting National Forest Management Act criteria, as being unsuitable for sustained yield timber management would be available for sustained-yield management. On suitable lands, each of the major forest groups (pine, mixed, and hardwood) would have a specific target rotation age, the age at which it would be harvested and replaced with a new forest.

There would be an approximately equal number of acres within each 10-year age class up to that rotation age. This “balance of age classes'' would occur on lands identified as suitable and would be distributed in 15- to 40-acre blocks throughout the lands being managed for sustained-yield timber production. Pine, mixed, and hardwood forests older than the rotation age also would occur on large blocks of land already withdrawn from sustained-yield timber production. Production of both commercial wood products and a variety of aquatics/wildlife habitats would be emphasized. Developed and dispersed recreation opportunities would be provided in a variety of settings, both natural and managed. Water quality and riparian corridors would be protected through BMPs, streamside management zones, and standards. Restoration would be pursued, if needed. Streamside management zones would be included in the suitable timber base, with minimum widths based on applicable regulations.

Large- and medium-sized blocks of old growth would be provided only on unsuitable land. Small blocks would occur scattered throughout the suitable lands on steep slopes, streamside management zones, or similar areas. The forests would appear highly variable in tree sizes and openings in the canopy may be seen from roadways and vista points. Potential roaded natural (RN 1, 2) experiences would increase as access roads for timber harvest are built or improved. The semi-primitive experiences would be primarily on unsuited lands. Only those roadless areas that are already withdrawn from sustained-yield timber production by Congress, the Secretary of Agriculture, or the Chief of the Forest Service would be recommended as wilderness. Insects, diseases, and exotic plant and animal species on suitable lands would be actively controlled and prevented. Some of the eligible wild and scenic rivers would be recommended for inclusion to the National Wild and Scenic Rivers System. Access would be developed, maintained, and used as needed to meet the goal of balanced age classes, wildlife habitats, and production of timber products.

ALTERNATIVE E

A combination of a natural setting and concentrated facilities that could attract a variety of recreation users would be provided. Active resource management would be concentrated in certain locations and would support recreation use and visual quality. Most areas would maintain a forested canopy. Large blocks of the forest would be maintained in a roadless condition to provide remote, backcountry recreation. Dispersed and developed recreation areas and opportunities would be increased. A variety of recreation experiences would occur including concentrated use and off-highway vehicle use. A

variety of different wildlife habitats would be maintained in blocks across the landscape. Habitat for forest interior species would be accomplished through maintenance of a variety of successional classes in a manner that would be unnoticeable to most forest visitors. A substantial amount of the forest would be allocated to providing old growth for biological and aesthetic values in large, medium, and small patches.

Riparian ecosystems and streamside management zones would be designated, through allocation or standards and guidelines, to provide water-quality protection and improvement. The overall long-term timber product objective would be large-diameter and high-quality sawtimber for species capable of reaching that objective. Highways and roads in the forests, trail and river corridors, view sheds, and recreation-use areas would have forest stands with few, if any, broken views to support enhancements in tourism and local, rural economies. Many insect and disease impacts would be tolerated as part of a functioning natural ecosystem. Most wild and scenic rivers would be recommended for adding to the National Wild and Scenic Rivers System, with primary emphasis on protecting the resources. Public access via travelways, use corridors, waterways, and trails (including those for off-highway vehicles) would be increased in high-use areas and/or improved to provide for more recreation opportunities.

ALTERNATIVE F – CURRENT MANAGEMENT (THE NO-ACTION ALTERNATIVE)

This alternative represents continued use of the 1985 Plan as amended. The Forest would be managed to provide a balance between timber and recreation. Timber production (ASQ) would be, on average, that of the 1985-1996 period. Recreation and wildlife habitat manipulations would receive increased emphasis. All SAA-inventoried roadless areas would be studied for wilderness inclusion. Rivers that meet the inclusion criteria for the Wild and Scenic River system would be placed into a forest management prescription of 4.H (Chattahoochee-Oconee Outstandingly Remarkable Streams). Roadless areas would be allocated into management prescriptions that would protect the areas roadless character.

ALTERNATIVE G

Alternative G would use land allocations to link movement corridors and large undisturbed areas, as well as areas of special effort such as T&E species protection, species reintroduction, and watershed restoration. National Forest System lands would provide habitat for forest interior species and a wide diversity of native plants and animals, particularly late-successional species. Habitats on private lands would be considered. Backcountry, late-successional wildlife species, and nature-oriented nonmotorized recreation opportunities would be emphasized. Most roadless areas would be recommended for wilderness. Old-growth restoration areas would be developed around clusters of existing old growth. Mature forests with old-growth characteristics would provide natural old-growth dynamics across the landscape of the Southern Appalachians. High-quality timber would be produced in long rotations in areas outside forest interior species habitat, movement corridors, and large undisturbed areas and would be accessed from existing roads. Effects of native insects and diseases would be accepted. Emphasis would be on establishing a naturally resilient forest that would avoid large outbreaks of forest pests. Fire would be used to restore natural ecosystem processes. Road network mileage would be reduced through closure and obliteration of roads not needed for ecosystem stewardship or restoration.

Emphasis would be on inventory, monitoring, conservation, and recovery of proposed, threatened, endangered, sensitive, and locally rare species. Riparian areas would be maintained as old growth for habitat and connectivity. Riparian area protection and restoration would be emphasized through watershed assessments and establishment of riparian conservation areas and reference watersheds. Naturally evolving and naturally appearing landscapes would be pre-dominant. Recreation would take place within a context set by habitat needs and ecosystem function.

Semi-primitive wildlife- and nature-oriented recreation opportunities would be emphasized. Developed facilities would be located where they do not detract from ecosystem function and landscape connectivity. Roadless areas would be maintained for un-fragmented wildlife habitat, landscape

linkages, old-growth restoration, wilderness designation, and other management that would maintain their un-fragmented habitat and ecosystem function. Exotic pests would be controlled by means that least impact ecosystem function and un-fragmented habitat across the landscape. Eligible rivers would be recommended for inclusion in the National Wild and Scenic Rivers System.

Opportunities to provide for many of the desired conditions such as connected habitats, movement corridors, and large undisturbed areas would be limited in the Piedmont and Coastal Plains due to landownership patterns and red-cockaded woodpecker management needs.

ALTERNATIVE I (THE SELECTED ALTERNATIVE)

This alternative emphasizes the restoration and maintenance of forest ecosystems to provide high-quality water and diverse, resilient, self-reproducing aquatic populations in damaged and undamaged streams. Riparian areas would be managed to retain, restore and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within riparian corridors.

Also emphasized would be the sustainability of diverse ecosystems that support viable plant, wildlife and fish populations including habitats for those species needing large contiguous forested landscapes. There would be a variety of old growth communities to meet biological and social needs. Forest health would be a priority to ensure a forest that is resistant to large-scale, catastrophic plant mortality from insects or disease, especially from non-native organisms.

This alternative would provide high quality, nature-based recreation opportunities, emphasizing non-motorized settings with natural appearing landscapes and those landscapes that are not widely available on non-Federal lands. Inventoried roadless areas, outstandingly remarkable river values, and high scenic areas, including scenic views at a range of distances, would be protected.

The Forest Service road system would be managed at the minimum level needed to implement this alternative and achieve the management objectives of the alternative.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The cross-walk between forest communities and the associated 'continuous inventory of stand conditions' (CISC) forest cover types for the Chattahoochee and Oconee National Forests is shown in **Table 2** and **Table 3**. They display the relative abundance of the forest communities on each forest and the forest type composition of each community. These forest community groupings were used for the SPECTRUM analysis for the major forest communities discussed below.

