



United States
Department of
Agriculture

Forest Service
Southern Region

Revised Land and Resource Management Plan

National Forests in Alabama





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Bankhead NF – Lawrence • Franklin • Winston

Conecuh NF - Covington • Escambia

Talladega NF – Cleburne • Clay • Talladega • Calhoun • Hale • Perry • Chilton • Bibb • Dallas • Tuscaloosa

Tuskegee NF – Macon

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CHAPTER 1

INTRODUCTION

The Revised Land and Resource Management Plan guides all natural resource management activities and sets management standards for the National Forests in Alabama for the next 10 to 15 years.

The National Forest Management Act (NFMA), implementing regulations, and other documents guided the preparation of this Forest Plan. Land-use determinations, management practices, goals, objectives, and standards are statements of the Forest Plan's management direction. Projected yields, services, and rate of implementation are dependent on the annual budgeting process.

This Forest Plan provides broad program-level direction for management of the land and its resources. Future projects carry out the direction in this Forest Plan. This Forest Plan does not contain a commitment to select any specific project. An environmental analysis is conducted, when required, on these projects as they are proposed. This analysis may tier to the data and evaluations in other environmental impact statements.

In addition to direction found in this Forest Plan, projects also are implemented through direction found in the Forest Service directive system (manuals and handbooks) and other guides (see Chapter 5, "Monitoring, Evaluation, Research, and Implementation").

Purpose of the Forest Plan

The revised Forest Plan will decide and establish the following:

1. Determining the Forest-wide multiple-use goals, objectives, and standards for the Forest, including estimates of the goods and services expected.
2. Determining multiple-use management prescriptions and management areas containing desired conditions, objectives and standards.
3. Identifying land that is suitable for timber production.
4. Determining the allowable sale quantity (ASQ) for timber and the associated sale schedule.
5. Recommending wilderness areas.
6. Recommending wild and scenic river status.
7. Determining monitoring and evaluation requirements.

8. Identifying the lands that are administratively available for mineral development (including oil and gas), and consent to lease the available lands.

RELATIONSHIP OF THE FOREST PLAN TO OTHER DOCUMENTS

This Forest Plan is the selected alternative for managing the land and resources on the National Forests in Alabama that is analyzed and described in the Final Environmental Impact Statement. The Forest Plan is consistent with direction found in laws, rules, regulations, and the directive system (Forest Service Manuals and Handbooks).

This Forest Plan used information from four other environmental impact statements to aid in the development of management direction.

- Record of Decision, Final Environmental Impact Statement for Suppression of Southern Pine Beetles (R8-SPB) (USDA Forest Service-Southern Region, April 1987)
- Record of Decision, Final Environmental Impact Statement – Vegetation Management in the Coastal Plain/Piedmont (VMCP) (USDA Forest Service-Southern Region, January 1989)
- Record of Decision, Final Environmental Impact Statement – Vegetation Management in the Appalachian Mountains (VMA) (USDA Forest Service-Southern Region, July 1989)
- Record of Decision, Final Environmental Impact Statement for the Management of the Red-cockaded Woodpecker and its Habitat on National Forests in the Southern Region (RCWEIS) (USDA Forest Service, Southern Region, June 1995)

PLAN STRUCTURE

The Forest Plan consists of five chapters, a glossary, and several appendices.

Chapter 1 introduces the Forest Plan; explains its purpose, structure, and relationship to other documents; includes a brief description of the forest; and summarizes the issues and analysis of the management situation for the revision.

Chapter 2 contains the Forest-wide management direction, including, desired future conditions, goals, objectives, and standards.

Chapter 3 contains the management prescriptions and the specific management direction applied at that level, including, desired future conditions, goals, objectives, and standards.

Chapter 4 contains the management area direction, including, desired future conditions, goals, objectives, and standards.

Chapter 5 gives direction on Forest Plan implementation, monitoring, and evaluation.

Appendices provide supplemental information about the Forest Plan.

FOREST DESCRIPTION

The National Forests in Alabama include approximately 666,000 acres of National Forest System land in the Southern Appalachian Mountains, Cumberland Plateau, Piedmont and Coastal Plain areas of the state. There are four National Forests, divided into six ranger districts. The Bankhead National Forest is located in the northwestern part of the state in Lawrence, Winston and Franklin Counties. The Conecuh National Forest is located in the southern part of the state along the Alabama/Florida line in Covington and Escambia Counties. The Talladega National Forest is divided into three Ranger Districts: the Oakmulgee District lies in the central part of the state, east of Tuscaloosa in Hale, Tuscaloosa, Bibb, Perry, Chilton and Dallas Counties. The Shoal Creek and Talladega Districts are located in the northeastern part of the state in Cherokee, Calhoun, Cleburne, Talladega and Clay Counties. The Tuskegee National Forest lies in the east central part of the state west of Auburn, in Macon County.

SUMMARY OF THE AMS

The analysis of the management situation (AMS) for the National Forests is a determination of the forests' ability to supply goods and services in response to society's demand. The AMS provides a basis for determining the need for change in the existing Forest Plan direction and formulating a broad range of reasonable alternatives. The draft AMS was completed in August 1996, and a few of the important findings are:

- Land Allocations; allocate lands into Land Type Associations (LTA) and identify forest alliances, revise acreage of steep slopes to reflect land adjustments, correct acreage of aquatic habitat, evaluate areas for special designations (RNA, botanical area, Demonstration Forest, wild & scenic river), complete oil & gas leasing re-analysis, complete analysis of land suitable for timber production, and identify communication sites where needed
- Desired Future Conditions (DFC): write DFC for each LTA & management area to include: increasing recreation use and need to provide for a quality experience; future desired level for range program on the Conecuh; riparian areas and aquatic habitat; TES species by communities; more emphasis on scenic quality around trails, special areas and special routes; reduction of user conflicts; consider maintaining current semi-primitive areas to protect

integrity of Sipsey wilderness area; provide for a wide variety of resource opportunities; better describe the DFC of soil, water and air resources; need higher maintenance levels to reduce future road reconstruct needs; determine desired level for restoration and maintenance of longleaf pine/wiregrass community, and other longleaf pine communities; and determine desired level of prescribe burning to maintain fire dependent communities.

- Goals and Objectives: complete mapping and inventory of land type (LT) and land type phase (LTP); consider longleaf pine restoration; incorporate goals from the RCW EIS; consider old growth communities; consider diversity, viability, and management indicator species; analyze prescribe burning rotations, summer burning, prescribed natural fire in wilderness & associated air quality objectives; consider increasing the fisheries program while re-evaluating pond and lake fertilization needs; incorporate recovery plans and conservation agreements; determine Red-cockaded Woodpecker (RCW) habitat management areas and incorporate the RCW EIS; update goals & objectives for soil and water inventories and watershed restoration; evaluate the need to establish water rights; develop management strategies for over used areas especially trails and wilderness areas; upgrade existing developed recreation sites as needed; develop access for fishing opportunities; evaluate management of trails; increase interpretive services for trails and wilderness; develop goals & objectives for transportation system based on demand, and road density standards; address noxious weeds and management objectives; re-examine land exchange program and land adjustment boundaries and update objectives for land acquisition, provide for aggressive SPB control and prevention options; more emphasis on management of mixed pine-hardwood and hardwood- pine types, need to harvest off-site loblolly and slash pines and replace stands with trees suited to those sites; need to re-evaluate allowable sale quantity; need to accelerate harvesting within 50 to 80 year old stands; and address the need for and role of outfitters and guides
- Standards; re-evaluate fire suppression strategy to allow prescribed natural fires in wilderness areas; re-evaluate prescribed burning rotations to consider sandy soils and ecosystem/community needs; provide for protection of TES species by community or habitat grouping (i.e. bogs, bluff faces, streamside management areas...); develop additional soil and water standards to address unique or special ground water resources and system road construction or reconstruction; develop standards for areas unsuitable for timber production where management activities are still needed for maintenance or restoration, develop standards to address problems with off-site loblolly and associated annosum root disease problems; manage more acres in mixed stands and re-evaluate conversion percentages, consider age class imbalance and young overstocked stands; re-vegetate roads and do wildlife plantings with native species or non-natives that do not spread outside the intended area; increase commercial

thinning in young pine-hardwood stands; develop water quality standards for trail maintenance and construction; address heavy use in Turnipseed Camp; re-evaluate rotation ages for pine and hardwood; develop specific standards to address use of National Forest lands for military training; and develop standards for uneven-aged management, management of mixed types and old growth.

- Monitoring, complete a new monitoring plan with emphasis on DFC to see if it is being met, implementation and effectiveness of standards, goals and objectives.
- Wilderness Recommendation, consider and evaluate inventoried roadless areas for possible wilderness recommendation

SUMMARY OF ISSUES

Public involvement is a key part of the planning process. Our goals for public involvement associated with this planning process were: to ensure that all individuals and groups interested in or affected by the management of the National Forests in Alabama have the opportunity to be informed and participate in the revision process; and to reach an informed understanding with the public of the varying interests and to consider these interests in developing this revised plan.

Public comments were used to identify what direction management of the forest should take in the future, including what goods and services would be provided and what the environmental conditions should be. Many opportunities are provided for people to get involved in the planning process and to provide comments. Issues submitted by the public, as well as from within the Forest Service, guided the need to change current management strategies.

Public Involvement began in January 1995, with the first edition of the Alabama Treasures Newsletter. The newsletter informed the public that we were beginning to gather information and organizing to begin the process. A variety of public meetings, open houses and listening sessions were held over the next year. The Notice of Intent to prepare an environmental impact statement was published on August 1, 1996, and on September 10, 1996, scoping notification was sent to interested and affected public announcing the 120 day comment period and associated listening sessions, as well as asking for comments on the draft Analysis of the Management Situation (AMS).

A four-phase process was used to develop alternatives. Based on the issues and public comments, four preliminary alternatives were developed. Public meetings were held throughout the state, and comments were solicited on the preliminary alternatives. Based on these comments, the five Southern Appalachian forests met and developed four additional alternatives. Finally, a "Rolling Alternative" was created based on criteria that addressed the Natural Resource Agenda (Watershed Health, Recreation, Sustainable Forest Ecosystem Management, and Forest Roads), Regional Forester's Emphasis Areas (Watershed Health/Water Quality, Habitat for Wide-Ranging Species, T&E Recovery Plans,

Old Growth, Semi-Primitive Recreation Opportunities, Roadless Areas, Special Areas, and a consistent approach to determining lands suitable for timber production), issues common to all five National Forests, and the issues unique to each of the forests.

The issues developed for the National Forests in Alabama are:

1. Terrestrial Plants and Animals and their Associated Habitats: How should the national forest retain/restore a diverse mix of terrestrial plant and animal habitat conditions while meeting public demands for a variety of wildlife values and uses?
2. Threatened, Endangered, and Sensitive/Locally Rare Species: What levels of management are needed to protect and recover the populations of federally listed threatened, endangered, and proposed species? What level of management is needed for Forest Service sensitive and locally rare species?
3. Old Growth: The issue surrounding old growth has several facets, including: (1) how much old growth is desired, (2) where should old growth occur, and (3) how should old growth be managed?
4. Riparian Area Management, Water Quality, and Aquatic Habitats: What are the desired riparian ecosystem conditions within national forests, and how will they be identified, maintained, and/or restored? What management direction is needed to help ensure that the hydrologic conditions needed for the beneficial uses of water yielded by and flowing through national forest system lands are attained? What management is needed for the maintenance, enhancement, or restoration of aquatic habitats?
5. Wood Products: The issue surrounding the sustained yield production of wood products from national forest has several facets, including: what are the appropriate objectives for wood product management? Where should removal of products occur, given that this production is part of a set of multiple-use objectives and considering cost effectiveness? What should be the level of outputs of wood products? What management activities associated with the production of wood products are appropriate?
6. Aesthetic/Scenery Management: The issue surrounding the management of visual quality has two facets. One is, what are the appropriate landscape character goals for the national forests? The other is, what should be the scenic integrity objectives for the national forests?
7. Recreation Opportunities/Experiences: How should the increasing demand for recreational opportunities and experiences be addressed on the national forests while protecting forest resources? This includes considering a full range of opportunities for developed and dispersed recreation activities (such as nature study, hunting and fishing activities, and trail uses).
8. Roadless Areas/Wilderness Management: Should any of the roadless areas on national forest system lands be recommended for wilderness designation? For any

roadless areas not recommended for wilderness, how should they be managed? How should areas recommended for wilderness designation be managed? How should the patterns and intensity of use, fire, and insects and diseases be managed in the existing wilderness areas?

9. Forest Health: What conditions are needed to maintain the ability of the forest to function in a sustainable manner as expected or desired? Of particular concern are the impacts of exotic or non-native species and the presence of ecological conditions with a higher level of insect and disease susceptibility.
10. Special Areas and Rare Communities: What special areas should be designated, and how should they be managed? How should rare communities, such as those identified in the Southern Appalachian Assessment, be managed?
11. Wild and Scenic Rivers: Which rivers are suitable for designation into the National Wild and Scenic River System, and how should rivers that are eligible, but not suitable, be managed?
12. Access/Road Management: How do we balance the rights of citizens to access their national forests with our responsibilities to protect and manage the soil and water resources, wildlife populations and habitat, aesthetics, forest health, and desired vegetative conditions?
13. Role of Fire/Air Quality: How will air quality be sustained while carrying out needed management activities, such as prescribed fire, and what role will fire play in the ecosystems on each major division of land?
14. Fixed Communication Sites: What should be the location and size of fixed communication sites necessary to provide adequate protection and service delivery for communities of interest, resources, and facilities?
15. Tuskegee National Forest as a Demonstration Forest: Should the Tuskegee National Forest be designated as a demonstration forest, and what ecosystem management principles and/or research should be emphasized?
16. Bankhead National Forest as a National Recreation Area: Should the Bankhead National Forest be recommended as a National Recreation Area? (A National Recreation Area is set aside by Congress to showcase and provide for outdoor recreation opportunities).
17. Red-cockaded Woodpecker Habitat Management Areas: What is the appropriate size and location for habitat management areas for red-cockaded woodpeckers on each major division of land?
18. Land Exchange and Land Acquisition: Under what conditions should land exchange and land acquisition programs be conducted on each major division of land?

19. Minerals: How will the mineral resources of the national forest be managed considering public demand for a wide variety of minerals? What areas will be made available for the exploration and development of Federal leasable minerals and mineral materials?

CHAPTER 2

FOREST-WIDE DIRECTION

Introduction

A portion of the National Forests in Alabama, specifically the Talladega Division, is part of the Southern Appalachian ecosystem. The remainder of the National Forests in Alabama is within the Cumberland Plateau and Coastal Plain ecoregions. The goals for management of the National Forests in Alabama were developed in consideration of the other national forests within the Southern Appalachian region. This chapter outlines the overall management direction for the National Forests in Alabama. This direction is organized around the physical, biological, and social resources of the Forest, as well as the major issues identified by the groups and individuals who helped develop this Forest Plan.

Each resource includes broad goal statements, which describe desired conditions to maintain, restore, or achieve in the future. Objectives express measurable steps needed during the next ten to fifteen years in order to achieve the forest goals. Objectives are also linked to the Forest Monitoring Plan.

Goals and objectives define the general direction for management for the Forest and standards define the rules applied during implementation of activities associated with this plan. Standards are the specific technical resource management directions and often preclude or impose limitations on management activities or resource uses, generally for environmental protection, public safety, or to resolve an issue. Deviation from a standard requires a Forest Plan amendment. Adherence to Forest Plan standards will be monitored during project implementation.

Forestwide goals, objectives, and standards apply to the entire forest unless superseded by specific management area or management prescription direction. Projects will be evaluated to determine if they are consistent with the management direction in this Revised Plan. The evaluation is documented in a project-level environmental document with a finding of consistency with the forest plan, incorporated into the decision document.

The Plan is a strategic document providing land allocations, goals, desired conditions, and standards that must be met. During the plan revision process the interdisciplinary team developed this direction and it is contained in this document.

The following Forestwide Standards Package is designed to be specific to the National Forests in Alabama. Laws, regulations, and Forest Service Directive System direction are not repeated in this package. Some resource areas, such as heritage resources or threatened and endangered species have very specific direction in law, regulation, policy, the Forest Service Directive System, and other sources such as recovery plans. If a particular resource is not addressed in this section, that does not mean the resource is

not managed, nor does it mean the Forest Service considers a particular resource less important than those listed. The entire forest plan, including the appendices, must be carefully read to understand how all resources will be managed.

Any decisions on projects to implement the Revised Plan will be based on site-specific analysis in compliance with the National Environmental Policy Act (NEPA). These environmental analyses will be appropriately documented according to direction in the Council on Environmental Quality *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR Parts 1500-1508) and the *Environmental Policy and Procedures Handbook* (FSH 1909.15).

In addition to the management direction provided in this Plan, the Forest is required to follow all laws, regulations, and Forest manual and handbook direction.

FOREST-WIDE GOALS, OBJECTIVES AND STANDARDS

Direction that supercedes mapped land allocations

Direction for riparian corridors, canyon corridors and rare communities is described in detail in Chapter 3. The following standard is listed here for clarity.