The forest community types are essentially a one-to-one correspondence with the old growth community types, as they were adapted from Regional Guidance to apply specifically to the Chattahoochee-Oconee National Forest. The splits on site index were used to separate acreages of those forest cover types that occur on both very dry and dry sites. These tables represent the affected environment, and are the foundation for many of our effects analysis as they relate to the biological elements on the Chattahoochee-Oconee National Forest.

Table 2. Current Composition of Forest Communities Analyzed In the SPECTRUM Model for the Chattahoochee National Forest Plan Revision

Community Type	% of Forested Acres	Forest Type (CISC Code)	Forest Type % of Community
Dry-Mesic Oak Forest	33	Post Oak-Bear Oak (51)	<1
		Chestnut Oak (52) SI>60[1]	<1
		White Oak-Red Oak-Hickory (53)	99
		White Oak (54)	1
		Northern Red Oak (55)	<1
		Scarlet Oak (59) SI>60	<1
		Chestnut Oak-Scarlet Oak (60) SI>60	<1
Dry and Dry-Mesic Oak-Pine Forest	28	White Pine-Upland Hardwood (10)	7
		Shortleaf Pine-Oak (12) SI>60	7
		Loblolly Pine-Hardwood (13)	1
		Virginia Pine-Oak (16) SI >60	8
		Loblolly Pine (31)	12
		Shortleaf Pine (32) SI>60	15
		Virginia Pine (33) SI>60	13
		Upland Hardwood –White Pine (42)	11
		Southern Red Oak-Yellow Pine (44)	2
		Chestnut Oak-Scarlet Oak-Yellow Pine (45)	16
		White Oak-Red Oak-Yellow Pine (47)	5
		Northern Red Oak-Yellow Pine (48)	2
Mixed Mesophytic and Western Mesophytic Forest	18	White Pine-Hemlock (04)	1
		Hemlock (05)	<1
		Hemlock-Hardwood (08)	1
		White Pine-Cove Hardwoods (09)	5
		Cove Hardwoods-White Pine-Hemlock (41)	14
		Yellow Poplar (50)	10
		Yellow Poplar-White Oak- N. Red Oak (56)	68

Table continued next page.

Community Type	% of Forested Acres	Forest Type (CISC Code)	Forest Type % of Community
Conifer-Northern Hardwood Forest	9	White Pine (03)	100
Dry and Xeric Oak Forest, Woodland, and Savanna	6	Chestnut Oak (52) SI<60	51
		Scarlet Oak (59) SI<60	16
		Chestnut Oak-Scarlet Oak (60) SI<60	32
Xeric Pine and Pine-Oak Forest and Woodland	6	Shortleaf Pine-Oak (12) SI<60	20
		Pitch Pine-Oak (15)	17
		Virginia Pine-Oak (16) SI<60	3
		Table Mountain Pine-Hardwoods (20)	1
		Shortleaf Pine (32) SI<60	25
		Virginia Pine (33) SI<60	6
		Pitch Pine (38)	27
		Table Mountain Pine (39)	1
River Floodplain Hardwood Forest	<1	Bottomland Hardwood-Yellow Pine (46)	81
		Sweet Gum-Yellow Poplar (58)	18
		Black Ash-American Elm-Red Maple (71)	1
Eastern Riverfront Forest	<1	River Birch- Sycamore (72)	50
		Cottonwood (73)	43
		Black Walnut (82)	7

1: SI = Site Index

Table 3. Current Composition of Forest Communities Analyzed In the SPECTRUM Model for the Oconee National Forest Plan Revision.

Community Type	% of Forested Acres	Forest Type (CISC Code)	Forest Type % of Community
Dry and Dry-Mesic Oak-Pine Forest	72	Shortleaf Pine-Oak (12) SI >60[1]	<1
		Loblolly Pine-Hardwood (13)	2
		Loblolly Pine (31)	93
		Shortleaf Pine (32) SI >60	3
		Virginia Pine (33) SI >60	<1
		Southern Red Oak-Yellow Pine (44)	<1
		White Oak-Red Oak-Yellow Pine (47)	1
		Northern Red Oak-Yellow Pine (48)	1
Dry-Mesic Oak Forest	13	White Oak-Red Oak-Hickory (53)	100
		White Oak (54)	<1
River Floodplain Hardwood Forest	9	Bottomland Hardwood-Yellow Pine (46)	6
		Sweet Gum-Yellow Poplar (58)	85
		Swamp Chestnut Oak-Cherrybark Oak (61)	2
		Sugarberry-American Elm-Green Ash (63)	6
		Overcup Oak-Water Hickory (65)	1
Mixed Mesophytic and Western Mesophytic Forest	3	Yellow Poplar-White Oak- N. Red Oak (56)	100
Seasonally Wet Oak-Hardwood Woodland	3	Sweet Gum-Nuttall-Oak-Willow (62)	99
		Laurel Oak-Willow Oak (65)	1
Eastern Riverfront Forest	<1	Sycamore-Pecan-American Elm (75)	100

1: SI = Site Index

The tables that follow show how each alternative responds to the issues. They represent a summarization of the analysis of effects by alternative from chapter 3 of the FEIS.

Table 4 and Table 5 show how each alternative responds to Issue 1 - the condition of terrestrial plants and animals and their associated habitats. The presence and abundance of terrestrial plant and animal species is often directly related to the age and species composition of the forest which they prefer. Forest age, forest type, elevation, moisture, and many other factors may determine whether a species will maintain a viable population on the Forest.

Table 4. Issue 1 - Terrestrial Plants and Animals and Their Associated Habitats – Chattahoochee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Successional Forest Habitats	**Percent of Forested Acres**						
Early-successional Habitat – 1st Decade	4.3	5.7	7.0	4.3	7.8	3.2	4.4
Early-successional Habitat – 5th Decade	2.2	3.0	4.4	0.6	5.5	0.4	2.7
Mid- to Late-Successional Habitat – 1st Decade	82.6	80.7	79.5	83.4	77.8	84.5	82.3
Mid- to Late-Successional Habitat – 5th Decade	86.4	82.5	78.8	95.2	71.5	95.4	86.4
Late-successional Habitat – 1st Decade	49.0	47.2	46.8	49.8	44.8	50.9	48.8
Late-successional Habitat – 5th Decade	72.3	67.6	63.6	79.9	57.5	80.2	72.0
	Acres in Thousands per Decade						
Acres Maintained in high-elevation early-successional habitat	3.2	4.3	4.3	1.9	1.5	3.3	3.2
	Percent of Forested Acres						
Mid- to Late-Successional Mesic Deciduous Forests in a Landscape with Greater than 70% Cover	53	53	53	53	53	53	53
Mid- to Late-Successional Mesic Deciduous Forests Allocated to Mgt. Prescriptions with an Early-Successional Habitat Objective of greater than 4%.	29.6	46.3	44.3	6.4	57.9	4.1	25.6
Permanent Openings, Old Fields, and Balds	**Acres in Thousands**						
Acres in Mgt. Pres. Allowing New Permanent Openings	534.6	524.1	527.8	491.1	594.6	269.2	518.8
MIS – Community Indicators	**Trends***						
Prairie Warbler (Early-successional Habitat)							
1st Decade	+	+	++	+	++	+	+
5th Decade	=	+	+	–	+	–	+
Ovenbird (Forest Interior)							
1st Decade	=	=	–	=	–	=	=
5th Decade	+	=	–	++	––	++	+
Pileated Woodpecker (Snags)							
1st Decade	=	=	–	=	–	=	=
5th Decade	++	+	+	++	+	++	++
Scarlet Tanager (Oak Forests)							
1st Decade	=	=	–	=	–	=	=
5th Decade	+	=	–	++	––	++	+

Table continued next page.

Alternative/Units of Comparison	A	B	D	E	F	G	I
Hooded Warbler (Mid to Late-successional Deciduous Forest)							
1st decade	+	+	+	+	+	+	+
5th decade	++	++	+	++	+	++	++
Chestnut-sided Warbler (High Elevation Early-successional Habitats)							
1st decade	+	+	+	+	–	+	+
5th decade	+	+	+	+	–	+	+
Pine Warbler (Pine Pine-Oak Habitats)							
1st decade	=	=	=	=	–	=	=
5th decade	=	=	–	–	–	–	=
Acadian Flycatcher (Mid-Late-successional (Riparian Habitats)							
1st decade	+	+	+	+	+	+	+
5th decade	++	++	++	++	++	++	++
Field Sparrow (woodland, savanna and grassland communities)							
1st decade	+	+	+	+	+	+	+
5th decade	+	+	+	+	–	+	+
MIS – TES Species							
Smooth Coneflower(Effects of management on recovery)							
1st decade	+	+	+	+	+	+	+
5th decade	++	++	++	++	+	++	++

Table 5. Issue 1 - Terrestrial Plants and Animals and Their Associated Habitats- Oconee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Successional Forest Habitats	**Percent of Forested Acres**						
Early-successional Habitat – 1st Decade	7.0	5.7	14.1	5.8	18.5	5.7	5.7
Early-successional Habitat – 5th Decade	7.5	4.6	7.2	7.0	18.1	6.5	4.7
Mid- to Late-Successional Habitat – 1st Decade	62.8	64.1	55.2	64.0	52.2	64.2	64.3
Mid- to Late-Successional Habitat – 5th Decade	69.1	72.4	74.1	72.5	56.2	78.4	70.9
Late-successional Habitat – 1st Decade	16.4	16.7	16.3	16.7	16.9	16.7	16.4
Late-successional Habitat – 5th Decade	34.5	37.5	37.8	38.0	36.3	43.5	36.7
	Acres in Thousands						
Acres Maintained in high-elevation early-successional habitat	0	0	0	0	0	0	0
	Percent of Forested Acres						
Mid- to Late-Successional Mesic Deciduous Forests in a Landscape with Greater than 70% Cover	24.7	24.7	24.7	24.7	24.7	24.7	24.7

Table continued next page.

Alternative/Units of Comparison	A	B	D	E	F	G	I
Mid- to Late-Successional Mesic Deciduous Forests Allocated to Mgt. Prescriptions with an Early-Successional Habitat Objective of greater than 4%.	85.8	82.9	85.3	74.7	90.7	85.8	75.9
Permanent Openings, Old Fields and Balds	**Acres in Thousands**						
Acres in Mgt. Pres. Allowing New Permanent Openings	108.5	109.4	103.3	107.8	113.9	98.0	105.6
MIS – Community Indicators	**Trends***						
Prairie Warbler (Early-successional Habitat)							
1st Decade	+	=	++	=	++	=	=
5th Decade	+	–	+	+	++	+	-
Wood Thrush (Forest Interior)							
1st Decade	–	=	––	=	––	=	=
5th Decade	+	+	+	+	–	++	+
Pileated Woodpecker (Snags)							
1st Decade	=	=	=	=	=	=	=
5th Decade	++	++	++	++	++	++	++
Scarlet Tanager (Oak Forest)							
1st Decade	–	–	––	–	––	–	–
5th Decade	++	++	++	++	––	++	++
Hooded Warbler (Mid to Late-successional Deciduous Forest)							
1st decade	++	++	++	++	++	++	++
5th decade	++	++	++	++	++	++	++
Pine Warbler (Pine Pine-Oak Habitats)							
1st decade	=	=	–	=	–	=	=
5th decade	+	+	+	=	–	+	+
Swainson Warbler (Early-successional Riparian Habitats)							
1st decade	+	+	+	+	=	+	+
5th decade	++	++	++	++	+	++	++
Acadian Flycatcher (Mid-Late Successional Riparian Habitats)							
1st decade	+	+	+	+	+	+	+
5th decade	++	++	++	++	++	++	++
Field Sparrow (woodland, savanna and grassland communities)							
1st decade	+	+	+	+	+	+	+
5th decade	+	+	+	+	–	+	+

Source: Analysis in Chapter 3, FEIS

*Population trends expressed as expected change from current levels:

- ++ = relatively large increase
- \+ = increase
- = = little to no change
- – = decrease
- –– = relatively large decrease

Table 6 and Table 7 show the comparison of Issue 2 by alternatives. These tables show the number of species/habitat relationships in each risk category under the various alternatives.

The national forests of the Southern Appalachians provide potential and occupied habitat for numerous threatened and endangered species. Legal mandates require national forests to maintain populations of proposed, endangered, threatened, and sensitive (PETS) species as important components of diverse, functional ecosystems. Forest Plan revisions need to identify actions required to manage habitats for these species. Forest Plan revisions must implement recovery objectives that have been established for threatened and endangered species by the USDI Fish and Wildlife Service. They also must include habitat objectives needed to protect existing species and habitats. The challenge lies in determining what and how much habitat management is needed to increase populations of PETS. There may also be opportunities to restore habitat conditions that may allow for the reintroduction of particular species.

Table 6. Issue 2 – Threatened, Endangered, and Sensitive/Locally Rare Species – Chattahoochee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Terrestrial Species Status Categories	**Number of Species/Habitat Relationships**						
Species/Habitat Relationships Rated as Very High Risk	60	57	57	89	85	89	60
Species/Habitat Relationships Rated as High Risk	107	110	110	98	96	98	107
Species/Habitat Relationships Rated as Moderately High Risk	146	146	146	137	141	137	146
Total	313	313	313	324	322	324	313
Aquatic Species Viability (TES only)	**Number of Species/Number of Watersheds**						
Low Risk	28/16	28/16	28/16	28/16	28/16	28/16	28/16
Moderate Risk, FS May Positively Influence	15/14	15/14	15/14	15/14	15/14	15/14	15/14
Potential High Risk, Little Opportunity for FS Influence	18/12	18/12	18/12	18/12	18/12	18/12	18/12
Potential High Risk, FS May Positively Influence	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potential Very High Risk, Little Opportunity for FS Influence	9/6	9/6	9/6	9/6	9/6	9/6	9/6

Table 7. Issue 2 – Threatened, Endangered, and Sensitive/Locally Rare Species – Oconee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Terrestrial Species Status Categories	**Number of Species/Habitat Relationships**						
Species/Habitat Relationships Rated as Very High Risk	0	0	0	1	1	1	0
Species/Habitat Relationships Rated as High Risk	8	8	8	8	8	8	8
Species/Habitat Relationships Rated as Moderately High Risk	11	11	11	11	11	11	11
Total	19	19	19	20	20	20	19
Aquatic Species Viability (TES only)	**Number of Species/Number of Watersheds**						
Low Risk	6/6	6/6	6/6	6/6	6/6	6/6	6/6
Moderate Risk, FS May Positively Influence	4/5	4/5	4/5	4/5	4/5	4/5	4/5
Potential High Risk, Little Opportunity for FS Influence	2/4	2/4	2/4	2/4	2/4	2/4	2/4
Potential High Risk, FS May Positively Influence	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Potential Very High Risk, Little Opportunity for FS Influence	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MIS – TES Species	**Trends**						
RCW (mid- and late-successional pine and pine-oak forest communities)							
1st decade	=	=	=	=	–	=	=
2nd decade	+	+	+	+	–	+	+

Table 8 and Table 9 show the comparison of Issue 3 by alternatives. The conservation of old growth forest conditions has been an issue somewhere in the nation since the 1980s. Old growth has numerous associated values, both biological and social. Old growth is characterized by: (1) large trees for the species and site; (2) wide variation in tree size and spacing; (3) accumulations of large-sized dead standing and fallen trees in amounts that are high in comparison to earlier growth stages within the same community; (4) decadence in the form of broken or deformed tops or boles and root decay; (5) multiple canopy layers; (6) canopy gaps and understory patchiness. It is especially rich in diverse habitat niches but so far at least no species requiring old growth for part of their life cycle have been identified in the southeastern US. Because of the generally young age of most of eastern forests, the focus is on restoration of old growth.