- FW-1.** Riparian Corridors Prescription, Rare Community Prescription, and Canyon Corridors Prescription, will be applied Forest-wide as defined and described in Chapter 3, and will supersede mapped land allocations.

Restoration and Health of Forest Ecosystems

A pertinent example of the need for emphasizing forest health and restoration of native ecosystems in this revised plan is the loblolly pine growing in longleaf pine ecosystems. During the last 50 years across the southeastern United States, pine plantations have increased in abundance, expanding from 1% of the total pine forest acres to 48% of those acres (USDA Forest Service 2001: 1). At the same time, the 20-year trend reported for the Southern Appalachian Assessment area (SAMAB 1996: 27) shows a downward trend of 16% for southern yellow pine forests. These two facts together suggest that natural yellow pine forests have declined significantly and represent an opportunity for large-scale restoration of this community type.

The National Forests in Alabama have been experiencing a southern pine beetle epidemic since 1999 and currently more than 34,000 acres of southern yellow pine forests have been severely impacted. Many of the sites impacted were densely stocked stands of loblolly pine that had either regenerated naturally in areas that were protected from wildfire or had been planted as pine plantations between 1930 and 1980. Beginning in the 1930s, the Civilian Conservation Corp provided the labor needed to reestablish forests on abandoned farmland and previously cutover upland timberland. The primary species used to reestablish forest conditions was loblolly pine. Beginning in the 1960s, the Forest Service began new efforts to improve forest economic yields by replacing some upland hardwood forests with faster growing loblolly pine. At that time, loblolly pine

offered the best chance of high survival and success in reforestation. These efforts, along with some natural establishment of loblolly pine, have resulted in Xeric Pine & Pine-Oak occupying 11.3% of Management Area 1 – Bankhead, 12.6% of Management Area 4 – Talladega Division, and 2.5% of the Total Forest Acres. While loblolly pine is a native tree species, the dominance of pure stands of loblolly pine is not typical of native, fire dependent woodlands that normally occur on the uplands. Historically, natural communities were maintained by low intensity fires originating on ridge tops and southern exposures (NatureServe 2002). With large-scale mortality in these communities due to pine beetle effects, the opportunity now exists to restore these sites.

In this Plan, allocation of the ‘Restoration’ prescriptions (according to desired restored community type) covers much of the lands where the need for restorations exists. Reference the land allocation maps in the Appendix.

The Forest Service maintains an inventory of forest type, condition and age. This inventory has been cross-walked to the community types described in the *Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region* (USDA 1997). Table 2.1 categorizes forest types and old-growth forest communities into habitat groups. Habitat groups represent a niche or condition relevant to wildlife species. An analysis of trends among habitat groups allows the potential effects of management on wildlife to be assessed. The following tables display the composition of each of National Forests in Alabama’s management units.

Table 2.1 Relationship of Community to Forest Type and Major Habitat Group and Composition by Management Area
Management Area 1 - Bankhead

Community	% of Forested Acres	Forest Types	% of Community	Major Habitat Group
Dry and Dry-Mesic Oak-Pine Forest	49%	shortleaf/oak (12) yellow pine (25) loblolly pine (31) southern red oak/yellow pine (44) white oak/black oak/yellow pine (47) northern red oak/yellow pine (48)	<1 3 80 3 2 16	Oak and Oak Pine
Dry Mesic Oak Forest	26%	post oak/bear oak (51) chestnut oak (52) white oak/red oak/hickory (53) white oak (54), scarlet oak (59) chestnut oak/scarlet oak (60)	<1 <1 98 <1 <1	Oak and Oak Pine
Xeric Pine and Pine-Oak Forest and Woodland	11%	loblolly pine/hardwood (13) Virginia pine/oak (16) shortleaf pine (32) Virginia pine (33) chestnut oak/scarlet oak/yellow pine (45) bear oak/southern scrub oaks/yellow pine (49)	45 9 <1 33 10 1	Pine and Pine Oak
Mixed Mesophytic Forest	8%	white pine-upland hardwood (10) cove hardwoods-white pine-hemlock (41) upland hardwoods-white pines (42) yellow poplar (50) yellow poplar-white oak-Northern Red Oak (56) beech-magnolia (69) sycamore-pecan-American elm (75) black birch (83) American chestnut (95) brush species (99)	<1 15 <1 <1 82 <1 <1 <1 <1 <1	Mesic Deciduous
River Floodplain Hardwood Forest	2%	bottomland hardwood/yellow pine (46) sweet gum/yellow poplar (58) sweet gum/nuttall oak/willow oak (62) sugarberry/American elm/green ash (63) laurel oak/willow oak (64) sweet bay/swamp tupelo/red maple (68)	86 12 2 <1 <1 <1	Mesic Deciduous
Upland Longleaf Pine Forests and Woodland	1%	longleaf pine (21) longleaf pine/hardwood (26)	94 6	Upland Longleaf
Cedar Woodlands	1%	eastern red cedar/hardwood (11) eastern red cedar (35) oak/eastern red cedar (43)	66 11 23	Cedar Woodlands
Conifer Northern Hardwood Forest	1%	eastern white pine (3) hemlock/hardwoods (8) white pine/cove hardwood (9)	16 82 2	Eastern Hemlock Forests

Management Area 2 – Conecuh

Community	% of Forested Acres	Forest Types	% of community	Major Habitat Group
Upland Longleaf Pine Forests and Woodland	52%	longleaf pine (21) longleaf pine/hardwood (26)	98 2	Upland Longleaf
Wet Pine Forests, Woodlands, and Savannas	21%	slash pine (22) slash pine/hardwood (14)	93 7	Wet Pine Forests
River Floodplain Hardwood Forest	19%	bottomland hardwood/yellow pine (46) sweet gum/yellow poplar (58) sweet gum/nuttall oak/willow oak (62) laurel oak/willow oak (64) sweet bay/swamp tupelo/red maple (68) beech/magnolia (69) undrained flatwoods (98)	9 1 1 21 68 <1 <1	Mesic Deciduous
Dry and Dry-Mesic Oak-Pine Forest	4%	yellow pine (25) loblolly pine (31) sand pine (34) southern red oak/yellow pine (44) white oak/black oak/yellow pine (47)	51 25 1 19 4	Oak and Oak pine
Coastal Plain Upland Mesic Hardwood	2%	loblolly pine/hardwood (13) yellow poplar (50) post oak/black oak (51) white oak/red oak/hickory (53)	15 4 16 65	Mesic Deciduous
Dry and Xeric Oak	<1%	(57) Scrub oak	100	Oak and Oak Pine
Xeric Pine and Pine-Oak Forest and Woodland	<1%	(49) Bear oak/scrub oak/yellow pine	100	Pine and Pine Oak
Cypress Tupelo	<1%	bald cypress (24) bald cypress/water tupelo (67)	33 67	Cypress Tupelo Swamp

Management Area 3 – Oakmulgee Division

Community	% of Forested Acres	Forest Types	% of community	Major Habitat Group
Upland Longleaf Pine Forests and Woodland	40	longleaf pine (21) longleaf pine/hardwood (26)	97 3	Upland Longleaf
Dry and Dry-Mesic Oak-Pine Forest	34	shortleaf pine/oak (12) loblolly pine/hardwood (13) yellow pine (25) loblolly pine (31) shortleaf pine (32) sand pine (34) southern red oak/yellow pine (44) white oak/black oak/yellow pine (47) northern red oak/hickory/yellow pine (48)	3 18 <1 70 <1 <1 5 2 1	Oak and Oak Pine
Dry Mesic Oak Forest	10	post oak/bear oak (51) white oak/red oak/hickory (53)	<1 99	Oak and Oak Pine
River Floodplain Hardwood Forest	9	bottomland hardwood/yellow pine (46) sweet gum/yellow poplar (58) sweet gum/nuttall oak/willow oak (62) laurel oak/willow oak (64)	29 32 39 <1	Mesic Deciduous
Mixed Mesophytic	4	yellow poplar-white oak-northern red oak (56)	100	Mesic Deciduous
Cypress Tupelo	3	sweet bay/swamp tupelo/red maple (68) bald cypress/water tupelo (67)	98 2	Cypress Tupelo Swamp
Xeric Pine and Pine-Oak Forest and Woodland	<1	Virginia pine (33) Bear oak/scrub oak/yellow pine (49)	72 28	Pine and Pine Oak

Management Area 4 – Talladega Division

Community	% of Forested Acres	Forest Types	% of community	Major Habitat Group
Dry and Dry-Mesic Oak-Pine Forest	29%	shortleaf/oak (12) yellow pine (25) loblolly pine (31) shortleaf pine (32) southern red oak/yellow pine (44) white oak/black oak/yellow pine (47) northern red oak/yellow pine (48)	4 5 70 16 4 <1 <1	Oak and Oak Pine
Dry Mesic Oak Forest	29%	post oak/bear oak (51) chestnut oak (52) white oak/red oak/hickory (53) white oak (54), chestnut oak/scarlet oak (60).	<1 17 80 <1 2	Oak and Oak Pine
Mountain Longleaf Pine Forests and Woodland	20%	longleaf pine (21) longleaf pine/hardwood (26)	99 1	Mountain Longleaf
Xeric Pine and Pine-Oak Forest and Woodland	14%	loblolly pine/hardwood (13) Virginia pine/oak (16) Virginia pine (33) chestnut oak/scarlet oak/yellow pine (45) bear oak/southern scrub oaks/and yellow pine (49)	16 4 30 49 1	Pine and Pine Oak Forests
Mixed Mesophytic Forest	6%	yellow poplar (50) yellow poplar/white oak/northern red oak (56)	1 99	Mesic Deciduous
River Floodplain Hardwood Forest	2%	bottomland hardwood/yellow pine (46) sweet gum/yellow poplar (58) willow (74)	28 71 1	Mesic Deciduous

Management Area 5 – Tuskegee

Community	% of Forested Acres	Forest Types	% of community	Major Habitat Group
Dry and Dry-Mesic Oak-Pine Forest	36%	loblolly pine/hardwood (13) loblolly pine (31) shortleaf pine (32) southern red oak/yellow pine (44) bear oak/southern scrub oaks/yellow pine (49)	8 90 <1 1 1	Oak and Oak Pine
River Floodplain Hardwood Forest	34%	bottomland hardwood/yellow pine (46) sweet gum/yellow poplar (58) Swamp chestnut oak/cherrybark oak (61) sweet gum/nuttall oak/willow oak (62) sugarberry/American elm/green ash (63) sweet bay/swamp tupelo/red maple (68)	24 33 1 41 <1 1	Mesic Deciduous
Upland Longleaf Pine Forests and Woodland	20%	longleaf pine (21)	100	Upland Longleaf
Wet Pine Forest, Woodlands, and Savannas	9%	slash pine (22)	100	Wet Pine Forests
Coastal Plain Upland Mesic Hardwood	1%	white oak/red oak/hickory (53)	100	Mesic Deciduous

Goals and Objectives:

GOAL 1 Manage forest and woodland ecosystems in order to restore and/or maintain native communities to provide the desired composition, structure and function. Emphasis will be placed on maintaining forest and plant community types not abundant on private lands.

OBJECTIVES

- 1.1** Restore and maintain approximately 17,000 acres of *Mountain Longleaf Pine Forests and Woodland Communities* (CISC 21 and 26) and associated upland pine (32), pine-hardwood (12), hardwood-pine (44, 45, 47, 48, 49) and hardwood (51, 52, 53, 54, 56, 60) forest types on the Talladega Division over the first ten years of plan implementation, and at similar rates following that period. Restoration of these native communities will reduce loblolly pine (31) and yellow pine (25) forest types, currently represented in the *Dry and Dry-Mesic Oak Pine Forest Community*.
- 1.2** Restore and maintain approximately 17,000 acres of *Upland Longleaf Pine Forests and Woodland Communities* (CISC 21 and 26) on the Coastal Plain management areas (Oakmulgee division, Conecuh National Forest, and the Tuskegee National Forest) over the first ten years of plan implementation, and at similar rates following that period. Restoration of these native communities will reduce loblolly pine (31), yellow pine (25) and slash (22) pine forest types, currently represented in the *Dry and Dry-Mesic Oak Pine Forest* and *Wet Pine Forest Woodlands, and Savannas Communities*.
- 1.3** Restore and maintain approximately 10,000 acres of *Xeric Pine and Pine-Oak Forest and Woodland* (CISC 32 and 12), *Upland Longleaf Pine Forest and Woodland* (21 and 26), and *Dry Mesic Oak Forest* (53) *Communities* on the Bankhead National Forest over the first ten years of plan implementation, and at similar rates following that period. Restoration of these native communities will reduce loblolly pine (31) and yellow pine (25) forest types, currently represented in the *Dry and Dry-Mesic Oak-Pine Forest Community*.
- 1.4** Thin overstocked stands giving priority to first treatments. Thin stands of species not native to their site (usually CISC 22, 25, 31, 32) which cannot be immediately restored, to reduce hazards and sustain the stand until restoration can be accomplished. Thin approximately 30,000 acres on Bankhead National Forest, 24,000 acres on Conecuh National Forest, 12,000 acres on Oakmulgee Division, 20,000 acres on Talladega Division, and 500 acres on Tuskegee National Forest over the first ten years of plan implementation.

1.5 Restore and increase, by 30% as a minimum, areas of each management unit managed as *Mountain Longleaf Forest and Woodland, Upland Longleaf Pine Forest and Woodland, Dry and Dry-Mesic Oak-Pine Forest, and Xeric Pine and Pine-Oak Forest and Woodland Community* types (or fire sub-climax communities of pine (CISC 21, 32, 25, 22), pine/oak (26, 12, 16, 14), oak-pine (44, 45, 47, 48, 49), and oak (51, 52, 53, 54, 60) forest types) in woodland and savanna condition, with reduced tree canopy cover and restored native herbaceous ground cover over the first ten years of plan implementation.

GOAL 2 Minimize adverse effects of invasive non-native species. Control such species where feasible and necessary to protect National Forest resources.

OBJECTIVES

2.1 Inventory and map priority areas with non-native, invasive plant species.

GOAL 3 Manage existing forest communities to reduce risks from insects and disease.

Standards

FW-2. Unless necessary for insect or disease control or to provide for public and employee safety, standing snags and den trees will not be intentionally felled during vegetation management treatments unrelated to timber salvage. For pine timber salvage treatments, all live den trees, and minimum of 5 snags per acre, if present, from the largest size classes will be retained. Distribution of retained snags may be clumped. Within Indiana bat range, refer to the more stringent Indiana bat standards within the T&E section of this chapter.

FW-3. Unless necessary for insect or disease control or to provide for public and employee safety, den trees will not be intentionally felled during vegetation management treatments. Within Indiana bat range, refer to the more stringent Indiana bat standards within the T&E section of this chapter.

FW-4. In even-aged regeneration areas where at least 2 snags per acre are not present or cannot be retained as residuals, at least 2 standing snags/acre will be created from the larger diameter classes within the original stand. In addition, a minimum of 5 of the largest living mature trees per acre will be retained to provide potential future snags during the early and mid-successional stages of stand development. Distribution of snags and live residuals may be scattered or clumped. Live den trees are not to be used for snag creation, but may count toward live residuals.

FW-5. When seeding temporary openings such a temporary roads, skid trails and log landings, use only native or non-persistent non-native species.

- FW-6.** The Integrated Pest Management (IPM) approach will be used to manage pest populations, such as SPB. IPM is a decision-making and action process that includes biological, economic, and environmental evaluation of pest/host relationships to manage pest populations. Forest Health Protection Unit will be consulted when significant pest problems occur.
- FW-7.** Timber harvesting with conventional equipment is limited to slopes \leq 40%.
- FW-8.** Temporary roads will cross streams only on temporary bridges or low water fords. Fords may be used only when stable channel conditions exist and downstream beneficial uses, including threatened and endangered species, are not jeopardized. Temporary bridges will be removed upon completion of use.
- FW-9.** When regenerating forest stands, regenerate to native, on-site tree species that commonly occur naturally on similar sites within the same land type association.
- FW-10.** Use native species when planting in restoration and reclamation sites
- FW-11.** Retain soft mast producing species (dogwood, black gum, hawthorn, grapes, serviceberry, etc) during vegetation cutting treatments to the extent compatible with meeting treatment objectives.
- FW-12.** Only mowing, chopping, ripping, and scarifying are used on sustained slopes over 15 percent. No mechanical equipment is used on sustained slopes over 35 percent.
- FW-13.** Mechanical site preparation is not done on sustained slopes over 20 percent with erodable or failure-prone soils.
- FW-14.** To limit soil compaction, no mechanical equipment is used on plastic soils when the water table is within 12 inches of the surface, or when soil moisture exceeds the plastic limit. Soil moisture exceeds the plastic limit if the soil can be rolled to pencil size without breaking or crumbling.
- FW-15.** Mechanical equipment is operated so that furrows and soil indentations are aligned on the contour (with grades under 5 percent).
- FW-16.** Windrows and piles are spaced no more than 200 feet apart to limit soil exposure, soil compaction, and nutrient loss from piling and raking. Windrows are aligned on the contour.
- FW-17.** Mechanical equipment is not allowed in any defined stream channel except to cross at designated points, and may not expose more than 10 percent mineral soil in filter strips along lakes, perennial or intermittent springs and streams, wetlands, or water-source seeps.