The Southern Region of the Forest Service issued a report in June 1997 providing guidance for the incorporation of old growth conservation in forest plans. The goal is to provide within each ecological section, a network of small, medium, and large old growth blocks representative of the old growth community types of that ecological section. The accompanying tables; one each for the Chattahoochee and Oconee, show the acreage by alternative allocated either specifically to an old growth prescription or a prescription that will ensure the same result. The 'Old Growth' topic of the EIS has details of old growth community types and representation by ecological section.

Table 8. Issue 3 – Old Growth - Chattahoochee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Old Growth	**Acres in Thousands**						
Acres of Allocated Old Growth (Rx 6's)	27.5	25.8	44.6	30.9	0	140.6	28.7
Total Acres Future Old Growth	168.6	176.4	195.4	195.4	126.1	328.7	169.3

Table 9. Issue 3 – Old Growth - Oconee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Old Growth	**Acres in Thousands**						
Acres of Allocated Old Growth (Rx 6's)	0	0	0	2.6	0	6.0	2.2
Total Acres Future Old Growth	6.7	4.9	11.8	6.5	1.0	14.4	7.8

Table 10 shows the comparison of issue 4 by alternatives. Lands of the Chattahoochee-Oconee National Forests are located in six of the fourteen major river basins of Georgia. Collectively these six basins drain 31,159 square miles or about 52 percent of the state's land area. Within the Chattahoochee boundaries flow about 2,763 miles of perennial streams, most classified as trout streams. These streams are vulnerable to the entry of pollutants; however, on the Forests, riparian corridors protect them. These vegetated corridors on either side of the stream channel provide habitat and cover, and help filter sediment and other pollutants. Approximately 8 percent of the Forests' lands, or 66,234 acres, were estimated to occur in riparian corridors.

One of the pollutants of concern is sediment, which is produced by land-disturbing activities along with natural events such as floods or landslides. Levels of sedimentation before mitigation for each alternative were assessed to complete cumulative effects analysis for water quality and associated beneficial uses on forested lands. Sedimentation was assessed by modeling the percent increase in sedimentation from National Forest management activities beyond the current land use/cover conditions. **Table 10** displays the average percent increase in sediment yields from FS activities over existing levels across all 43 watersheds. This table also shows the summed acres by alternative allocated to watershed management prescriptions 9.A.1 (Source Water Protection), and 9.A.3. (Watershed Restoration Areas).

Table 10. Issue 4 – Riparian Area Management, Water Quality, and Aquatic Habitats – Chattahoochee and Oconee National Forests Combined

Alternative/Units of Comparison	A	B	D	E	F	G	I
Soil and Water	**Percent Increase**						
Average Percent Increase in Sediment Yields from FS Activities over Existing Levels Across 43 Watersheds	1.4	2.5	2.2	0.6	3.5	0.3	1.5
Acres in Watershed Management Prescriptions	**Acres in Thousands**						
Acres Allocated to MRx. 9.A.1 and 9.A.3	16.2	26.8	8.3	15.6	0	9.7	27.2

Table 11 shows the comparison of Issue 5 by alternatives for the combined Forests. The idea of managing forests for a sustained yield of wood as a renewable natural resource is firmly embedded in the Forest Service's legal mandate. Harvest in all alternatives is constrained to occur such that the harvest amount can be sustained indefinitely. Timber harvest is a tool that provides multiple benefits including wood raw material to the local manufacturing economic sector, wildlife habitats, reduced vulnerability to forest health threats, and cost-effective management. Timber harvest is cost effective both because it helps create desired conditions and also revenues for other renewable resource work and road maintenance.

National Forest is not a dominant holder of the inventory of any species and product combination. But it does have a disproportionate share of the larger and therefore higher quality timber, especially hardwoods. Historically, volume actually harvested has not been either in proportion to its inventory or to the capacity of the land to grow wood. Volume removal is far below volume growth and even below tree mortality; that is, more volume dies than is cut. The Forest Service portion of wood delivered to mills within an historic timber market area varies rather widely from a low of one percent to a high of approximately 50 percent in mountain interior counties. For the Chattahoochee and Oconee combined, there were one hundred and thirty primary manufacturers of wood products in the period of about 1985 through 1996. Reported total employment in primary wood manufacturing was in the range of 2,510 to 5,515 persons and averaged approximately 4,012 persons.

Table 11. Issue 5 – Wood Products

Alternative/Units of Comparison	A	B	D	E	F	G	I
Timber Management	**Acres in Thousands**						
Land Classified as Suitable for Timber Production	479	580	576	208	633	223	461
Allowable Sale Quantity	First Decade						
MMCF	80	150	220	40	230	10	90
MMBF	440	830	1110	220	1260	40	500
Timber Sale Program Quantity	Total First Decade						
MMCF	114	166	235	118	267	48	128
MMBF	627	913	1293	649	1468	264	704
Timber Sale Program Quantity	Total Fifth Decade						
MMCF	194	206	235	148	297	118	198
MMBF	1067	1133	1292	814	1633	649	1089

Table 12 and Table 13 show the comparison of Issue 6 by alternatives. A visual inventory was mapped on Forestlands in 1995 using the Scenery Management System (SMS). This system provides for improved integration of aesthetics with other biological, physical, and social/cultural resources in the planning process. Scenic Integrity Objectives were established for all forestlands; these are summarized below in tables 10 and 11 by alternative.

Scenic Integrity Objectives (SIOs) assign a desired level of excellence for visual quality based on physical and sociological characteristics of an area. SIOs refer to the degree of acceptable alterations of the characteristic landscape. Objectives include Very High, High, Moderate, and Low.

- **Very High SIO** generally provides for only ecological changes in natural landscapes and complete intactness of landscape character in cultural landscapes.
- **High SIO** indicates that human activities are not visually evident. Activities may only repeat attributes of form, line, color, and texture found in the existing landscape character.
- **Moderate SIO** indicates that landscapes appear slightly altered. Noticeable deviations must remain visually subordinate to the landscape character being viewed.
- **Low SIO** indicates that landscapes appear moderately altered. Deviations begin to dominate the valued landscape character being viewed but borrow from valued attributes such as size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles outside the landscape being viewed.
- **Very Low SIO** indicates that landscapes appear heavily altered. Deviations may strongly dominate the valued landscape character. They may not borrow from valued attributes of size, shape, edge effect, and pattern of natural openings, vegetative type changes, or architectural styles within or outside the landscape being viewed. However, deviations must be shaped and blended with the natural terrain so that elements such as edges, roads, landings, and structures do not dominate the composition. No lands have been designated with this SIO.

Table 12. Issue 6 – Aesthetics/Scenery Management - Chattahoochee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Scenic Integrity Objectives	**Percent of Total Forest Acres**						
Very High	23%	23%	23%	32%	20%	41%	26%
High	36%	34%	32%	27%	32%	43%	33%
Moderate	34%	33%	36%	39%	35%	15%	33%
Low	7%	10%	9%	2%	12%	1%	8%
Very Low	0%	0%	0%	0%	0%	0%	0%

Table 13. Issue 6 – Aesthetics/Scenery Management - Oconee National Forest

Alternative/Units of Comparison	A	B	D	E	F	G	I
Scenic Integrity Objectives	**Percent of Total Forest Acres**						
Very High	1%	2%	1%	4%	1%	2%	2%
High	30%	28%	35%	28%	28%	39%	30%
Moderate	56%	58%	52%	57%	56%	48%	57%
Low	12%	12%	12%	11%	13%	10%	11%
Very Low	0%	0%	0%	0%	0%	0%	0%

Table 14 shows the comparison of Issue 7 by alternatives. The Chattahoochee National Forest and the Oconee National Forest both qualified as Category 1 Urban National Forests in December of 1991 by virtue of a letter from the Regional Forester under Special Recreation Designation, 2370. Category 1 includes urban national forests that are less than one hour from more than one million people. Our forests have the capability of being impacted by more than three million people just from the Atlanta area alone. The Chattahoochee-Oconee National Forests are the largest provider of public recreation lands in Georgia. The Forest's total reasonable dispersed recreation capacity is approximately 1,261,540 Recreation Visitor Days.

Table 14. Issue 7 – Recreation Opportunities/Experiences for the Combined Chattahoochee and Oconee National Forests

Issue/Units of Comparison	A	B	D	E	F	G	I
Recreation Opportunity Spectrum	**Acres in Thousands**						
Semi-Primitive Non-Motorized	61	56	79	85	100	71	86
Semi-Primitive Non-Motorized managed as Primitive (1.A, 1.B, 2.A.1)	132	142	140	156	124	180	132
Semi-Primitive Motorized	7	7	13	10	14	9	10
Roaded Natural	666	661	634	615	628	606	638
Rural/Urban	0	0	0	0	0	0	0
Recreation Management Allocations	**Acres in Thousands**						
Acres with a Recreation Emphasis (Rx 7's)	161	4	49	320	29	11	135
Acres with a Backcountry Recreation Emphasis (Rx 12"s)	45	0	2	25	41	8	28
Developed/Dispersed Recreation	**Degree of Increase**						
Estimated Increase in Capacity of Developed Recreation Areas	Low	Mod	High	Low	N/A	Mod	Low
Estimated Increase in Non-Motorized Trails	Mod	Low	Low	High	N/A	Low	Low
Off-Highway Vehicle Roads and Trails	**Acres in Thousands**						
Acres of Off-Highway Vehicle Use Areas (Rx 7C)	18	0	6	3	0	3	0
	Increase or Decrease						
Estimated Change in Motorized Roads and Trails	Inc.	Dec.	Dec.	Inc.	N/A	Dec.	Dec.
Table continued next page.							
MIS – Demand Species	**Trends**						
Chattahoochee National Forest							
White-tailed Deer							
1st Decade	+	+	=	=	+	–	+
5th Decade	+	+	=	–	+	–	+
Black Bear							
1st Decade	+	+	+	+	+	+	+
5th Decade	++	+	+	+	+	+	++
Oconee National Forest							
White-tailed Deer							
1st Decade	+	=	+	=	+	=	=
5th Decade	+	=	+	+	+	=	=

The Chattahoochee-Oconee National Forests currently maintains 116 recreation areas featuring 41 improved camping areas, 4 horse camping areas, 12 picnic areas, 4 swim areas, 6 boat launches, 4 shooting ranges, 26 trailheads, 6 OHV areas, 7 overlooks, 2 interpretative sites, and 4 visitor centers.

All alternatives maintain the mix of existing recreation settings and differ only in the amount of each setting provided. The alternatives with greatest management activity tend to decrease the semi-primitive types of settings and increase the roaded natural, the most common setting on the Forest. But even the most conservative alternatives do not greatly change the amount of roaded natural. Alternatives vary significantly in their allocation to a recreation and scenery emphasis, with an eighty-fold change from lowest to highest. Backcountry prescription use also varies widely. OHV areas do not occur in every alternative. Some alternatives manage for trails systems within other prescriptions, while other alternatives manage trails within designated OHV areas. Some alternatives emphasize developing more recreation, some reducing what exists, and others low to moderate increase and attention to correcting problems in existing recreation sites or uses.

Table 15 and Table 16 show the comparison of Issue 8 by alternatives for the Chattahoochee National Forest. There are no wilderness areas or inventoried roadless areas on the Oconee National Forest. Currently on the Chattahoochee National Forest, there are 10 designated wilderness areas totaling approximately 117,000 acres. These areas were designated by national legislation based upon the 1975 Eastern Wilderness Act, the 1986 Georgia Wilderness Act, and the Chattahoochee Forest Protection Act of 1991. There are no wilderness study areas or recommended wilderness study areas (prior to the SAA inventory) that have not been acted upon by Congress under the 1985 Forest Plan. The Chattahoochee National Forest currently has 23 inventoried roadless areas, totaling approximately 65,000 acres that could be recommended as wilderness study areas (WSAs). One of the areas is shared with the Sumter National Forest.

Table 15. Issue 8 – Allocations for Roadless and Wilderness Areas

Alternative/Units of Comparison	A	B	D	E	F	G	I
Wilderness/Roadless	**Acres in Thousands**						
Acres of Existing Wilderness	117	117	117	117	117	117	117
Recommended for Designation as WSAs	6.6	19.9	9.5	29.2	0	54.8	8.1
Roadless Character Maintained	40.6	9.2	23.5	35	64.8	10.0	64.8

Table 16. Issue 8 –Roadless Areas and Wilderness Management

Alt.	Management Emphasis
A	Recreation opportunities and enhanced goods and services emphasized to local economies. SAA roadless suggested for wilderness: Ken Mountain; Foster Branch; Duck Branch; Wilson Cove; Ben Gap; Shoal Creek; and Ellicott Rock.
B	Old Growth emphasized; scenic qualities would be enhanced; roadless areas with high value wildlife needs would not be recommended to wilderness. SAA roadless suggested for wilderness: Ken Mountain; Foster Branch; Duck Branch; Wilson Cove; Ben Gap; Shoal Creek; Ellicott Rock extension; Miller Creek; Helton Creek; Turner Creek; Tate Branch; Patterson Gap; Joe Gap; and Big Mountain.
D	Old Growth provided on unsuitable land. SAA roadless suggested for wilderness: Ken Mountain; Shoal Creek; Tate Branch; Patterson Gap; Joe Gap; and Sarah's Creek.
E	Large blocks of forest maintained in roadless condition to provide remote backcountry recreation. SAA roadless suggested for wilderness: Ken Mountain; Foster Branch; Duck Branch; Wilson Cove; Ben Gap; Shoal Creek; Ellicott Rock extension; Miller Creek; Turner Creek; Tate Branch; Sarah's Creek, Indian Grave Gap; Ellicott Rock extension; Rocky Mountain; Pink Knob; and Big Mountain.
F	No areas suggested for wilderness. SAA roadless maintained by MRxs that uphold the roadless condition.
G	Large undisturbed areas linked by corridors. Non-motorized recreation emphasized. All SAA roadless suggested for wilderness. Ellicott Rock Addition (81% of acres only); Sarah's Creek (96% of acres).
I	Emphasis on non-motorized settings. Variety of Old Growth communities. SAA roadless suggested for wilderness: Ben Gap; Cedar Mountain; Duck Creek; Ellicott Rock Addition (81% of acres); Foster Branch; Helton Creek; Ken Mountain; Shoal Branch; Tate Branch (84% of acres); Tripp Branch; Wilson Cove.

Table 17 and Table 18 show the comparison of Issue 9 by alternatives. The Southern Appalachian Assessment identified particular forest health concerns for the entire 32 million acre assessment area. These were categorized as: tree declines, non-native diseases, insect pests, and non-native plants. The tree decline of significance and concern to the Chattahoochee NF was oak decline. Non-native diseases of significance were: dogwood anthracnose *(Discula destructiva* [causal fungus]*)*, beech bark disease *(Plethodon fourchensis* [scale insect] *Nectria coccinea* var. *faginata* and *Nectria galligena* [causal fungi]), butternut canker *(Sirococcus clavigignenti-juglandacearam* [causal fungus]*)*, Dutch elm disease *(Ophistoma ulmi* [causal fungus]*)*, and chestnut blight *(Cryphonectria parasitica* [causal fungus]*)*. Insect pests of concern to the Chattahoochee are southern pine beetle *(Dendroctonus frontalis),* hemlock woolly adelgid (*Adelges tsugae*), European gypsy moth *(Lymantria dispar)*, Asian gypsy moth (*Lymantria dipar),* and the Asian oak weevil (*Cyrtepistomus castaneus*). The southern pine beetle, a native insect, has been a recurrent challenge on an approximate seven to eight year cycle on the Chattahoochee but on a three to five year cycle on the Oconee. The European gypsy moth has begun to appear here in advance of its leading edge of spread. The hemlock woolly adelgid was discovered in 2002. There are numerous non-native plants of concern and the number of species and their populations within the forest are increasing.