FW-18. All trails, roads, ditches, and other improvements in the project area are kept free of logs, slash, and debris. Any road, trail, ditch, or other improvement damaged by operations is promptly repaired.

FW-19. Weather is monitored and the herbicide project is suspended if temperature, humidity, or wind becomes unfavorable, as shown in Table 2.2 below.

Table 2.2 Limiting Weather Factors for Pesticide Application

Treatment Type	Temperatures higher than	Temperatures less than	Wind (at target) greater than
Ground:			
Hand (cut surface)	N.A.	N.A.	N.A.
Hand (other)	98°F	20%	15mph
Mechanical (liquid)	95°F	30%	10mph
Mechanical Granular	N.A.	N.A.	10mph
Aerial:			
Liquid	90°F	50%	5mph
Granular	N.A.	N.A.	8mph

FW-20. A certified pesticide applicator supervises each Forest Service application crew and trains crew members in personal safety, proper handling and application of herbicides, and proper disposal of empty containers.

FW-21. People living within one-fourth mile of an area to be treated aerially with pesticide are notified during project planning and shortly before treatment.

FW-22. No herbicide is aerially applied within 200 horizontal feet of an open road or a designated trail. Buffers are clearly marked before treatment so applicators can easily see and avoid them.

FW-23. Application equipment, empty herbicide containers, clothes worn during treatment, and skin are not cleaned in open water or wells. Mixing and cleaning water must come from a public water supply and be transported in separate labeled containers.

FW-24. No herbicide is aerially applied within 200 horizontal feet, nor ground applied within riparian areas. No herbicide is applied within 100 horizontal feet of any public or domestic water source. Selective treatments (which require added site-specific analysis and use of aquatic-labeled herbicides) may occur within these buffers only to prevent significant environmental damage such as noxious weed infestations. Buffers are clearly marked before treatment so applicators can easily see and avoid them.

FW-25. Herbicide mixing, loading, or cleaning areas in the field are not located within 200 feet of private land, open water or wells, or other sensitive areas.

- FW-26.** Pine straw or any other mulching material will not be sold (as mulch or for any other purpose) from areas treated with clopyralid.
- FW-27.** Herbicides and application methods are chosen to minimize risk to human and wildlife health and the environment. No class B, C, or D chemical may be used on any project, except with Regional Forester approval. Approval will be granted only if a site-specific analysis shows that no other treatment would be effective and that all adverse health and environmental effects will be fully mitigated. Diesel oil will not be used as a carrier for herbicides, except as it may be a component of a formulated product when purchased from the manufacturer. Vegetable oils will be used as the carrier for herbicides when available and compatible with the application proposed.
- FW-28.** Herbicides are applied at the lowest rate effective in meeting project objectives and according to guidelines for protecting human (NRC 1983) and wildlife health (EPA 1986a). Application rate and work time must not exceed levels that pose an unacceptable level of risk to human or wildlife health. If the rate or exposure time being evaluated causes the Margin of Safety or the Hazard Quotient computed for a proposed treatment to fail to achieve the current Forest Service R-8 standard for acceptability (acceptability requires a MOS > 100 or, using the current [SERA or even more recent] Risk Assessments found on the Forest Service website, a HQ of < 1.0) additional risk management must be undertaken to reduce unacceptable risks to acceptable levels or an alternative method of treatment must be used
- FW-29.** Nozzles that produce large droplets (mean droplet size of 50 microns or larger) or streams of herbicide are used. Nozzles that produce fine droplets are used only for hand treatment where distance from nozzle to target does not exceed 8 feet.
- FW-30.** With the exception of permittee treatment of right-of-way corridors that are continuous into or out of private land and through Forest Service managed areas, no herbicide is broadcast within 100 feet of private land or 300 feet of private residence, unless the landowner agrees to closer treatment. Buffers are clearly marked before treatment so applicators can easily see and avoid them.
- FW-31.** With the exception of treatments designed to release designated vegetation selectively resistant to the herbicide proposed for use or to prepare sites for planting with such vegetation, no soil-active herbicide is applied within 30 feet of the drip line of non-target vegetation specifically designated for retention (e.g., den trees, hardwood inclusions, adjacent untreated stands) within or next to the treated area. Side pruning is allowed, but movement of herbicide to the root systems of non-target plants must be avoided. Buffers are clearly marked before treatment so applicators can easily see and avoid them.
- FW-32.** Critical values of the Keetch-Byram Drought Code (Cumulative Severity Index) are developed for all major vegetation-soil-landform types on which prescribed

fires are conducted. Burning is allowed only on days when the Drought Code is less than this critical value.

FW-33. When used to control vegetation, livestock may not expose mineral soil or displace soil by trampling on more than 10 percent of the area.

FW-34. Combined forage use by wildlife and livestock when used to control vegetation may not exceed 70 percent of total forage production. This allows 45 percent utilization of grasses and forbs for livestock and 25 percent for wildlife.

Watersheds – Water, Soil, and Air

The National Forests in Alabama lies within six physiographic areas: Cumberland Plateau, Piedmont, Ridge and Valley, Tennessee Valley, Lower Coastal Plain and Upper Coastal Plain. Each physiographic area is both distinct and diverse in relation to topography, geology, and soil. Topography of the Bankhead National Forest is moderate to strongly dissected with broad nearly level and narrow strongly sloping ridges leading into steep gorges with rock bluffs. The Talladega Division of the Talladega National Forest topography is comprised of upland hills and low mountains with predominantly moderately steep slopes. Topography of the Coastal Plain forests, Conecuh and Tuskegee National Forest, and the Oakmulgee Division of the Talladega National Forest, consists of level to moderately sloping, broad ridges with stream terraces and broad floodplains. Geology ranges from sandstone, shale, and limestone found on the Bankhead National Forest to slate, shale, sandstone, and schist on the Talladega Division of the Talladega National Forest to coastal plain marine sediments consisting of layers of gravel, coarse and fine sand, and clay found on the Conecuh and Tuskegee National Forests, and the Oakmulgee Division of the Talladega National Forest.

The diverse geology has weathered into a total of ninety-eight soil series that can be found to date on the National Forests in Alabama. An Order 2 soil resource inventory has been conducted on all National Forests except the Oakmulgee Division of the Talladega National Forest, which has an Order 3 soil resource inventory. Currently, an Order 2 soil inventory is being conducted on the Oakmulgee Division. A total of 138 soil map units have been identified through soil resource inventories. Soil interpretations for land management practices have been developed based on each soil map unit. In turn, soil interpretations are used to develop standards to be applied to reduce or mitigate potential impacts to the soil resource.

Most all of the soils on the National Forests are highly weathered, acidic, and have a low nutrient status. Soil productivity from a forest perspective is considered high. Forests use a relatively small nutrient pool compared to agriculture and other propagated crops. In addition, the relatively deep soils, moisture availability, and landscape positions aid in providing a good growing medium for forest vegetation. The relative productivity of a given soil is based on the physical and chemical components. The biological component of a soil is also an important part of soil productivity but is contingent on the physical and chemical component.

The National Forests in Alabama has ownership within 9 major drainage basins, 18 fourth-level Hydrologic Unit Codes (HUCs), and 56 fifth-level Hydrologic Unit Codes (HUCs). The Bankhead Management area lies with 3 Basins: the Black Warrior, the Tennessee, and the Upper Tombigbee. The Conecuh Management Area lies within the Perdido-Escambia Basin. The Oakmulgee Management Area lies within 3 Basins: the Alabama, the Black Warrior, and the Cahaba. The Tuskegee Management Area lies within the Tallapoosa Basin. The Talladega Management Area lies within 2 Basins: the Coosa and the Tallapoosa.

Alabama is a well-forested state and this is reflected in the land-use patterns of the watersheds. Forest cover is the predominant land use. Agriculture was the next leading land use practice with urbanization (which includes commercial and industrial areas) a distant third. The quality of the waters flowing from National Forests lands is typically high. The state's highest use designations cover many of the streams coming from National Forest lands within many watersheds. The highest state use designation, Outstanding National Resource Waters, was applied to streams entirely on National Forest lands. Point sources of pollution are generally downstream of National Forest lands and are relatively unaffected by Forest Service management. The Middle Choccolocco Watershed seems to be plagued by the most point sources. None of the streams on National Forest lands are listed as impaired and those downstream of National Forest lands are impaired for reasons beyond Forest Service influence (i.e. organic enrichment and pathogens from pastures).

Sedimentation is the leading contributor to water quality degradation within the watersheds with Forest Service ownership. Forestry and agricultural practices are the leading causes for erosion and thereby sedimentation. The Alabama Department of Environmental Management has developed, in cooperation with the Forest Service, Best Management Practices (BMPs) to mitigate the sedimentation caused by these activities. The Forest Service meets or exceeds all of the State's BMP's, through the use of forest wide standards.

The groundwater on the National Forest is found in multiple aquifer systems. The yields of these various aquifers range from poor to high, depending upon the geology of the management area. The water taken from these aquifers is generally safe to drink with little or no treatment.

The groundwater on the Bankhead is contained in the Appalachian Plateaus aquifer system. The majority of the ground water can be found within sandstone and limestone fractures. Yields are generally low (10gpm) with only a few areas of high yields in fracture areas. Sandstone units generally provide adequately for domestic supply. Limestone formations provide sufficiently for some municipal and industrial supplies. Most water is suitable for most uses but is highly mineralized.

The groundwater on the Conecuh is contained in a complex structure of aquifer systems. The Southeastern Coastal Plain aquifer system is the surface aquifer in the northern part of the Conecuh sloping away towards the Gulf of Mexico and becoming the underlying aquifer system for the all other aquifer systems. The next surface aquifer system moving

from the north to south across the Conecuh is the Floridan, which also slopes away to the Gulf and overlying the Southeastern Coastal Plain aquifer system. A confinement layer is present at the surface in areas on the Conecuh sloping away to the Gulf and overlying the Floridan and Southeastern Coastal Plain aquifer systems. The Surficial aquifer system and the Sand and Gravel aquifer systems are the surface aquifers across the lower portions of the Conecuh with the Surficial system on the west and the Sand and Gravel system to the east. Both of these systems are over the confinement layer, the Floridan system, and the Southeastern Coastal Plain respectively. There is hydrologic communication between these various systems and the surface, creating bogs, sinkhole ponds, springs, and perched water tables providing for various water related rare communities. All of these aquifer systems are highly productive and suitable for municipal or industrial development (150gpm).

The groundwater on the Oakmulgee and the Tuskegee is contained in Southeastern Coastal Plain aquifer system. The majority of the ground water can be found within sand and gravel formations. This aquifer system can best be described as extremely stratified by silt and clay confinement layers. This aquifer system has lateral communication with the surface. The productivity of this aquifer system is generally good.

The groundwater on the Talladega is contained in the Piedmont and Blue Ridge aquifer system as well as the Valley and Ridge aquifer system. The majority of the ground water in the Piedmont and Blue Ridge aquifer system can be found in fractures within the metamorphic rock. The majority of the ground water in the Valley and Ridge aquifer system can be found in sandstone, limestone and dolomite formations. Both systems have some lateral communication with the surface. The productivity of the Piedmont and Blue Ridge aquifer system varies with fracture size but is generally inadequate for municipal supply. The productivity of Valley and Ridge aquifer system is generally good.

Alabama is blessed with an abundance of surface-water due to our abundance of annual precipitation. Precipitation averages about 56 inches per year with runoff rates averaging about 22 inches per year. Much of the precipitation flows directly into rivers and streams as overland runoff or indirectly as baseflow from discharging aquifers where the water has been stored for a short time. Some of the precipitation that falls is returned to the atmosphere by means of evapotranspiration and evaporation from surface-water bodies such as lakes and marshes, and transpiration from plants. However, a substantial part of the precipitation is available for aquifer recharge.

The National Forest has approximately 7,700 miles of streams and 3,100 acres of surface water. Stream channels exhibiting evidence of scouring accounted for 4,900 miles of the total streams. Streams that flow only 2 to 3 months a year, usually only during rain events are considered ephemerals and are comprised of order 1 and 2 streams. Streams that flow 6 to 10 months, usually drying during drought events are considered intermittent and are comprised of order 3 streams. Orders 4 and above generally flow continuously year round, except during periods of extended droughts are considered perennial.

The Clean Air Act (CAA) is a major part of the regulatory framework that drives air quality management within/near the National Forests. The CAA created the National Ambient Air Quality Standards (NAAQS), which established regulatory minimums for air quality, and it created a program to prevent significant deterioration (PSD) of air quality in areas in areas where good air quality (not falling below the NAAQS minimums) still existed. While the Environmental Protection Agency (EPA) and the States lead these programs, roles have been identified for industry, commerce, land managers, other levels of government and the public.

With its three classes the PSD program identified three levels of effort that must be expended to maintain good air quality where it already exists. Class I Areas (certain wilderness areas and national parks designated by Congress) can receive only small amounts of additional pollution. Further, where it can be shown that the resources of Class I Areas are already suffering adverse impacts from air pollution, there is a process to make reasonable progress toward returning the Area to its natural condition. Class II Areas can receive moderate increments of additional air pollution, as long as neither a NAAQS violation nor a significant deterioration of resources is anticipated. Class III Areas can receive larger increments of additional pollution, though still subject to NAAQS and resource considerations. Except for the 143 congressionally designated Class I Areas, all of the United States is designated as Class II. The air inventory and monitoring efforts lead by the States and EPA have identified a number of NAAQS non-attainment areas, mostly centered on metropolitan areas.

Sipsey Wilderness is a Class I Area. The balance of the Forest is designated Class II. Except for a persistent non-attainment designation around Birmingham, all of the State is in NAAQS attainment and therefore, Class II. Air pollution control (emission reduction) efforts aimed at bringing the Birmingham area back into attainment have, so far, not required any changes in management of the Forest.

Goals and Objectives

GOAL 4 Watersheds are managed and/or restored to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial water uses.

OBJECTIVES

- 4.1** In 5th level watersheds with a high percentage of impaired waters, but a low percentage of National Forest ownership, examine possible partnership opportunities with other interested individuals and entities to address impairment issues.
- 4.2** Watershed improvement needs are prioritized annually by watershed assessment issues and current inventory.

- 4.3** Annually coordinate non-point source pollution (NPS) assessments with the Alabama Department of Environmental Management (ADEM).

- GOAL 5** Maintain or improve water quality to meet State and Federal standards and to provide for the beneficial uses of water.

OBJECTIVES

- 5.1** Establish and maintain baseline water monitoring stations in each physiographic area.
- 5.2** Base watershed assessments/analysis each year on areas with proposed management activities.
- 5.3** Determine minimum instream flow rate for order 4 and higher streams with priority for streams with aquatic T&E species.

- GOAL 6** Maintain soil (site) productivity and improve, where feasible.

OBJECTIVES

- 6.1** Each year, obtain soil quality data necessary to provide input into WEPP model for areas with proposed management activities.
- 6.2** Complete soil resource inventory on the Oakmulgee Division, Talladega National Forest.
- 6.3** Re-correlate and update as necessary the Bankhead National Forest soil resource inventory.

- GOAL 7** Implement the goals of the Federal Clean Air Act, (CAA) along with the goals of other federal legislation aimed at protection and management of the National Forests. The CAA has goals for protection and improvement of: air quality through the National Forest (plus surrounding lands) and, the air quality related values (AQRVs) established for the Sipsey Wilderness (a Class I area). Inventory and management provisions within Renewable Resources Planning Act (RPA) provide goals similar to “AQRV protection “ for the general Forest area.

OBJECTIVES

- 7.1** Forest Service (FS) will review applications to state air regulatory agencies for major new emissions near the Sipsey Wilderness for potential impacts on its air quality related values (AQRVs).

- 7.2** Forest Service will participate in the State Implementation Plan (SIP) planning process. One objective of the SIP is to regulate atmospheric emissions from many industrial, commercial, land use and other types of activities. Forest Service participation will focus on air pollution impacts on resources throughout the National Forests and on regulation of pollutants that may be generated by land management activities.
- 7.3** FS will annually review the status of counties near the National Forests regarding their attainment of the National Ambient Air Quality Standards. Where a non-attainment area is formally recognized, FS will participate in SIP modification, as described above, to bring the area back into attainment status.
- 7.4** Forest Service will work with state air regulatory agencies and regional planning organizations to reduce visibility impairment at the Sipsey Wilderness Class I area.

Standards

- FW-35.** Channel stability of perennial and intermittent streams is protected by retaining all woody understory vegetation within at least 5 feet of the bank and by keeping slash accumulations out of the stream.
- FW-36.** Watershed Improvement work that involves restoration of gullies, borrow pits, mines, stream channels or involve the use of specifically appropriated funds will require an approved watershed improvement prescription per individual project and will contain information as outlined in FSH 2509.15, Watershed Improvement Handbook, Chapter 10.
- FW-37.** All areas requiring re-vegetation for erosion control will be treated during the spring and or fall grass planting seasons or within 6 months following the close out of the ground disturbing activity. The areas will be considered successfully treated when 85% or greater vegetation cover is established within 2 years of the initial treatment (3 years on the Oakmulgee and Tuskegee).
- FW-38.** Timber Sale Areas and associated reforestation practices will have a minimum 35-foot no equipment zone maintained around gully heads and sidewalls. Timber may be selectively removed from within the 35-foot zone thru use of chainsaws and cable.
- FW-39.** Resource activities that may affect water quality will implement State Best Management Practices as a minimum to meet water quality objectives. FLMP standards that exceed State BMP's will take precedence.