Each alternative was evaluated for the management flexibility to deal with each one of several major forest health concerns by evaluating the acres of host type occurring in either severely constrained, moderately constrained, or relatively unconstrained land allocations. Based on this, alternatives were ranked for each health concern then summary ranked for forest health capability generally.

Table 17. Issue 9 – Forest Health – Chattahoochee National Forest

Issue/Units of Comparison	A	B	D	E	F	G	I
Forest Health Concerns	**Ranking (1 is best situation; 7 is worst)**						
Gypsy Moth	4	2	3	6	1	7	5
Southern Pine Beetle	3	2	1	5	5	6	4
Oak Decline	4	2	3	6	1	7	5
Beech Bark Disease	0	0	0	0	0	0	0
Littleleaf Disease	4	3	2	6	1	7	5
Non-native Invasive Plants	3	4	5	2	6	1	3
Storm Damage	4	3	2	5	1	6	4
Summary Rank	**4**	**2**	**3**	**6**	**1**	**7**	**5**
Prescribed Fire	**Acres in Thousands**						
Estimated Average Annual Acres Prescribed Burned (Total)	10.4	11.3	12.4	8.6	2.5	7.3	12.0
Restoration	**Acres**						
Acres with a Restoration Emphasis (Rx's 9C, 9D, 9E, 9G, 9H)	3,034	197,725	13,465	1,002	N/A	30,026	172,718
	Average Annual Acres						
Estimated Acres of Shortleaf pine-Pitch pine-Table Mountain pine Restoration	103	112	123	34	N/A	17	210
Estimated Acres of Table Mountain pine Restoration	52	56	62	17	N/A	8	100
Estimated Acres of Oak/Oak-Pine Restoration	103	112	123	34	N/A	17	125
Estimated Acres of Mtn Longleaf Restoration	103	112	123	34	N/A	17	110
Estimated Acres of Canebrake Restoration	5	5	5	5	N/A	5	5
Estimated Acres of Woodlands Restoration	1,030	1,120	1,230	340	N/A	170	1,000

Table 18. Issue 9 – Forest Health - Oconee National Forest

Issue/Units of Comparison	A	B	D	E	F	G	I
Forest Health Concerns	**Ranking (1 is best situation; 7 is worst)**						
Gypsy Moth	2	3	4	5	1	6	7
Southern Pine Beetle	3	3	4	5	2	6	1
Oak Decline	2	3	4	5	1	6	7
Beech Bark Disease	0	0	0	0	0	0	0
Littleleaf Disease	4	3	5	6	1	7	2
Non-native Invasive Plants	6	3	5	4	7	1	2
Storm Damage	2	5	3	4	1	7	6
Summary Rank	**2**	**3**	**4**	**5**	**1**	**6**	**4**
Prescribed Fire	**Acres in Thousands**						
Estimated Average Annual Acres Prescribed Burned (Total)	15.5	14.8	15.4	14.6	4.5	13.1	20.0
Restoration	**Acres**						
Acres with a Restoration Emphasis (Rx's 9C, 9D, 9E, 9G, 9H)	26,082	44,117	26,671	21,403	N/A	21,878	35,006
	Average Annual Acres						
Estimated Acres of Oak/Oak-Pine Restoration	54	51	53	51	N/A	45	55
Estimated Acres of Canebrake Restoration	15	15	15	15	N/A	15	15
Estimated Acres of Woodlands Restoration	107	102	106	101	N/A	90	110
Estimated Acres of Shortleaf Pine Restoration	107	102	106	101	N/A	90	110
Estimated Acres of Pine-Oak Restoration	107	102	106	101	N/A	90	110

Table 19 shows the comparison of Issue 10 by alternatives for the combined Forests. This table shows the emphasis on special areas and rare communities under the various alternatives.

The Forest Plan identifies several types of "special areas," which are areas the Forest Service has the authority to administratively designate. Areas can be designated for special or unique aesthetic values, or because they provide unique and exceptional recreation experiences. They may also be designated as special areas because of archaeological, biological, geological, historical, or paleontological resource values.

Rare communities covered by these recommendations are generally defined as those communities that are rare in occurrence across the landscape, but which contribute significantly to plant and animal diversity. They generally have relatively discrete boundaries and are small in area. They include some communities identified by NatureServe as having Global Ranks of G1 through G3, but also include more common communities that are nevertheless special and critical to maintaining species on national forests.

Table 19. Issue 10 – Special Areas and Rare Communities

Issue/Units of Comparison	A	B	D	E	F	G	I
Special Areas	**Acres in Thousands**						
Acres Allocated to Special Areas (RX 4's)	48	39	28	87	12	229	97
Rare Communities							
Rare Communities Managed According to the Rare Community Mgt. Pres. (9F)	Yes	Yes	Yes	Yes	No	Yes	Yes
	Average Annual Acres						
Estimated Acres of Restoration Activities							
Chattahoochee							
Table Mountain Pine	52	56	62	17	N/A	8	100
Canebrakes	5	5	5	5	N/A	5	5
Woodlands	1,030	1,120	1,230	340	N/A	170	1,000
Oconee							
Canebrakes	15	15	15	15	N/A	15	15
Woodlands	107	102	106	101	N/A	90	110

Table 20 and Table 21 show the comparison of Issue 11 by alternatives for the Chattahoochee and Oconee National Forests. On May 10, 1974, the Chattooga River was designated as one of the original streams in the Wild and Scenic River System (WSR). It is the premier whitewater stream of the eastern United States, and at present, is the only WSR stream on the Chattahoochee-Oconee NF. Its total 57 designated miles begin in North Carolina and become the state boundary between South Carolina (Sumter NF) and Georgia (Chattahoochee-Oconee NF).

Of all the streams on the Chattahoochee-Oconee NF, 88 were suggested and reviewed for potential WSR study. Of these, 25 were found to have outstandingly remarkable values to make them eligible for further suitability study within the EIS.

Table 20. Issue 11 – Wild and Scenic Rivers – Protected Miles

Alternatives/Units of Comparison	A	B	D	E	F	G	I
	Stream Miles						
Miles of Rivers Currently Designated-Chattooga WSR	48	48	48	48	48	48	48
Miles of Rivers Eligible-Oconee	55.7	55.7	55.7	55.7	55.7	55.7	55.7
Miles of Rivers Eligible-Chattahoochee	112	112	112	112	112	112	112
Total Designated and Eligible	**215.7**	**215.7**	**215.7**	**215.7**	**215.7**	**215.7**	**215.7**
Miles of Rivers Managed to Protect their Outstandingly Remarkable Values (ORVs)-Oconee	34.9	44.6	34.9	44.6	55.7	34.9	34.9
Miles of Rivers Managed to Protect their Outstandingly Remarkable Values (ORVs)-Chatt.	25.5	66.5	63.5	68.5	112	71.2	74
Miles of Suitable Rivers Recommended for further study for WSR designation-Oconee	20.8	11.1	20.8	11.1	0	20.8	20.8
Miles of Suitable Rivers Recommended for further study for WSR designation-Chatt.	38	45.5	48.5	43.5	0	40.5	38
Total allocated or recommended for further study	**119.2**	**167.7**	**167.7**	**167.7**	**167.7**	**167.4**	**167.7**

Table 21. Issue 11– Wild and Scenic Rivers Management

Alt.	Management Emphasis
A	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Chattahoochee River; Overflow Creek; Little River. Recommend rivers that have potential for concessionaire, outfitter- guide trips, camping, etc., if these uses are compatible with outstanding remarkable values.
B	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Chattahoochee River; Tallulah/Coleman Rivers; Overflow Creek. Biologically emphasize natural processes with scenery and riparian ecosystems emphasized.
D	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Chattahoochee River; Tallulah/Coleman Rivers; Overflow Creek; Little River. Balanced age classes of the forest communities' sustained yield management emphasized.
E	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Chattahoochee River; Tallulah River; Overflow Creek. Emphasis is on providing developed recreation opportunities.
F	No Suitable rivers recommended for further study; all would be allocated to 4.H. MRx.
G	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Tallulah/Coleman Rivers; Overflow Creek; Little River. Suitable WSRs to connect large blocks of unfragmented land by corridors.
I	Rivers recommended for further suitability study: Ocmulgee River; Conasauga/Jacks Rivers; Chattahoochee River; Overflow Creek; Little River. Ecosystem restoration is emphasized especially for watersheds and riparian corridors, with forest health a priority.

Table 22 shows the comparison of Issue 12 by alternatives. Access to the Chattahoochee-Oconee National Forests is provided by an interconnected transportation system of roads managed by the Forest Service, county and state agencies, and private individuals. Travel is an integral part of virtually every activity that occurs on the Forests such as outdoor recreation, fighting wildfires, management of wildlife habitat and commodity resources, access to private in-holdings, maintenance of communication sites and utilities, and monitoring. Driving for pleasure is the most popular recreation on the National Forest. The presence of roads, their degree of development, and the duration and/or types of use affect the recreation settings provided on National Forest, ranging from the primitive to the rural. Vehicles using the forest transportation system include commercial trucks, automobiles, four wheel drive vehicles, high clearance vehicles, all-terrain vehicles, motorcycles, mountain bikes, and wheelchairs. Other means of forest travel include horseback riding, hiking, boating, and ballooning.

Alternatives are compared by the emphasis each one would place on the management of the road system. The recreation issue develops the trails portion of access.

Table 22. Issue 12 – Access/Road (Travelway) Management

Alt.	Management Emphasis
A	Public access would be increased in high-use areas to increase opportunities for recreation type uses, including off-highway vehicles (OHVs). Existing roads in high-use areas may be improved. Decrease in open roads.
B	Access would be reduced to restore and protect aquatic systems, soils, and plant/animal communities. Access to implement restoration activities would be provided. Decrease in long-term permanent open road miles.
D	Access provided to meet the balanced age class emphasis and provide wildlife habitat. Access would be increased and maintained to facilitate sustained yield management.
E	Public access would be increased in high-use areas to increase opportunities for recreation type uses, including OHVs. Existing roads in high-use areas may be improved. Roads not meeting above criteria would be analyzed for decommissioning.
F	Current Forest Plan direction on roads such as a slight decrease in open roads and some decommissioning.
G	Road network would be reduced. Administrative use roads would increase; use for trails would increase. Decommissioning of un-needed or redundant roading would increase.
I	Road system may be reduced with less open roads and more administrative use. Decommissioning could increase. Increased temporary use roading to meet management objectives would occur.

Table 23 shows the comparison of Issue 13 by alternatives. Located in the northeast corner of Georgia, adjoining the two adjacent states of North Carolina and South Carolina, is a small river basin characterized by high rainfall and a wide range of uses. The Chattooga River watershed, shared by three National Forests, is an area of rugged mountainous terrain, high gradient streams and diverse flora and fauna. A central focus of the watershed is the 57 miles of the river itself, designated as a component of the National Wild and Scenic River system in 1974. The river corridor and its immediate surroundings offer many recreational uses with boating allowed from the Highway 28 bridge south to Tugalo Lake. The Sumter National Forest primarily administers river management.

Outside the Wild and Scenic River Corridor a wide range of uses of public land can be found. The revised Forest Plan addresses several management options for the watershed, such as old growth, high-elevation wildlife habitat, backcountry recreation, wilderness, restoration of declining vegetation communities, and restoration of impaired stream segments. Table 23 displays the management prescription allocations of the lands within the Chattooga River watershed on the Chattahoochee NF in Georgia.

Table 23. Issue 13 – Chattooga River Watershed Allocations

Management Prescriptions	Alternatives (Acres Allocated)						
	A	B	D	E	F	G	I
0 – Custodial	458	458	458	458	420	0	458
1A – Ellicott Rock Wilderness Area	2,007	2,007	2,007	2,007	2,007	2,007	2,022
1B – Proposed Wilderness	638	2,294	5,802	6,589	0	8,288	562
2A – Chattooga W & S River	8,028	8,028	8,028	8,028	0	8,028	8,015
2B1 – Proposed W & S River	1,198	1,198	1,198	1,198	0	1,198	317
4C – Geologic Areas	430	0	430	430	0	430	0
4D – Botanical Areas	0	0	0	0	267	0	0
4F – Scenic Areas	0	0	0	0	0	8,458	0
4I – Natural Areas	4,574	3,198	0	3,588	0	0	6,280
5A – Administrative Sites	5	5	5	5	0	5	5
6A – Old Growth – Natural	0	0	0	0	0	557	0
6B – Old Growth – Restore	0	0	0	0	0	711	10
6C – Old Growth – Mix	0	0	0	0	0	46,788	0
6D – Old Growth – Core Areas	3,976	0	3,539	0	0	0	0
7D – Concentrated Recreation	0	0	0	1,395	24	0	0
7E – Dispersed Recreation	36,595	0	0	42,292	262	0	2,679
8A1 – Mid- to Late-Successional	0	35	0	8,781	0	0	13,610
8A2 – Forest Interior Habitats	0	13,490	774	0	0	0	0
8A3 – High-Elev., Early-Successional	0	0	0	0	0	0	7
9A3 – Watershed Restoration	0	18,351	0	0	0	0	16,299
9F – Rare Communities	0	0	0	0	0	0	381

Table continued next page.

Management Prescriptions	Alternatives (Acres Allocated)						
	A	B	D	E	F	G	I
9H – Plant Community Restoration	0	27,406	11,369	0	0	0	24,466
10A – Sustained Timber Yield	0	0	0	0	61,009	0	0
10B – High Quality Forest Products	10,911	0	41,161	0	0	0	0
12A – Backcountry – Few Roads	0	0	0	0	5,245	0	1,788
12B – Backcountry – Non-Motorized	7,651	0	1,698	1,698	0	0	0

Source: GIS report of allocations by alternative

Table 24 shows the comparison of Issue 14 by alternatives. Each alternative will, at a minimum, meet the requirements of the USDI Fish and Wildlife Service's recovery plan for the RCW. RCW management activities apply only to the Oconee National Forest.

Presently, the Oconee National Forest hosts 20 active clusters of RCW, and approximately 46,000 acres of the Forest are in an RCW Habitat Management Area. The proposed management direction for the 46,000 acres is consistent across all alternatives. The management prescription adheres to direction from the Environmental Impact Statement for the Management of the Red-cockaded Woodpecker and its Habitat on National Forest in the Southern Region. Because of adherence to the EIS direction and the Threatened and Endangered Species act of 1970, the areas managed for RCW do not vary significantly across alternatives.