- FW-40.** All soil disturbing activities (excluding roads and trails) will not take place on water-saturated soils. Standing water and puddling are evidence of a saturated condition. (Soil disturbing activities are not limited to timber harvesting.)
- FW-41.** On severely eroded forest soils, any area with an average litter-duff depth of less than 1/2 inch is not burned.
- FW-42.** Growing season underburns are not allowed on the same site more than twice in succession without an intervening dormant season burn.
- FW-43.** Water Control structures necessary for the control of surface water movement from disturbed sites will be constructed during or within two weeks following construction for temporary roads and within two weeks following the close out of the disturbing activity for skid trails.
- FW-44.** Shear and rake site preparation method are to be avoided on sustained slopes exceeding 5%. Proposals for shear and rake site preparation methods on sustained slopes exceeding 5% will be reviewed by the Forest Soil Scientist. Decisions will be based on Forest Soil Scientist recommendations.
- FW-45.** Water control structures necessary for the control of surface water movement on prescribed fire lines will be installed during fire line construction. Permanent fire lines will have water control structures maintained (refer to re-vegetation standard).
- FW-46.** All activities will meet the requirements of applicable regulations established in pursuit of state or federal air quality goals. While the Forest Service cannot unilaterally guarantee the quality of air (generally or at a specific point) within an airshed, it does ensure that its management activities will be conducted with full adherence to pollution control methodologies and technologies prescribed by air quality regulatory agencies.
- FW-47.** Forest Service will monitor relevant aspects of air quality within the Forest, either through its own efforts, in cooperation with other agencies, or by review of the results of other agency monitoring in or near the forest.
- FW-48.** Timber harvesting activities on the Bankhead, Conecuh and Talladega National Forests are prohibited within sinkholes and within 200 feet of their defined boundary and within 200 feet of cave entrances (for caves not associated with sinkholes). Caves that are occupied by Gray or Rafinesque's big-eared bats should have a 0.25-mile radius buffer and Indiana bat caves should have a 0.50-mile radius buffer. This buffer does not preclude management that would improve conditions for listed or sensitive species, but provides protection for cave integrity.
- FW-49.** Herbicides will not be used within 200 feet of defined sinkhole boundaries.

FW-50. For protection of heritage resources, timber harvesting activities on the Bankhead are prohibited within 100 feet of the top of all rock shelters eligible for or included in the National Register of Historic Places, and 100 feet from cliff lines of greater than 25 feet vertical drop.

FW-51. The maximum size of an opening created by even-aged or two-aged regeneration treatments is 40 acres (80 acres for southern yellow pine types). Exceptions to these acreage limitations may be permitted following review by the Regional Forester. These acreage limits do not apply to areas treated as a result of natural catastrophic conditions such as fire, insect or disease attack, or windstorm. Areas managed as permanent openings (e.g. meadows, pastures, food plots, rights-of-way, woodlands, savannas, and grasslands) are not subject to these standards and are not included in calculations of opening size, even when within or adjacent to created openings.

FW-52. Openings created by even-aged and two-aged regeneration treatments will be separated from each other by a minimum distance of 330 feet. Such openings may be clustered closer than 330 feet, as long as their combined acreage does not exceed the maximum opening size. An even-aged regeneration area will no longer be considered an opening when the certified reestablished stand has reached an age of 5 years.

FW-53. Regeneration harvests on lands suitable for timber production must be done under a regeneration harvest method where adequate stocking of desirable species is expected to occur within 5 years after the final harvest cut. (Five years after final harvest means five years after clearcutting, five years after final overstory removal in shelterwood cutting, five years after the see tree removal cut in seed tree cutting, or five years after selection cutting). The new stand must meet the minimum stocking levels as described in Stocking Levels Table 2.3 below. These standards apply to both artificial and natural means of stand regeneration. Where natural means are used and stand reestablishment has not been accomplished within 3 years after committing the stand to regeneration, the stand is re-examined for further treatment needs.

Table 2.3 Stocking Levels

Forest Type	Minimum Level
Loblolly Pine	300
Shortleaf Pine	300
Slash Pine	300
Longleaf Pine	400
Mixed (hardwood/pine)	200
Hardwood (desirable species)	150

Riparian Areas, Riparian Corridors and Streamside Zones Background

Riparian Areas are areas with three dimensional ecotones of interaction that include terrestrial and aquatic ecosystems, that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width. A riparian corridor is an administrative zone applied to both sides of a stream or along side a pond, lake, seep or spring.

The riparian corridor is a fixed width by stream type that may fall within or beyond the true riparian area. Perhaps one of the best ways of delineating riparian areas is by soils. Soils found in riparian areas are usually associated with the 100-year floodplain. Soils within the 100-year floodplain are relatively young to very recent depending on flooding activity and fluvial deposition. Floodplain soils are diverse and reflect the sediments transported by the river network. Coastal plain sediments normally produce sandy or loamy soils whereas sediments from Piedmont and Mountain physiographic areas produce loamy to clayey soils. Soils also vary as distance from the river channel increases. Sandy soils are usually found in close proximity to the river channel followed by loamy soils and then silty or clayey soils. The size of the river or stream also factors into the formation of floodplain soils. Narrow floodplains tend to have one to maybe two different soil types compared to large broad floodplains that tend to have multiple soil types with a full range in soil textures. Depth to water table plays an important role in determining whether a soil is aerobic (oxygenated) or anaerobic (de-oxygenated). Anaerobic soils, termed hydric, are considered wetlands. Not all floodplain soils are wetlands just as not all wetlands are associated with floodplains. Although riparian areas are usually associated with rivers, freshwater swamps and bays are also included. Floodplain soils are normally higher in nutrient content and organic matter and are more poorly drained than upland soils. They act as filters and depositories during periods of flooding absorbing and storing nutrients from floodwaters. The Forest uses these soil characteristics, as well as a minimum buffering distance of 100 feet, to define the riparian corridor. The Forest further provides protection for scoured first order streams and second order streams by way of streamside management zones (SMZs), as shown below in Table 2.4.

Streamside Management Zones (SMZs) are defined as land areas adjacent to natural streams where additional precautions are used in carrying out land management activities. For purposes of simplification, stream orders are used as approximations of hydrological regimes (perennial streams are order 4 or above, intermittent streams are order 3, and ephemeral streams are equated to orders 1-2). Before the application of riparian corridors, Alabama used SMZs on all order streams and ponds, seeps, bogs and springs. These SMZs were put into place to protect water quality along with aquatic species. The riparian corridor expanded these areas of protection to include terrestrial and aquatic ecosystems by some 62,000 acres.

Table 2.4 Protections under Riparian and SMZ (Acres)

Mgt/area	Riparian	Order 1 w/scour	Order 2	Total
Bankhead	22,062	12,360	5,804	40,226

Mgt/area	Riparian	Order 1 w/scour	Order 2	Total
Conecuh	23,557	1,035	1,622	26,215
Oakmulgee	39,372	7,836	5,395	52,603
Talladega	25,337	19,930	9,710	54,976
Tuskegee	2,059	422	380	2,861
Total	112,387	41,583	22,911	176,881

GOAL 8 Riparian ecosystems, wetlands and aquatic systems are managed and/or restored to protect and maintain soil, water, vegetation, fish and wildlife associated resource values.

OBJECTIVES

- 8.1** Inventory riparian areas as management activities are proposed.
- 8.2** Up to 10% of riparian areas may be managed to provide non-forested habitat conditions, such as dense cane thickets, wet meadows, and wet savannas through overstory density reduction to meet habitat needs for birds, as well as meeting the needs of other riparian dependent species or rare habitats that may overlap or be contained within the riparian corridor. Additionally, maintain a minimum of 1 to 2 percent of the riparian corridor in early successional forest conditions.
- 8.3** Conduct inventories and establish baselines to determine needs for large woody debris within stream channels and riparian zones.

GOAL 9 Provide riparian and aquatic ecosystem conditions that are suitable to maintain well distributed viable populations of all aquatic species native to the planning area. Manage for diverse, balanced, integrated, and adaptive aquatic/riparian communities, and provide habitat conditions to support desirable population levels and distribution of selected species (e.g. species with special habitat needs such as shoal, cave, or spring obligates; recreationally important species; threatened or endangered species; or species of special interest).

OBJECTIVES

- 9.1** Conduct aquatic and riparian ecosystem surveys to determine baseline and desired conditions. Collect both species specific and general habitat information to assess progress towards attainment of recovery and conservation objectives.
- 9.2** Inventory/map invasive non-native species.

GOAL 10 Lakes, ponds, and reservoirs support balanced, productive recreational fisheries to the extent appropriate for native aquatic species viability, threatened and endangered species, State and federal water quality standards, funding, and public demand.

OBJECTIVES

10.1 Develop lake and reservoir management plans and periodically (every 1-5 years) review and update the plans in coordination with State and other agencies and partners.

Standards

FW-54. Collection of plants within 50 feet of a perennial or intermittent stream is subject to permit regulations and the following restrictions: 1) Scientific collection only, 2) Moss collection is prohibited, 3) Collection within this zone is limited to those species that cannot be feasibly collected on upland sites.

FW-55. Beaver populations and dams will be managed to prevent adverse effects to public safety, facilities, private land resources and rare communities.

FW-56. Application of SMZs

- a. Types of streams with SMZs: Streamside Management Zones will be established on both sides of any stream course that meets the following specifications:
 - 1) On all first and/or persistence of order stream courses that exhibit contiguous scour water (i.e. connected springs and seeps).
 - 2) On all second order or higher stream courses.

- b. Measuring SMZs: Minimum SMZ widths vary according to stream order (see Tables below). The SMZ can be extended beyond these minimum widths in response to special considerations.
 - 1) On stream courses that have a distinct bank or edge, the SMZ will start at the bank or edge.
 - 2) For braided streams, the SMZ starts where best professional judgment determines the edge of the outermost braid.
 - 3) On stream courses that do not have a distinct bank or edge (i.e. grass cover), the SMZ will start at the approximate center of the stream course.

Intermittent (order 3), and Perennial (order 4+) Streamside Management Zone (SMZ) Standards:

Table 2.5: Bankhead, Conecuh, Talladega, and Tuskegee National Forests SMZ Minimum Widths For Intermittent (order 3) and Perennial (order 4 and higher) Streams.

Stream Order	Reserved Section (feet)	Special Section (feet)	Total (feet)
3	25	0	25
4	35	0	35

FW-57. Ephemeral (order 1 and order 2) Streamside Management Zone Standards:

Table 2.5a. Bankhead, Talladega, and Tuskegee National Forests SMZ Minimum Widths For Ephemeral (order 1 scoured and order 2) Streams.

Stream Order	Reserved Section (feet)	Special Section (feet)	Total (feet)
1	0	35	35
2	15	20	35

Table 2.5b. Conecuh National Forest SMZ Minimum Widths For Ephemeral (order 1 scoured and 2) Streams.

Stream Order	Reserved Section (feet)	Special Section (feet)	Total (feet)
1	0	35	35
2	0	35	35

Vegetation

FW-58. Removal of dominant, co-dominant, intermediate or suppressed trees is not permitted in the RESERVED section. Cut and leave or cut and removal of vegetation within the 25 foot and or the 35 foot no cut zones can occur if Forest Biologists and Hydrologists determine that desired future conditions are met.

FW-59. The only timber harvest method allowed in the SPECIAL section is the singletree selection if minimum basal area of 50 is maintained. Cut and leave or cut and removal of vegetation within the 25 foot and or the 35 foot no cut zones can occur if Forest Biologists and Hydrologists determine that desired future conditions are met.

- FW-60.** Cutting and/or removal of trees for the purpose of controlling insects and disease, managing TES and other species recognized as locally rare by the Forest Service, hiking trail development and maintenance, designated road and trail crossings, special uses, and for safety needs is permitted in both the SPECIAL sections. Even-aged or uneven-aged silvicultural methods may be utilized to accomplish the above purpose as long as compatible with achieving or maintaining desired future conditions.
- FW-61.** Specialized equipment will be permitted within an SMZ. Specialized equipment refers to equipment specially designed to operate on sensitive soils (i.e. wet soils, highly erodible soils). Determination of soil conditions may require assistance of Forest Watershed personnel.
- FW-62.** Mechanical equipment is not allowed in any scoured stream channel except to cross at designated points.
- FW-63.** Remove treetops and logging debris dropped into a stream course or water body unless intended for fisheries habitat improvements and attainment of aquatic desired conditions.
- FW-64.** All sources of mineral soil exposure will not exceed 10% within the SMZ except for hiking trails, fire lines, and designated crossings where mineral soil exposure will be kept to the minimum necessary to meet management objectives and maintain desired future conditions.
- FW-65.** Temporary roads, skid trails, and plow lines are not permitted in an SMZ except at designated crossings.
- FW-66.** Temporary roads will cross stream banks only on bridges or low water fords. Fords may be used only when stable channel conditions exist and downstream beneficial uses are not jeopardized.
- FW-67.** Ruts that are greater than 15 feet or that connect to a stream bank where water can flow into a stream will be smoothed to restore hydrology when conditions exist that does not result in further rutting.
- FW-68.** Log landings will be located outside of SMZs.
- FW-69.** All equipment used for harvesting operations, hauling operations or other work involving mechanical equipment will be serviced outside of the riparian corridor and SMZs.

Chemicals

- FW-70.** Aerial or ground applied treatments of pesticides will not be allowed in the riparian corridor/SMZ. Cut surface treatments of pesticides are allowed. All chemical use will follow the standards specified in the Vegetation Management EIS.

FW-71. Application of fertilizer is not allowed in the riparian corridor/SMZ except for aiding in the establishment of vegetation to control non-point sources (NPS) of pollution, or for fisheries habitat improvements on lakes or ponds. Fertilization for fisheries habitat improvement must have prior approval of Forest Hydrologist and Forest Biologists.

Prescribed Fire

FW-72. Plowed fire lines, outside riparian corridors, must stop within 10 feet of any scoured or wet channel, outermost channel braid, or best professional judgment of the edge of a channel. The remaining 10 feet between the plowed fire line and the channel bank can be any type of fire line that does not exceed the disturbance of a hand line firebreak. All fire line disturbances must be stabilized to prevent off site soil movement into stream channels immediately after plowing.

FW-73. Wildfire suppression should minimize rutting to the best extent possible and soil disturbance near open water. Rehabilitation of disturbances should be performed as soon as possible to reduce off site soil movement and meet future desired conditions.

The following standards apply to Un-scoured Ephemeral (order 1 and order 2) Streamside Management Zone

Unscoured ephemeral channels are typically first order stream courses that do not show evidence of contiguous sections of scour or the persistence of water (i.e. connected springs, seeps, etc).

FW-74. Aerial or ground applied treatments of pesticides or mechanical site preparation are not permitted within 15 feet, of each side, of the approximate center of an un-scoured drain. Cut-surface treatments of pesticides are permitted. All chemical use will follow the standards specified in the Vegetation Management EIS.

FW-75. Fertilizer is not permitted in the drain except for aiding the establishment of vegetation to control NPSs of pollution.

FW-76. Ground disturbing activities (such as skid trails, log landings, firelines) are not permitted in the drain except for the construction of a crossing. All crossings will be stabilized immediately after use. The number of crossings will be limited to the minimum necessary to accomplish management objectives and maintain future desired conditions.

Additional riparian standards and streamside management zone standards are listed in chapter three within the Riparian Corridor Prescription description.

Threatened, Endangered and Sensitive Species

The National Forests in Alabama contain habitat that supports 54 federally listed, 178 Regional Forester's sensitive, and numerous locally rare plant and animal species. The Forest coordinates closely with the U.S. Fish and Wildlife Service to avoid negative effects and to assist with recovery of federally listed species. Sensitive species have range-wide viability concerns and are designated by the Regional Forester, with the goal of not having them become federally listed. Locally rare species are species that each Forest designates due to concerns about losing representation of that species on the Forest, even though they are secure range-wide. All the lists can and often do change over time as species are added or removed.

Goals and Objectives:

GOAL 11 Substantially contribute to the recovery of federally listed threatened and endangered species, and provide for the conservation of sensitive species so as to minimize the need for additional federal listings under the Endangered Species Act.

OBJECTIVES

- 11.1** Actively participate in the writing and implementation of recovery plans, habitat management plans, and conservation plans. Seek opportunities to expand or re-introduce threatened, endangered and sensitive species.
- 11.2** In cooperation with partners, conduct surveys of species and habitats to determine baseline and desired conditions during this planning period.
- 11.3** Develop and annually review an aquatic conservation strategy based on fifth-level HUCs. Utilize the conservation strategy to focus resources and foster cooperative efforts on those areas that will aid in the recovery of aquatic T&E species.
- 11.4** The following objectives are established to contribute to recovery of threatened, endangered, and candidate plants over the life of the Forest Plan. Forest-wide inventories for these species will be continued to document new or additional occurrences.

Table 2.6 Management Objectives for Recovery of Threatened, Endangered, and Candidate Plants

Common Name	Scientific Name	Current Number of Populations/ Occurrences	Desired Minimum Population Size (where applicable)	Management Objective*
Georgia aster	<i>Aster georgianus</i>	3	250 plants	1,2,3
White-fringeless orchid	<i>Plantathera integrilabia</i>	7	250 plants	1,2,3
Green pitcher plant	<i>Sarracenia oreophila</i>	0	200 clones or individual plants	3,4
Tennessee yellow-eyed grass	<i>Xyris tennesseensis</i>	0	100 plants	3,4
Georgia rockcress	<i>Arabis Georgiana</i>	1	100 plants	4
Alabama leather flower	<i>Clematis socialis</i>	0	100 plants	4
Leafy prairie clover	<i>Dalea foliosa</i>	0	200 plants	3,4
Eggert's sunflower	<i>Helianthus eggertii</i>	0	150 plants	3,4
Fleshyfruit gladecress	<i>Leavenworthia crassa</i>	0	250 plants	3,4
Lyrate bladderpod	<i>Lesquerella lyrata</i>	0	250 plants	3,4
Mohr's Barbara's buttons	<i>Marshallia mohrii</i>	0	50 plants	?
Harperella	<i>Ptilimnium nodosum</i>	0	500 stems	3,4
Kral's water-plantain	<i>Sagittaria secundifolia</i>	3	50 clones or plants	1,2,3
Alabama canebrake pitcherplant	<i>Sarracenia rubra</i> var. <i>alabamensis</i>	0	100 clones or plants	2,3,4
Alabama streak-sorus fern	<i>Thelypteris pilosa</i> var. <i>alabamensis</i>	15	500 gametophytes or individual plants	1,2,3

- * 1 = Maintain current number of populations/occurrences through protection and maintenance of existing sites.
 2 = Increase number of populations/occurrences by improving and/or increasing available habitat and relying on natural recruitment rather than reintroduction and propagation.
 3 = Increase number of populations/occurrences with the assistance of reintroduction and propagation efforts.
 4 = Species is not currently documented from the forest; efforts to document presence will continue.

Standards

- FW-77.** Protection zones are delineated and maintained around all bald eagle nest and communal roost sites, until they are determined to be no longer suitable through coordination with the US Fish and Wildlife Service. The protection zone extends a minimum of 1500 feet from the nest or roost. Activities that modify the forest canopy within this zone are prohibited. All management activities not associated with bald eagle management and monitoring are prohibited within this zone during periods of use (nesting season is October 1 to June 15; roost use periods are determined through site-specific monitoring). Where controlled by the Forest Service, public access routes into or through this zone are closed during the seasons of use, unless they are major arterial roads.
- FW-78.** Permits for collection of Regional Forester's sensitive species are not issued, except for approved scientific purposes.
- FW-79.** Invasive non-native species are controlled, with priority given to areas where they are causing adverse effects to federally listed species or Regional Forester's sensitive species. Invasive non-native species are not intentionally introduced near these species.
- FW-80.** No herbicide is aerially applied within 300 feet of any known threatened, endangered, proposed, or sensitive plant. Buffers are clearly marked before treatment so applicators can easily see and avoid them.

Red-cockaded Woodpecker Management Needs

In 1995 the Regional Red-cockaded Woodpecker ROD provided direction to National Forests in the Southern Region with woodpecker populations and Habitat Management Areas to recover Red-cockaded Woodpeckers through management. In January of 2003, the Revised Recovery Plan for the red-cockaded woodpecker was released. The NFsAL revised Forest Plan incorporates these two sources to maximize red-cockaded woodpecker opportunities within existing NFsAL conditions, current political management realities, and Forest Plan land allocation decisions.

- GOAL 12** Contribute to the conservation and recovery of the red-cockaded woodpecker (*Picoides borealis*), a federally listed, endangered species through the implementation of forest and population management practices described in the Revised Recovery Plan and RCW ROD.

OBJECTIVES

- 12.1** Manage forests to provide a minimum of 120 acres of "good quality foraging habitat," as defined in the Revised Recovery Plan, for each active and recruitment cluster. Good quality foraging habitat includes tree canopies of approximately 40-60 ft² average BA, groundcovers that are

generally \geq 40% herbaceous, pyrophytic plants, and no mid-story hardwoods over 7' tall.

- 12.2** Prescribe burn within RCW HMA using both dormant and growing season burns. Average annual fire return interval should be 1-5 years in suitable habitats.
- 12.3** Manage forest successional stages to maintain a minimum of 50 percent of forested acres in mid to late successional forest, including old growth; a minimum of 20 percent of forested acres in late-successional or old growth forest; and 4 to 10 percent in early-successional forest. Within the pine and pine-hardwood component, manage forest successional stages to maintain a minimum of 83 percent in mid to late successional forest and old growth (> than 20 years old); a minimum of 50 percent of forested acres in late successional or old growth forest (> 60 years); and 4 to 8.6 percent in early successional forest (\leq 10 years old).
- 12.4** Management prescriptions for support populations on public lands will be the same as those applied in core populations. Managers should increase their populations to the maximum the habitat base will support, using the level of monitoring recommended based on population size and the recovery standard for foraging habitat. Manage for the red-cockaded woodpecker populations as shown in Table 2.7 below.

Table 2.7 RCW Population Objectives

RCW HMA	2002 Active Clusters	Short-Term Population Objective	Long-Term Population Objective	Recovery Designation
Shoal Creek	8	18	125	Essential Support
Talladega	0	10	110	Essential Support
Oakmulgee	120	185	394	Secondary Core
Conecuh	19	28	309	Secondary Core

Standards

- FW-81.** Permits for collection of Regional Foresters sensitive species are not issued, except for approved scientific purposes.
- FW-82.** Invasive non-native species are controlled, with priority given to areas where they are causing adverse effects to federally listed species or Regional Forester's sensitive species. Invasive non-native species are not intentionally introduced near these species.
- FW-83.** No herbicide is aerially applied within 300 feet of any known threatened, endangered, proposed, or sensitive plant. Buffers are clearly marked before treatment so applicators can easily see and avoid them.
- Red-cockaded woodpeckers** – The following standards apply only to the Conecuh (MA 2), Oakmulgee Division (MA 3), and Talladega Division (MA 4).
- FW-84.** Populations required for recovery are to be increasing at rates of 5 to 10 percent a year or more. (Rates of increase are calculated by averaging the annual percent change over 5 years.)
- FW-85.** Monitor populations according to the HMA's population size, role in recovery, and management objective, as outlined in the Revised Recovery Plan.
- FW-86.** Meet the *Recovery Standard* in the provision of foraging by managing forests to provide a minimum of 120 acres of "good quality foraging habitat," as defined in the Revised Recovery Plan, for each active and recruitment cluster.
- FW-87.** Use two-aged, uneven-aged, or low intensity management practices to manage for RCW habitat, where native pine (not off-site pine species) forests are present.
- FW-88.** Where two-aged regeneration methods are used, then rotation intervals of 120 years for longleaf and shortleaf pines, and 100 years for loblolly, slash, and pond pines are minimum.
- FW-89.** Inside RCW sub-HMAs, limit regeneration areas in Pine and Pine-Hardwood stands to 25 acres in size.
- FW-90.** Limit restoration areas in off-site pine and pine-hardwood stands to 80 acres in size.
- FW-91.** Retain trees of highest importance to RCWs (very old, flat-topped, potential cavity trees, and scarred old pines) regardless of silvicultural system employed
- FW-92.** Where uneven-aged management is used to manage RCW habitat, 20 or more trees per acre of pines at least 14" dbh and 60 years of age are retained within foraging habitat.

FW-93. Where uneven-aged management is used to manage RCW habitat, in active and recruitment clusters retain 5 or more trees per acre of pines at least 120 years of age for longleaf and shortleaf pine, or 100 years of age for loblolly, slash, or pond pine.

Indiana Bat Management Needs

The following standards are intended to protect Indiana bats. These standards only apply to known occupied Indiana bat range, which currently is the Bankhead Management Area.

FW-94. Watershed boundaries are used to identify primary cave protection zones that extend approximately 0.5 miles surrounding Indiana bat hibernacula, and secondary cave protection zones that extend approximately 1-1/2 miles surrounding the primary zone (2 miles total). Management activities within these zones are coordinated with U.S. Fish and Wildlife Service to determine their compatibility with Indiana bat recovery.

FW-95. Within the secondary cave protection zone, a minimum of 60 percent of all forested acreage is maintained at greater than 70 years old, and a minimum of 40 percent of forest types with significant oak and hickory components is maintained at greater than 80 years old. The 0-10 age class does not exceed 10 percent of the forested acreage of the secondary buffer at any time.

FW-96. Trees known to have been used as roosts by Indiana bats are protected from cutting and/or modification until they are no longer suitable as roost trees, unless their cutting or modification is needed to protect public or employee safety. Where roost tree cutting or modification is deemed necessary, it occurs only after consultation with the US Fish and Wildlife Service.

FW-97. Snags are not intentionally felled unless needed to provide for immediate safety of the public, employees, or contractors. Exceptions may be made for projects such as insect and disease control, salvage harvesting, and facility construction, after coordination with the US Fish and Wildlife Service to determine appropriate protective measures for the Indiana bat.

FW-98. No snags or shagbark hickory greater than 6 inches DBH will be cut for fuel wood.

FW-99. During routine salvage harvesting (non-catastrophic events), an average of 6 of the largest suitable snags (snags with exfoliating bark) per acre will be left. All shagbark hickories greater than 6 inches DBH will be left. Salvage harvesting can occur at any season as long as site-specific inventories indicate Indiana bats are not likely to be present. Inventories are good only for the year they are performed. Salvage harvesting can occur between November 15 and April 15 without a site-specific inventory and additional coordination with FWS is not required.

- FW-100.** Gates or structures that allow for entrance and egress by bats are constructed and maintained at entrances of caves and abandoned mines occupied by significant populations of bats to reduce frequency and degree of human intrusion. Forest Supervisor Closure Orders are acceptable as long as monitoring indicates the Orders are effective. If Orders are ineffective, appropriate physical structures must be constructed. Camping and fire-building at the entrance to caves, abandoned mines, and rock shelters used by these species is prohibited. To discourage human disturbance at these caves, nonessential public access routes within 0.25 miles of cave entrances are closed during periods when bats are present. Human access to caves for educational and recreational use may be allowed during periods when bats are not present. If damage to caves occurs as a result of human use, the caves may be closed to human uses. Access for activities such as surveys and scientific study during times when bats are present is determined on a case-by-case basis.
- FW-101.** When implementing two-aged forest regeneration methods (seedtree with reserves or shelterwood with reserves) in hardwood-dominated forest types, a minimum of 20 square feet of basal area will be retained. The overwood will not be removed. All snags and shagbark hickory over 6 inches DBH will be retained except those that are immediate hazards. All trees are retained within 20 feet of a minimum average of 5 snags per acre to provide potential Indiana bat roost trees with shade and windthrow protection. Where a minimum average of 5 snags per acre is not present, they will be created from the larger diameter classes within the stand. Snags selected for shade tree retention are those most suitable for use by Indiana bats, i.e., hardwood snags of the largest size classes with exfoliating bark.
- FW-102.** When implementing clearcut two-aged forest regeneration methods in hardwood-dominated forest types, a minimum average of 15 square feet of basal area per acre is retained throughout the rotation. Residual basal area should be clumped or left in travel corridors. All snags and shagbark hickory over 6 inches DBH are retained except those that are immediate hazards. If additional trees are needed to meet the basal area requirements, priority should be given to trees that exhibit characteristics favored by roosting Indiana bats. Snags do not count toward the basal area. In regeneration areas less than 10 acres in size, no residual basal area is required for retention. However, all snags will be retained unless they are immediate hazards. Shagbark hickory greater than 6 inches DBH is retained in regeneration areas less than 10 acres in size.
- FW-103.** During all silvicultural treatments in hardwood forest types, retention priority is given to the largest available trees that exhibit characteristics favored by roosting Indiana bats.
- FW-104.** Provide upland water sources approximately every 0.5 miles, to provide an important habitat element for wildlife, including the endangered Indiana bat. Water sources are comprised of both permanent ponds and ephemeral pools and are often located in openings or near road corridors that allow access by bats.

FW-105. To avoid harassment of swarming Indiana bats, tree-cutting and prescribed burning are prohibited between September 1 and December 1 within the primary and secondary zones of hibernacula.

FW-106. To avoid injury to nonvolant young Indiana bats, prescribed burning of potential maternity roosting habitat between May 1 and July 1 is prohibited except where site-specific inventories indicate Indiana bats are not likely to be present.

Rare Communities

There are a variety of rare communities found on the National Forests in Alabama.

Rare wetland communities in the Southern Appalachians, Cumberland Plateau, Piedmont, and Coastal Plain include bogs, fens, seeps, swamps, ponds, pond margins, wet prairies, bayheads and baygalls, river gravel-cobble bars, and river scour areas. Bogs, fens, seeps, and ponds are characterized by 1) soils that are semi-permanently to permanently saturated as a result of groundwater seepage, perched water tables, rainfall, or beaver activity, but otherwise are generally nonalluvial, and 2) presence of wetland-associated species such as sphagnum, ferns, and sedges. Dominant vegetation may be herbs, shrubs, trees, or some complex of the three. Wetland rare communities found on the National Forests in Alabama include but may not be limited to: Appalachian swamp forest/bog complex, Appalachian bogs, fens, wet prairie, upland seasonal ponds, forested acid seeps, beaver ponds and wetland complex, Atlantic white cedar swamp, alluvial ponds, coastal plain ponds and pond margins, coastal plain baygalls and bayheads, coastal plain seepage bogs, karst-sinkholes, small stream forests. Riverine rare communities are characterized by 1) sites adjacent to or within stream channels that are exposed to periodic flooding and scour, and 2) presence of significant populations or associations of species at risk. These communities may be found in both Appalachian and Piedmont regions and include River Gravel-Cobble Bars, and river scours. Ponds in this group include limesink, karst, and depression ponds, which may hold areas of shallow open water for significant portions of the year. Also included are all impoundments and associated wetlands resulting from beaver activity.

Glades and barrens are characterized by thin soils and exposed parent material that result in localized complexes of bare soils and rock, herbaceous and/or shrubby vegetation, and thin, often stunted woods. During wet periods they may include scattered shallow pools or areas of seepage. Glades, barrens, and associated woodlands differ from rock outcrop communities by exhibiting soils and vegetative cover over the majority of the site, and differ from the more widespread woodland communities in that they occur on geologic substrates that are rare for the region, including limestone, dolomite, amphibolite, greenstone, mafic rock, serpentine, sandstone, or shale. Associated communities include Calcareous Woodlands and Glades, Mafic Woodlands and Glades, Serpentine Woodlands and Glades, and Shale Barrens as defined in the Southern Appalachian Assessment (SAMAB 1996: Appendix C). At a minimum, this rare community complex includes rare associations including but not limited to Limestone or dolomite woodlands and glades, serpentine woodlands and glades, shale glades and barrens,

mafic glades and barrens, grassy pine glades and prairies. Complexes of woodlands, savannas, and grasslands were once a frequent occurrence across the southeastern landscape, maintained with frequent fire on xeric ridge-tops and south-facing slopes (DeSelm and Murdock, 1993; Davis et al., 2002). Woodlands are open stands of trees, generally forming 25 to 60 percent canopy closure (Grossman et al. 1998:21) and may be of pine, hardwood (typically oak), or mixed composition. Savannas are usually defined as having lower tree densities than woodlands; grasslands are mostly devoid of trees. All of these conditions typically occurred in mixed mosaics within a fire-maintained landscape. In all cases, a well-developed grassy or herbaceous understory is present.