Table 24. Issue 14 – RCW (Oconee NF)

Alt.	Management Emphasis
A	Very active vegetation manipulation for sustained yield of high quality sawtimber; active management to reduce the risk of insects and disease. Wildlife management for demand species and non-game species increased.
B	Biologically driven to restore wildlife habitats; timber management only for wildlife habitat enhancement; insect and diseases accepted unless in epidemic proportions; natural processes mimicked in a landscape pattern.
D	Major forest types would have a specific target rotation age; wood products and wildlife habitats would be emphasized; access would be increased.
E	Recreation favored; OHV use would be increased; areas would have mostly a closed canopy; a variety of wildlife habitats would be across the landscape.
F	Follow RCW EIS and, when approved, the RCW Recovery Plan from the USDI Fish and Wildlife Service.
G	Forest interior species habitats emphasized as well as a wide variety of other native plant and animal habitats, particularly late-successional species; insects and disease would be tolerated; fire used for habitat restoration.
I	Restoration and maintenance of habitats with forest health a priority.

Table 25 shows the comparison of Issue 15 by alternatives. Gold was first discovered in Georgia south of present day Dahlonega in 1828. The discovery brought many prospectors and rapid settlement to the area, much of which is now within the boundaries of the Chattahoochee NF. Mining in the 1800s was mainly by washing away the hillsides with hydraulic cannons to locate deposits. The peak for gold mining in Georgia was 1848 when California gold was discovered. Later mining has been for placer or stream deposits. Today gold prospecting is a recreation activity enjoyed by numerous visitors to the Forest. Panning is the simplest method used to separate metallic gold from rock or sand in the streams. This method is inexpensive and has few effects on water quality or aquatic habitats. Other methods such as sluice boxes and suction dredges are used to prospect for gold, however the effects on aquatic habitats are difficult to monitor and mitigate. The Forest policy under the Revised Forest Plan will be to allow recreational gold prospecting by use of panning only.

Table 25. Issue 15 – Recreational Gold Collecting

Alt.	Management Emphasis
A	Recreational gold panning allowed on streams where mineral rights are federally-owned and compatible with existing aquatic and riparian ecosystems. Portable sluice boxes and handheld suction dredges allowed by special use permit only on streams where mineral rights are federally-owned, and compatible with existing aquatic and riparian ecosystems.
B	Recreational gold panning allowed on streams where mineral rights are federally-owned, and compatible with existing aquatic and riparian ecosystems. Other prospecting or extraction methods not allowed.
D	Recreational gold panning allowed on streams where mineral rights are federally-owned and compatible with existing aquatic and riparian ecosystems. Portable sluice boxes and handheld suction dredges allowed by special use permit only on streams where mineral rights are federally-owned, and compatible with existing aquatic and riparian ecosystems.
E	Recreational gold panning allowed on streams where mineral rights are federally-owned and compatible with existing aquatic and riparian ecosystems. Portable sluice boxes and handheld suction dredges allowed by special use permit only on streams where mineral rights are federally-owned, and compatible with existing aquatic and riparian ecosystems.
F	Recreational gold panning allowed on streams where mineral rights are federally-owned. Portable sluice boxes and handheld suction dredges not allowed.
G	Recreational gold panning allowed on streams where mineral rights are federally-owned and compatible with existing aquatic and riparian ecosystems. Other prospecting or extraction methods not allowed.
I	Recreational gold panning allowed on streams where mineral rights are federally-owned and compatible with existing aquatic and riparian ecosystems. Other prospecting or extraction methods not allowed.

Table 26 shows the comparison of Issue 16 by alternatives for the Chattahoochee and Oconee National Forests. Special uses are written authorizations to use a well-defined area of National Forest for a specific purpose and under stipulated conditions. They require a fee and are subject to periodic review for renewal. The Forest Service does not have the authority to refuse to consider a special use application, and does not have unlimited authority to deny a request after consideration. In 2003, there were 818 special uses affecting approximately 5,657 acres. Roads and utility corridors account for the greatest acreage.

Alternatives are compared by the emphasis each one would place on the management of special uses.

Table 26. Issue 16 – Special Uses

Alt.	Management Emphasis
A	Maintain existing communication sites, expand where possible; utility corridors allowed on a case-by-case basis.
B	Maintain existing communication sites, expand where possible; No new corridors.
D	Maintain existing communication sites; expand sites where possible. Do not allow utility corridors or communication sites within wilderness, botanical areas, rare communities or inventoried roadless areas.
E	Maintain existing communication sites, expand where possible; corridors allowed on a case-by-case basis; protect inventoried roadless areas from corridors. Outfitter use/permits increased.
F	Maintain existing communication sites, expand where possible; corridors allowed on a case-by-case basis.
G	Allow new communication sites in accordance with land management planning policy, analysis policy, and special use policy on a case-by-case basis.
I	Allow new communication sites in accordance with land management planning policy, analysis policy, and special use policy on a case-by-case basis. Do not allow utility corridors or communication sites within wilderness, botanical areas, rare communities or inventoried roadless areas.

RELATIONSHIP OF SHORT-TERM USE AND LONG-TERM PRODUCTIVITY

The relationship between the short-term uses of man's environment and the maintenance and enhancement of long-term productivity is complex. Short-term uses are generally those that occur irregularly on parts of the Forest, such as prescribed burning. Long-term refers to a period greater than 10 years.

Productivity is the capability of the land to provide market and amenity outputs and values for future generations. Soil and water are the primary factors of productivity and represent the relationship between short-term uses and long-term productivity. The quality of life for future generations would be determined by the capability of the land to maintain its productivity. By law, the Forest Service must ensure that land allocations and permitted activities do not significantly impair the long-term productivity of the land.

The alternatives considered in detail, including the preferred alternative, incorporate the concept of sustained yield of resource outputs while maintaining the productivity of all resources. The specific direction and mitigation measures included in the forestwide management standards ensure that long-term productivity would not be impaired by the application of short-term management practices.

Each alternative Forest Plan was analyzed using the Spectrum linear programming model to ensure that the minimum standards could be met. The alternative was changed if some aspect did not meet any of the minimum standards. Through this analysis, long-term productivity of the Forest's ecosystems is assured for all alternatives.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

An irreversible commitment of resources results from a decision to use or modify resources that is renewable only over a long period of time, such as soil productivity; or nonrenewable resources, such as cultural resources or minerals. The revised Forest Plan and the alternatives examined were all based on the principles of multiple use and long-term productivity for all resources. Measures to protect natural resources that could be irreversibly affected by management activities were incorporated into Forestwide standards.

Irretrievable commitment of resources is the production of renewable resources lost due to allocation decisions that forgoes the production or use of renewable resources. Allocation decisions that do not allow for the production or use of most renewable resources for relatively long periods of time include those that establish wilderness, roadless, scenic areas, wild and scenic rivers, recreation sites, and the construction of new roads. The total number of acres committed to these uses varies by alternatives. By contrast, non-wilderness allocation for SAA inventoried roadless areas that do not protect the roadless characteristics of those areas is considered an irretrievable loss of increased wilderness opportunities.

Approximate Conversions

When the unit of measure you know is in the second column, multiply by the factor shown to find the equivalent in the unit of measure shown in the fourth column.

English to Metric

Length				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km

Area				
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha

Mass (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	metric ton	t

Volume				
tsp	teaspoons	5	milliliters	mL
Tbsp	tablespoons	15	milliliters	mL
in^3	cubic inches	16	milliliters	mL
fl oz	fluid ounces	30	milliliters	mL
c	cups	0.24	liters	L
pt	pints	0.47	liters	L
qt	quarts	0.95	liters	L
gal	gallons	3.8	liters	L
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3

Metric to English

Length				
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi

Area				
cm^2	square centimeters	0.16	square inches	in^2
m^2	Square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares	2.5	acres	(10,000 m^2)

Mass (weight)				
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
	metric ton	1.1	short tons	(1,000 kg)

Volume				
mL	milliliters	0.03	fluid ounces	fl oz
mL	milliliters	0.06	cubic inches	in^3
L	liters	2.1	pints	pt
L	liters	1.06	quarts	qt
L	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3

Source: National Institute of Standards and Technology website at "http://ts.nist.gov/ts/htdocs/200/202/conv.htm