Forested rare communities on the National Forests in Alabama include the low elevation basic mesic forests, forested canebrakes and sandhills. The low-elevation basic mesic forest communities are characterized by complex multi-storied canopies of deciduous trees, and rich and diverse understories of calciphilic herbs, underlain by high-base geologic substrates. On moderate elevation sites, these communities are typically found in protected coves, and can be distinguished from more acidic mesic cove forests by the abundance of species such as white basswood (*Tilia americana*), yellow buckeye (*Aesculus flava*), black walnut (*Juglans nigra*), faded trillium (*Trillium discolor*), sweet white trillium (*Trillium simile*), black cohosh (*Cimicifuga racemosa*), blue cohosh (*Caulophyllum thalictroides*), whorled horsebalm (*Collinsonia verticillata*), mock orange (*Philadelphus inodorus*), sweet shrub (*Calycanthus floridus*), sweet cicely (*Ozmorhiza* spp.), doll's eyes (*Actaea racemosa*), maidenhair fern (*Adiantum pedatum*), and plantain-leaved sedge (*Carex plantaginea*). An oak-dominated variant of moderate to high elevation basic mesic forest occurs over limestone on upper to mid slopes of the Interior Plateau of Tennessee, the Cumberlands of Alabama, and the Ridge and Valley of Georgia. This basic mesic community is dominated or co-dominated by shumard oak (*Quercus shumardii*) or chinquapin oak (*Quercus muehlenbergii*), in combination with various species of oaks and hickories and either sugar maple (*Acer saccharum*), chalk maple (*Acer leucoderme*), or southern sugar maple (*Acer barbatum*). Typical calciphilic understory species also are present. Basic mesic forest communities are found in the Appalachian, Cumberland Plateau, Coastal Plain and Piedmont regions. Canebrakes are characterized by almost monotypic stands of giant or switch cane (*Arundinaria gigantea* or *A. tecta*), often with no or low densities of overstory tree canopy. They are typically found in bottomlands or stream terraces. The xeric sandhill community occurs in the east gulf coastal plain, where it is restricted to extremely deep sandy soils. It is distinctive for its lack of wiregrass and the extreme edaphic conditions. This association may have sentinel trees of longleaf pine (10-30% canopy) but is dominated by bluejack oak, turkey oak, sand post oak and sand live oak. The structure is highly variable depending on interval, seasonality and intensity of fires, resulting in a range from shrubs to small trees sparsely arranged. Hawthorn and gopher apple are typically present, while little bluestem and several endemic herbs may comprise the herbaceous understory. Xeric sandhills can be distinguished from surrounding forests and woodlands by an increase in elevation, extremely deep sandy soils, low overstory density, and the small shrubby growth form of oak species.

Steep, rocky, sparsely vegetated slopes, usually above streams or rivers, characterize Cliff and bluff communities. Cliff communities may be dry or wet, and include communities

associated with waterfalls, such as spray cliffs and rock houses. These communities are found in the Appalachian and Cumberland Plateau regions, including the Bankhead, Shoal Creek, and Talladega. These have also been found along the Cahaba directly north of the Oakmulgee. This community includes Calcareous Cliffs, Mafic Cliffs, Sandstone Cliffs, and Spray Cliffs

Significant areas of exposed, usually smooth characterize rock outcrop communities, exfoliating granite, sandstone or calcareous rocks, with scattered vegetation mats and abundant lichens. These communities are found in both the Appalachian, Cumberland Plateau and Piedmont regions and include the Bankhead, Oakmulgee, Shoal Creek and Talladega. This community includes sandstone, granite and limestone outcrops. The cave and mine community types are characterized by natural and human-made openings in the ground that extend beyond the zone of light, creating sites buffered in relation to the outside environment. Included are karst and sinkhole features and sinking streams that lead to subterranean environments. Surfaces of karstlands are directly linked to cave water systems and aquifers (Kastning and Kastning 1990).

Rare communities are assemblages of plants and animals that occupy a small portion of the landscape, but contribute significantly to plant and animal diversity. They generally are characterized by relatively discrete boundaries and occupy a small area in a limited number of occurrences across the landscape. These communities are important to diversity; therefore emphasis needs to be placed on inventory and monitoring, as well as maintenance and restoration of these areas. See Table 2.8 below for a listing by Rare Community Code of Alabama's Rare Communities managed under the 9F Rare Community Prescription.

Table 2.8 Alabama's Rare Communities Managed under Alabama's "9F Rare Community Prescription" (By Unit)

SAA RC Code	SAA FWRBE Team Rare Community Type	Southern Cumberland Plateau (Bankhead)	Ridge and Valley (Tall/SC)	Upper Coastal Plain (Oak/Tusk)	Lower Coastal Plain (Conecuh)	Community Occurrence/ Distribution
1	Appalachian Swamp Forest-Bog Complex	No	Possible	No	No	Discrete
2	Appalachian Bogs (sphagnum and shrub)	Possible	Yes	No	No	Discrete
3	Fens	No	Yes	Yes	No	Discrete
4	Wet Prairie	Possible	No	Yes	Yes	Landscape
5	Upland Seasonal Ponds	Yes	Yes	Yes	Yes	Landscape
6	Appalachian Forested Acid Seeps	Yes	Yes	No	No	Discrete
7	Sandstone Woodlands and Glades	Yes	Yes	Yes	No	Landscape
11	Limestone or Dolomite Woodlands and Glades	Yes	Possible	Yes	Yes	Landscape
12	Serpentine Woodlands and Glades	No	Possible	No	No	Landscape
13	Shale Glades and Barrens	No	Yes	No	No	Landscape
19	Calcareous Cliffs	Yes	No	No	No	Discrete
21	Mafic Cliffs	Possible	Yes	Possible	No	Discrete
22	Sandstone Cliffs	Yes	Yes	Possible	No	Discrete
23	Forested Boulderfields	No	No	No	No	Discrete
24	Talus Slope (non-forested)	No	No	No	No	Discrete
25	Karst/Sinkhole	Yes	Possible	No	Yes	Discrete
26	Atlantic White-cedar Swamp	No	No	No	Possible	Discrete
27	Caves	Yes	Yes	No	Yes	Discrete
28	River Gravel Bar	Yes	Yes	Yes	No	Discrete
30	Mafic Glades and Barrens	No	Yes	No	No	Discrete
31	Springs and Seeps	Yes	Yes	Yes	Yes	Discrete
32	Alluvial Ponds	Yes	Yes	Yes	Yes	Landscape
33	Forested Canebrakes	Yes	Yes	Yes	Yes	Landscape
34	Low Elevation Basic Mesic Forests	Yes	Yes	No	No	Landscape
36	Prairie Grasslands and Woodlands	Yes	Possible	Yes	Possible	Landscape
40	Coastal Plain Ponds, Pond Margins	No	No	Yes	Yes	Discrete
44	Coastal Plain Baygalls and Bayheads	No	No	Yes	Yes	Landscape
45	Coastal Plain Seepage Bogs	No	No	Yes	Yes	Landscape

*Spray Cliffs, Historic Beaver Ponds and Wetland Complex, and Sandstone Rock Houses rare communities are also found on the National Forests in Alabama but will be covered by the Riparian or Canyon Corridor Prescriptions. Forest communities, such as Mountain Longleaf Pine, Xeric Sandhills, Wet Pine Flatwoods, and Pine Savannas and Woodlands, will be covered by the Restoration Prescriptions.

GOAL 13 Protect or restore the composition, structure, and function rare communities found on National Forest land.

OBJECTIVES

13.1 Inventory/map rare communities and identify and prioritize restoration needs.

GOAL 14 Areas with special geological, paleontological, botanical, zoological, cultural, or heritage characteristics will be managed (or where feasible restored) to protect those characteristics.

Standards

(All standards for rare communities, apply Forest-wide and are listed in Management Prescription 9F, Chapter 3.)

Old Growth

The Forest Service has identified old growth as an important issue both internally and with the public. Old-growth forests are ecosystems distinguished by old trees and related structural attributes. Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics which may include tree size, accumulation of large wood material, number of canopy layers, species composition, and ecosystem function.

The age at which old growth develops and the specific structural attributes that characterize old growth will vary widely according to forest type, climate, site conditions and disturbance regime. Old growth in fire-dependent forest types may not differ greatly from young forests in the number of canopy layers or accumulation of downed woody material. However, old growth is typically distinguished from younger growth by several of the following attributes:

- Large trees for the species and site.
- Wide variation in tree sizes and spacing.
- Accumulations of large-sized dead standing and fallen trees that are high relative to earlier stages.
- Decadence in the form of broken or deformed tops or boles and root decay.
- Multiple canopy layers.
- Canopy gaps and understory patchiness.

In June 1997, the Region 8 Old-Growth Team published *Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region (R8-FR 62)*. Descriptions of 16 old-growth forest communities are found in this report. Table 2.9 shows the current possible old growth by community types for the National Forests in Alabama by Management Area. Total possible old growth includes stands over

the minimum age in areas suitable for timber production and all acres in areas unsuitable for timber production.

Table 2.9 Current Possible Old Growth

Community Type – Minimum Age	Suitable over minimum age (acres)	Unsuitable (acres)	Total (acres)
Management Area 1 – Bankhead National Forest			
Cedar Woodland -	-	1,498	1,498
Conifer Northern Hardwood – 140	0	1,223	1,223
Dry Mesic Oak – 130	37	25,375	25,412
Mixed Mesophytic – 140	0	9,070	9,070
Dry and Dry Mesic Oak Pine – 100	2,503	29,320	31,823
River Flood Plain – 100	134	3,948	4,082
Upland Longleaf - 110	0	206	206
Xeric Pine and pine oak - 100	918	7,070	7,988
Total	3592	77,710	81,302

Management Area 2 - Conecuh National Forest			
Coastal Plain Upland Hardwood – 120	0	388	388
Cypress Tupelo – 120	0	78	78
Dry Xeric Oak – 90	0	76	76
Dry and Dry Mesic Oak Pine – 100	18	925	943
River Flood Plain – 100	6	13,715	13,721
Upland Longleaf and south Florida slash pine – 110	0	8,612	8,612
Wet pine – 80	0	6,300	6,300
Xeric Pine – 100	0	40	40
Total	24	30,134	30,158

Management Area 3 – Talladega NF Oakmulgee Division			
Cypress Tupelo – 12	0	4,421	4,421
Dry Mesic Oak – 130	0	5,862	5,862
Mixed Mesophytic Hardwood – 140	0	1,484	1,484
Dry and Dry Mesic Oak Pine – 100	425	13,568	13,993
River Flood Plain – 100	24	10,380	10,404
Upland Longleaf - 110	100	13,181	13,281
Total	552	48,899	49,451

Community Type – Minimum Age	Suitable over minimum age (acres)	Unsuitable (acres)	Total (acres)
Management Area 4 – Talladega NF Talladega Division			
Dry Mesic Oak – 130	365	31,815	32,180
Mixed Mesophytic Hardwood – 140	27	5,507	5,534
Mountain Longleaf – 110	530	14,765	15,295
Dry and Dry Mesic Oak Pine – 100	1,156	21,271	22,427
River Flood Plain – 100	255	1,562	1,817
Xeric Pine and pine oak – 100	1,014	22,310	23,324
Total	3,351	97,234	100,585

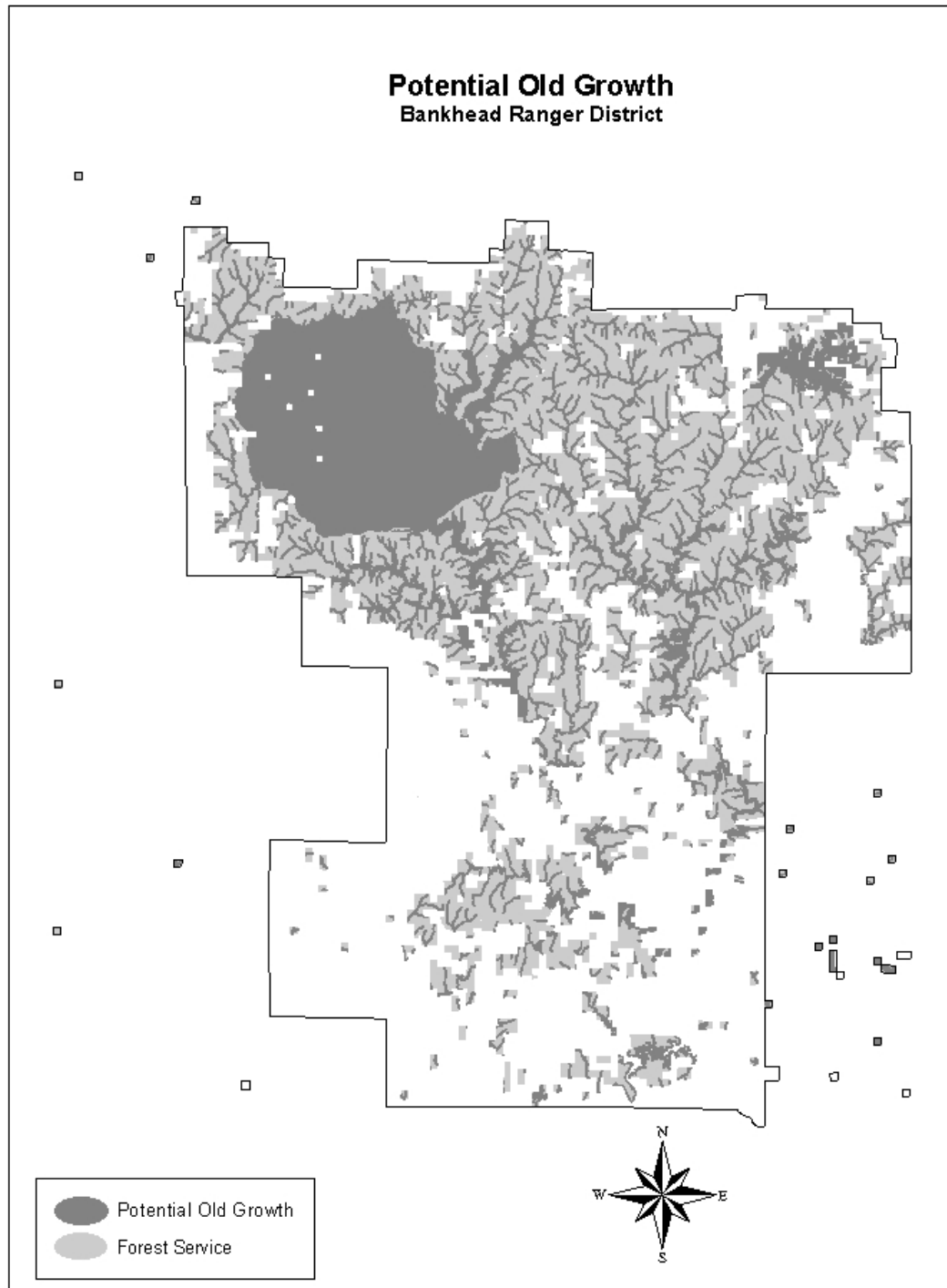
Management Area 5 - Tuskegee National Forest			
Coastal Plain Upland Hardwood – 120	0	25	25
Dry and Dry Mesic Oak Pine – 100	104	376	480
River Flood Plain – 100	105	1,777	1,882
Upland Longleaf and south Florida slash pine – 110	19	227	246
Wet pine – 80	0	98	98
Total	228	2,503	2,731

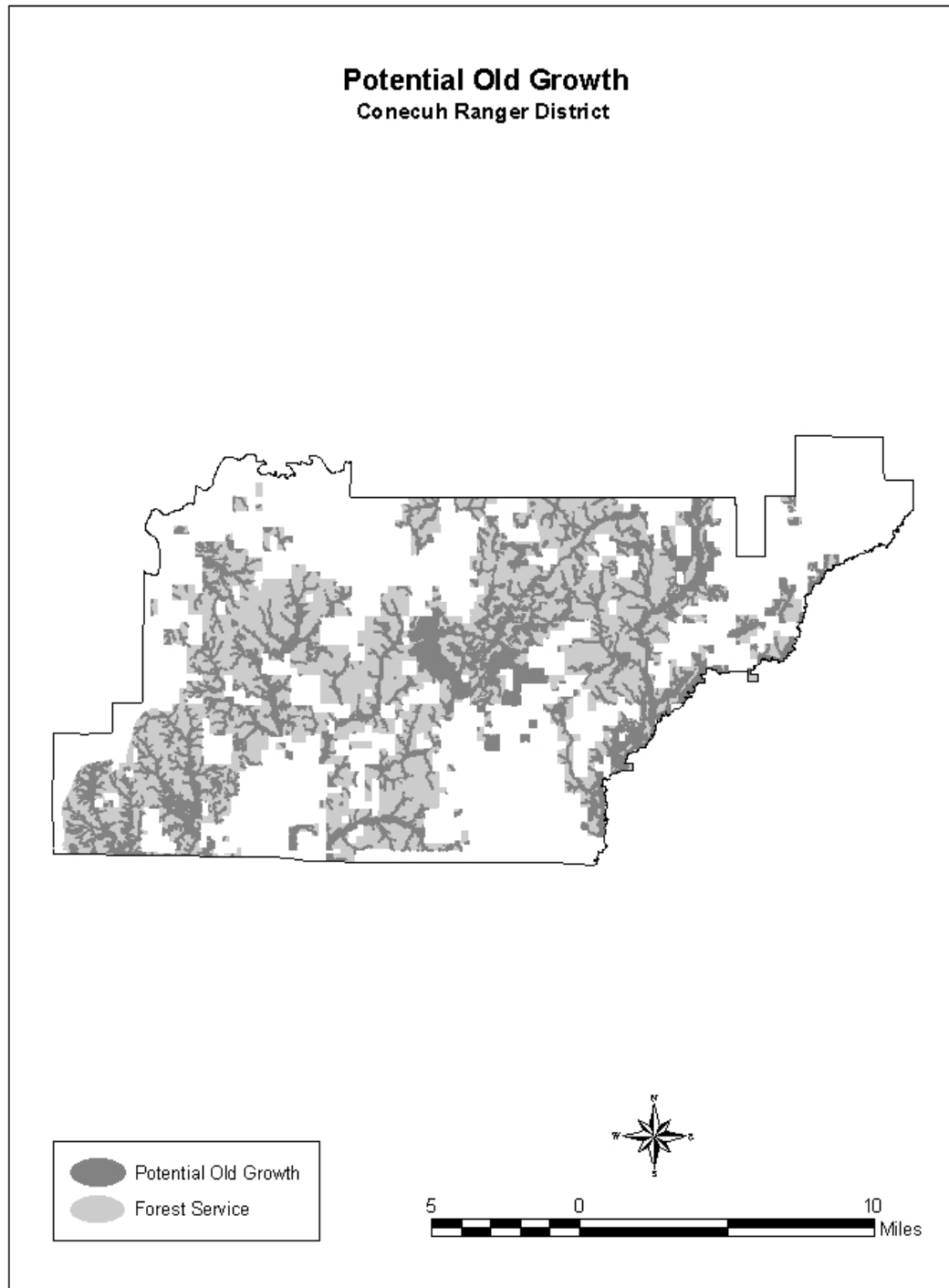
Approximately 7.7 thousand acres of land suitable for timber production meet the minimum age requirement, and approximately 214.8 thousand acres of land unsuitable for timber production provide potential old growth. In addition to the acres described above, a portion of the acres designated for Red-cockaded woodpecker management will provide old growth characteristics. The pine and pine-hardwood stands within RCW habitat management areas in Management Areas 2, 3, and 4 are managed on a 120 to 170 -year rotation.

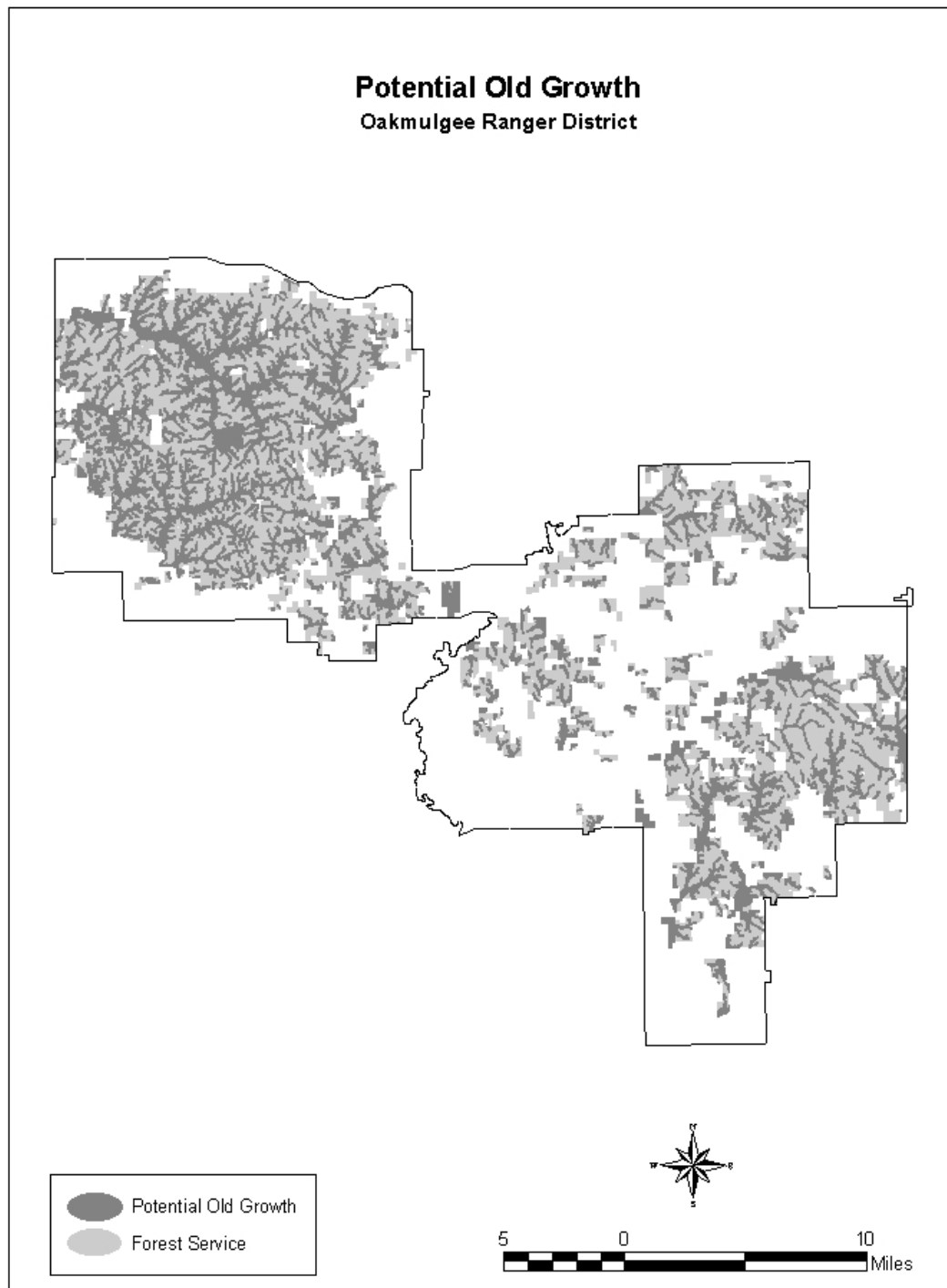
GOAL 15 A variety of large, medium, and small old growth patches will be managed (through restoration, protection, or maintenance activities) to meet biological and social needs. These patches could include stands of either "existing old growth" or "future old growth".

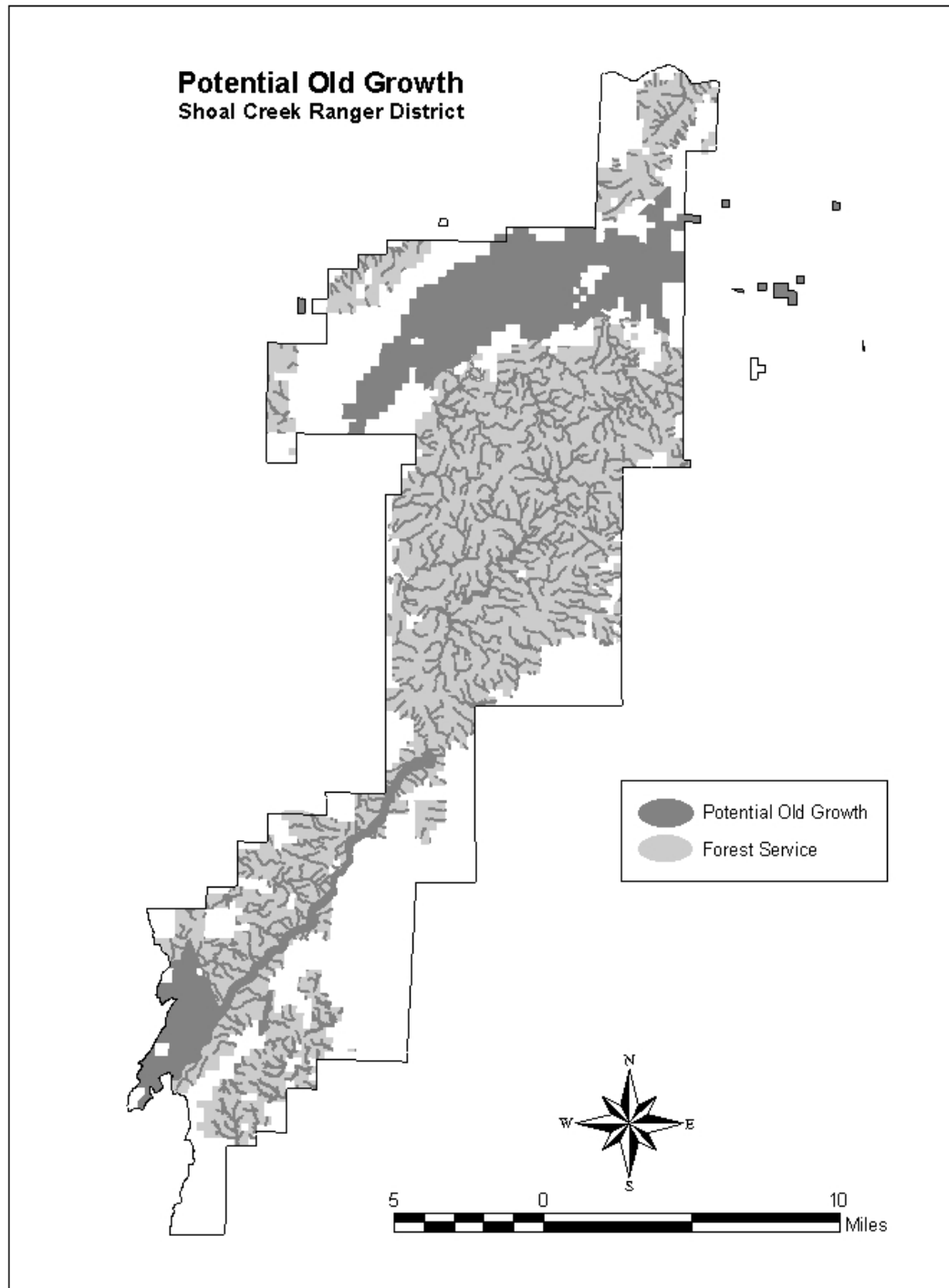
OBJECTIVES

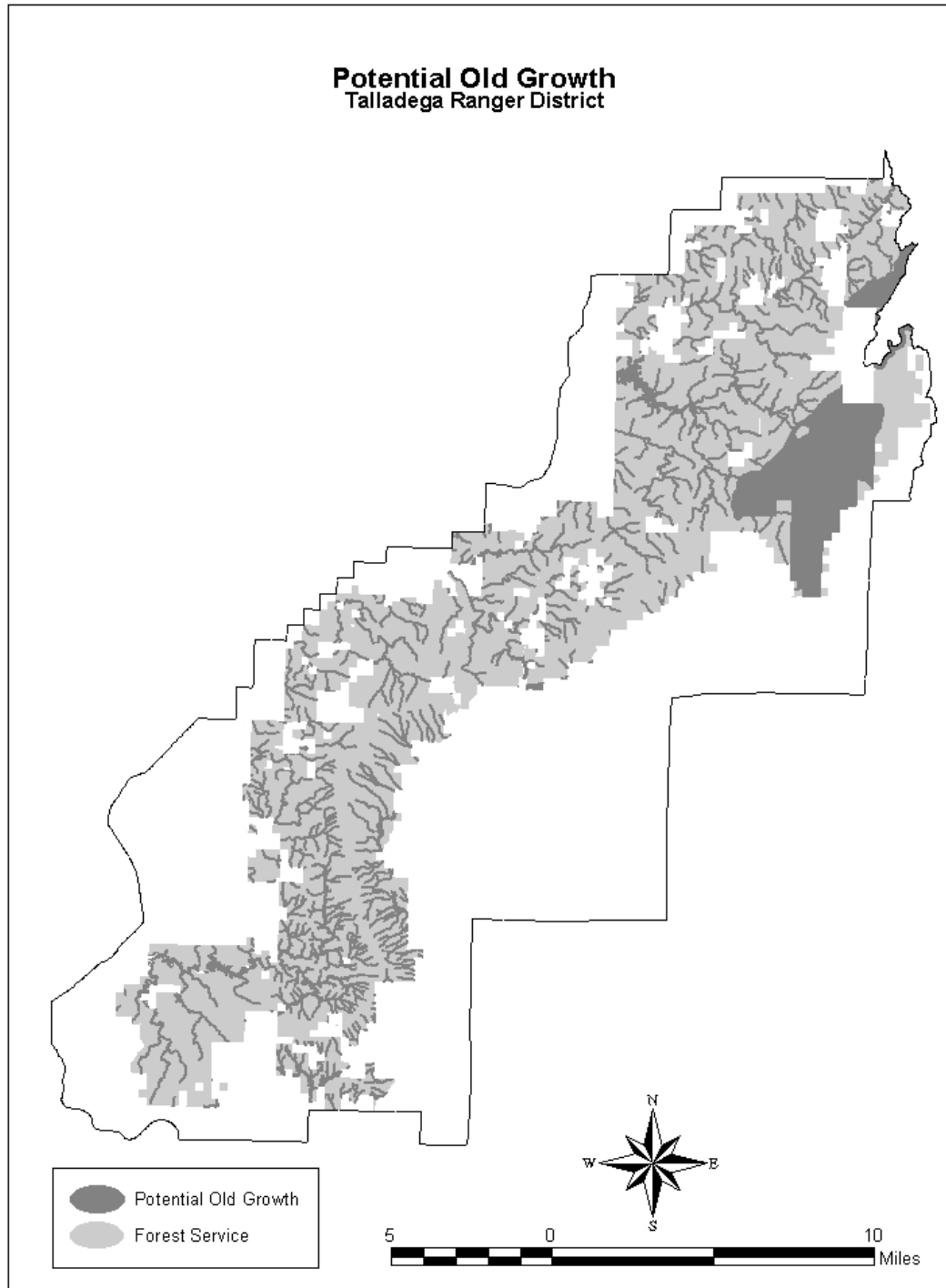
15.1 Complete field verification of possible existing old growth areas in our current inventory, and map small and medium patches.

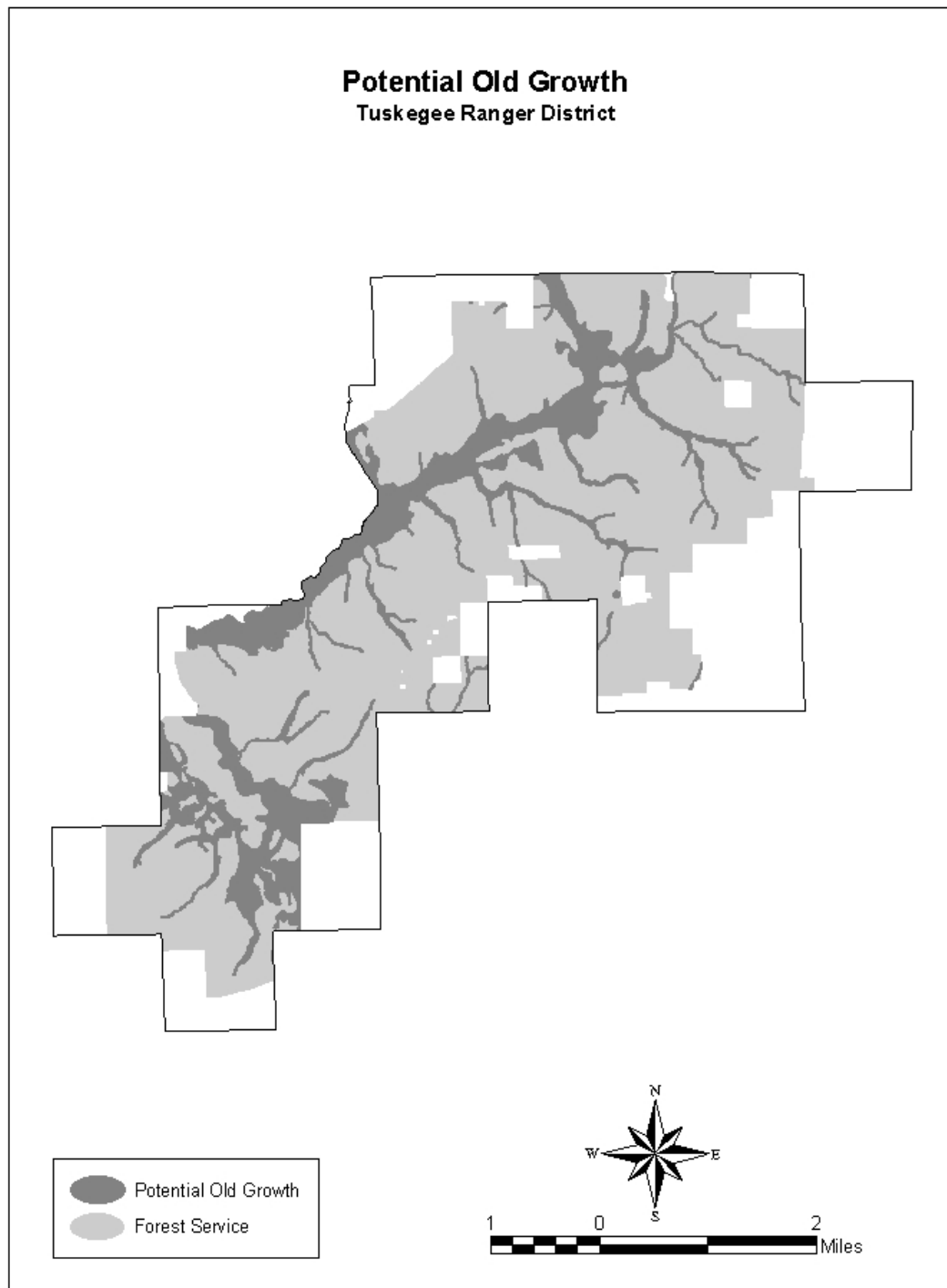












Terrestrial Plant and Animal Communities

Native and desirable non-native wildlife species occupy an extremely wide array of habitats across the diverse landscapes of Alabama. Some species depend on early successional forests, while others depend on late successional forests. Some depend on mixed landscapes, while others specialize in large, homogenous blocks of habitat. In attempting to provide adequate habitat for such diverse assemblages of animals and plants, many, sometimes contradictory, objectives develop. Prioritization of both the species and the habitats is necessary to develop management priorities. Such a prioritization of federally listed species, regional forester's sensitive species, and other locally important species and their important or limiting habitats lead, in part, to the restoration objectives listed under the Restoration and Health of Forest Ecosystems section, Chapter 2. The table listed below that section (Table 2-1) shows the current distribution of major habitat groups on National Forests in Alabama management units. The table also shows the relationship of those habitat groups to the community types described in the *Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region (R8-FR 62, USDA 1997)* and the corresponding CISC (Continuous Inventory of Stand Conditions, US Forest Service inventory method) forest type for each major habitat group. Studying this table revealed certain habitat niches in need of restoration or expansion in order to promote native, and desired non-native animals and plants. Management indicator species (MIS) are to be selected "because their population changes are believed to indicate the effects of management activities" (36 CFR 219 (a)(1)). They are to be used during planning to help compare effects of alternatives (36 CFR 219.19(a)(2)), and as a focus for monitoring (36 CFR 219.19(a)(6)). Twelve species were selected as management indicator species for the revised Forest Plan (Table 2-10). The MIS process is but one tool used to develop management strategies and monitoring programs designed to meet NFMA requirements related to diversity of plant and animal communities. Other elements used for comprehensive planning for plant and animal diversity include: objectives and standards for maintenance and restoration of desired ecological conditions based on knowledge of overall ecosystem structure and function; biological evaluations and assessments at both the forest plan and site-specific project levels; and evaluation of risk to species of viability concern at the forest plan level. The following goals, objectives, and standards are designed to protect, restore, maintain, and enhance wildlife and plant populations and communities while restoring native ecosystems.

Table 2-10. Management Indicator Species selected for use in the revised Forest Plan and primary reason(s) for their selection, National Forests in Alabama.

Common Name	Reason for Selection & Applicable Management Unit	Related Objectives
Red-cockaded Woodpecker	To help indicate management effects to mid- and late-successional pine and pine-oak forest. Applicable to Talladega and Conecuh National Forests.	1.1, 1.2, 1.4, 1.5, 12.1, 12.2, 12.3, 12.4, 16.1, 18.1
Pileated woodpecker	To help indicate management effects to snag dependent wildlife species. Applicable to all NFAL management units.	16.2

Wood thrush	To help indicate management effects on wildlife species dependent upon mature forest interior conditions. Applicable to all NFAL management units.	16.2, 16.4, 16.5, 16.6
Acadian flycatcher	To help indicate management effects within mature riparian forest community. Applicable to all NFAL management units.	9.1, 16.2, 16.4
Swainson's warbler	To help indicate management effects within the early successional riparian forest community. Applicable to all NFAL management units.	8.2, 9.1, 16.4
White-tailed deer	To help indicate management effects on meeting hunting demand for this species. Applicable to all NFAL management units.	1.1, 1.2, 1.3, 16.3
Eastern wild turkey	To help indicate management effects on meeting hunting demand for this species. Applicable to all NFAL management units.	1.3, 1.2, 1.3, 16.3
Northern bobwhite quail	To help indicate management effects on meeting hunting demand for this species. Applicable to all NFAL management units.	1.1, 1.2, 1.3, 1.4, 1.5, 16.1, 18.1
Hooded warbler	To help indicate management effects on mesic deciduous forest and mesic oak and oak-pine forest communities Applicable to all NFAL management units..	16.2, 16.4
Scarlet tanager	To help indicate management effects on xeric oak and oak-pine forest communities. Applicable to Bankhead NF and Talladega Division.	1.3, 16.3, 16.4
Brown-headed nuthatch	To help indicate management effects on the pine and pine-oak forest community. Applicable to Bankhead and Tuskegee National Forests.	1.1, 1.2, 1.3, 1.4, 1.5, 16.1
Prairie Warbler	To help indicate management effects on creating and maintaining early successional forest (low elevation) communities and other early successional habitats. Applicable to all NFAL management units.	1.1, 1.2, 1.3, 16.4

GOAL 16 Provide habitats to support desirable levels of selected species (e.g., species with special habitat needs such as large, contiguous forested landscapes; species commonly trapped/hunted; or species of special interest).

OBJECTIVES

- 16.1** Provide upland fire climax communities aimed at producing large trees in the overstory and open park-like understory composition dominated by native grasses and forbs.
- 16.2** Promote or retain hardwood dominated, hard and soft mast producing riparian areas to benefit hardwood associated Partners in Flight priority species.
- 16.3** Promote or retain xeric mast producing hardwoods in upland areas to benefit select species. Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies for wildlife species.

- 16.4** Provide breeding, wintering, and migration staging and stopover habitat for migratory birds in ways that contribute to their long-term conservation.
- 16.5** Provide habitats for species needing large blocks of contiguous forests, especially where such conditions are not found on other lands within the landscape.
- 16.6** Encourage maintenance of forest as a land use on private lands within and surrounding national forests through land acquisition, agreements, and education in order to maximize benefits of national forest lands to area sensitive forest interior species.

Standards

- FW-107.** Unless necessary for insect or disease control or to provide for public and employee safety, den trees will not be intentionally felled during vegetation management activities.
- FW-108.** Intentional establishment of invasive non-native plant species, as defined by the Regional Forester's invasive species list, is prohibited.
- FW-109.** Collection of non-timber forest products is prohibited within 100 feet of roads and trails in order to disperse collection impacts, unless specifically designated on the permit.

The following standards are provided for the protection of bats in general:

- FW-110.** Gates or other structures that allow for entrance and egress by bats are constructed and maintained at entrances of caves and mines occupied by significant populations of bats to reduce frequency and degree of human intrusion. Forest Supervisor Closure Orders are acceptable as long as monitoring indicates the Orders are effective. If Orders are ineffective, appropriate physical structures must be constructed. Camping and fire-building at the entrance to caves, mines, and rock shelters used by these species is prohibited. To discourage human disturbance at these caves, nonessential public access routes within 0.25 miles of cave entrances are closed during periods when bats are present. Human access to caves for educational and recreational use may be allowed during periods when bats are not present. If damage to caves occurs as a result of human use, the caves may be closed to human uses. Access for activities such as surveys and scientific study during times when bats are present is determined on a case-by-case basis.
- FW-111.** Prescribed burn plans written for areas near caves or mines that contain bats identify these sites as smoke sensitive targets and plan to avoid smoke entering cave or mine openings when bats are present.

FW-112. Before old buildings and other man-made structures are structurally modified or demolished, they are surveyed for bats. If significant bat roosting is found, these structures will be maintained, or alternative roosts suitable for the species and colony size will be provided prior to adverse modification or destruction.

Fire Management

Prescribed fire is an important ecologically appropriate management tool. Both natural fuels and artificially produced management-activity fuels must be managed over time to meet long-term resource management objectives. Artificially produced fuels have been of little concern, because of the small volume generated, but may have to be managed in the future. The EPA states, in their 1998 policy document entitled Interim Air Quality Policy on Wildland and Prescribed Fires, that while future air quality concerns from prescribed fire may arise, the EPA is on record stating that fire should function, as nearly as possible, in its natural role in maintaining healthy wildland ecosystems and to protect human health and welfare by mitigating the impacts of air pollutant emissions on air quality and visibility.

Appropriate suppression strategies range from direct attack, aimed at minimizing acreage burned and resource value loss, to modified indirect attack where firefighter and public safety is always the primary consideration. Natural barriers are used whenever possible to construct firelines to mitigate impacts to soil, vegetation and water; reduce costs of line construction and for safety considerations. The Forest Fire Management Plan and Wilderness Fire Plans will provide more detailed direction on the use and management of natural ignitions i.e. lightning caused fires.

Prescribed fire and mechanical fuels treatments are designed to restore fire regimes within or near an historical range. Condition classes are a function of the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure. Fire Condition Class is a measure of general wildland fire risk and ecosystem condition defined as follows:

Condition Class 1: For the most part, fire regimes in this Fire Condition Class are within historical ranges. Vegetation composition and structure are intact. Fire dependent ecosystem components are maintained by desired fire regimes. Thus, the risk of losing key ecosystem components from the occurrence of wildland fire remains relatively low.

Condition Class 2: Fire regimes on these lands have been moderately altered from their historical range by either increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified on these lands.

Condition Class 3: Fire regimes on these lands have been significantly altered from their historical return interval. The risk of losing key ecosystem components from fire is high. Fire frequencies have departed from historical ranges by multiple return

intervals. Vegetation composition, structure, and diversity have been significantly altered. Consequently, these lands verge on the greatest risk of ecological collapse.

The presence of fire begins long before humans arrived in North America. Fire has no doubt been a major selection force in our forest ecosystems, both lightning and human-caused. This great and persistent selecting force has influenced ecosystem traits and characteristics since fuels and lightning first interacted. Fire is a natural ecological process, but unlike many other natural events (tornadoes, floods, hurricanes), man has the capability to use fire as a tool and, as recent history has shown, to suppress the natural processes of fire. The result is a forest with diversity and flexibility that is well adapted to fire occurrence. Many of the communities and species require fire to sustain populations. Oak and southern yellow pine communities have been major components of these forests for thousands of years. These communities promote and require fire. Reoccurring fire has been a part of the ecosystem for thousands of years. Burning is the oldest sustained land management force on these forests. No other practice can be said to have such a track record with known results.

Fires generally fall into one of two categories - wildland fires or prescribed burns. A wildland fire is a fire resulting from an unplanned ignition; it requires an appropriate management response to control its spread. A prescribed fire is any fire ignited by management actions to meet specific objectives.

Prescribed fire and mechanical fuels treatments are designed to reduce the risk of catastrophic wildfires by decreasing the amount of available fuel that the fire is able to consume and thus carry the fire. Both methods are utilized to restore fire regimes within or near the historical range. Condition classes are a function of the departure from historical fire regimes, resulting in alterations of key ecosystem components such as species composition, stand structure, successional stage, stand age, and canopy closure. Fire Condition Class is a measure of general wildland fire risk and ecosystem condition defined as follows:

Condition Class 1:

- Fire regimes are within or near an historical range.
- The risk of losing key ecosystem components is low.
- Fire frequencies have departed from historical frequencies by no more than one return interval.
- Vegetation attributes (species composition and structure) are intact and functioning within an historical range.

Condition Class 2:

- Fire regimes have been moderately altered from their historical range.
- The risk of losing key ecosystem components has increased to moderate.

- Fire frequencies have departed (either increased or decreased) from historical frequencies by more than one return interval. This results in moderate changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns.
- Vegetation attributes have been moderately altered from their historical range.

Condition Class 3:

- Fire regimes have been significantly altered from their historical range.
- The risk of losing key ecosystem components is high.
- Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, frequency, intensity, severity, or landscape patterns.
- Vegetation attributes have been significantly altered from their historical range.

GOAL 17 Achieve a balance between suppression, to protect life, property, and resources, and fire use, to regulate fuels and maintain healthy ecosystems. Use wildland fire to protect, maintain, and enhance resources, and, as nearly as possible, allow fire to function in its natural ecological role.

GOAL 18 Use fire to restore and maintain fire dependant and associated communities. Fire regimes are restored within or near the historical range (Condition Class 1).

OBJECTIVES

18.1 Strive to burn, using a combination of growing season and dormant season burning, approximately 55,000 acres annually.

GOAL 19 Reduce hazardous fuels through use of wildland fire, prescribed fire, and mechanical fuels treatment.

OBJECTIVES

19.1 Burn approximately 15,000 acres annually, using both growing and dormant season burning, to reduce hazardous fuels.

GOAL 20 Emissions from prescribed fire will not disproportionately hinder State progress towards attaining air quality standards or visibility goals.

GOAL 21 The Forest Service will annually review the status of counties near the National Forest regarding their attainment of the NAAQS. Where a non-attainment area is formally recognized, the Forest Service will participate in SIP modification to bring the area back into attainment status.

Standards

- FW-113.** Protection of firefighters and the public is the first priority in all fire management actions.
- FW-114.** The Fire Management Plan (FMP) will guide and formally document the Fire Management Program for the National Forests in Alabama. The FMP will provide comprehensive guidelines for both the suppression and prescribed fire programs in relation to other management activities.
- FW-115.** Fire lines used for controlled burning which expose mineral soil greater than the equivalent to a hand line fire break are not permitted in streamside management zones or buffers along lakes, springs, wetlands, water- source seeps, or other designated riparian areas, unless anchoring into the water resources or crossing at a designated point.
- FW-116.** Water control structures necessary for the control of surface water movement on fire lines will be installed during prescribed fire line construction. Permanent fire lines will have water control structures maintained (refer to re-vegetation standard).
- FW-117.** Firelines will be re-vegetated when canopy closure is less than 50% or when conditions exist (i.e. steep slopes, entrenched firelines) where water control structures and natural mulch from forest canopy is not sufficient to prevent moderate soil erosion.
- FW-118.** Burning of material generated by timber activities or mechanical fuel treatments (slash) is done so it does not consume all litter and duff and does not alter the structure and color of mineral soil an more than 20 percent of the area.
- FW-119.** Firelines will be rehabilitated to blend in with surrounding landscape for at least 50 feet on both sides of trails. Rehabilitation will consist of removing berms and filling ruts and ditches.
- FW-120.** The response to unplanned ignitions may include fire use (prescribed fire). The fire must be within criteria spelled out in the Fire Management Plan and parameters of an approved Burn Plan for the area. Project funds must be sufficient to cover monitoring and holding costs.
- FW-121.** Use Minimum Impact Suppression Tactics (MIST) in the wilderness or other sensitive areas.
- FW-122.** Utilize backing fires when prescribe burning in riparian areas.

- FW-123.** Slash burns are done so they do not consume all litter and duff or alter structure and color of mineral soil on more than 20% of the area.
- FW-124.** All prescribed burning projects or programs will be conducted with full adherence to Forest Service internal guidance and the pollution control methodologies prescribed by air quality regulatory agencies.
- FW-125.** In addition to part “a”, for prescribed burning projects or programs planned for NAAQS non-attainment areas or maintenance areas, the Forest Service will demonstrate in advance that it can complete the project in conformity with SIP provisions established to return the area to attainment.
- FW-126.** Areas are not burned under prescription for at least 30 days after herbicide treatment.

Recreation – Developed, Dispersed, and Backcountry

The National Forests in Alabama provides approximately 666,000 acres of public land scattered in five blocks throughout the state. The National Forests in Alabama comprise a highly scarce resource – islands of undeveloped public lands in the midst of agricultural and urban development. The Forests are exceptional because they are scattered across the state in four distinct physiographic regions, resulting in usual ecological diversity and landscapes. They are repositories of numerous rare species and will become even more ecologically significant with the restoration of native forest communities. The National Forests in Alabama will be increasingly important as urban escapes and at the same time, they will continue to be backyard playgrounds for nearby rural residents. Outdoor recreation opportunities on National Forests in Alabama are many and varied. Camping experiences range from highly developed campgrounds with full hookups to spots in the forest utilized by backpackers. Developed day use facilities include picnic sites, playgrounds, constructed swimming beaches, boat ramps, paved bicycle trails, and shooting ranges. Existing trails accommodate long distance hiking, short loop walking, horse, wagon, mountain biking, and OHV use. The Bartram and Pinhoti are National Recreation Trails. The National Forests in Alabama provide opportunities for sightseeing, boating, hunting, and fishing. The Talladega Scenic Drive is a national scenic byway. Sightseeing opportunities include enjoying vistas such as those on the scenic drive as well as viewing the complex and varied forest-wide flora and fauna. Primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, and rural recreational opportunities are all present. The Cheaha, Dugger, and Sipsey Wildernesses are all managed for a primitive recreation experience

- GOAL 22** Provide a spectrum of high quality, nature-based recreation settings and opportunities that reflect the unique or exceptional resources of the Forest and interests of the recreating public on an environmentally sound and financially sustainable basis. Adapt management of recreation facilities and opportunities as needed to shift limited resources to those opportunities.

OBJECTIVES

22.1 Evaluate recreation quality using health, cleanliness, setting, safety, security, and the condition of facilities as rating categories.

22.2 Strive to be responsive to deficiencies.

GOAL 23 Provide a wide variety of dispersed and developed recreation opportunities within the capabilities of the land.

OBJECTIVES

23.1 Annually evaluate existing opportunities to determine if they meet carrying capacity, demand, and financial ability to maintain in the future for maintenance, expansion or closure.

23.2 Conduct annual assessments of existing OHV roads and trail crossings in relation to aquatic ecosystem condition and species of concern. Prioritize road and trail maintenance and reconstruction projects in accordance with threatened, endangered, and sensitive species recovery and conservation efforts. If new impacts to threatened and endangered species are discovered, consult with U.S. Fish and Wildlife Service to develop a plan to avoid and/or mitigate further impacts.

GOAL 24 The National Forests will manage areas to provide for "backcountry" (semi-primitive/remote) recreation experiences.

Standards

FW-127. Water and sewage systems meet federal and state standards.

FW-128. Recreation induced impacts to highly sensitive components of the ecosystem, such as cultural or biological sites, watersheds, and vegetation will be analyzed and mitigated as needed.

FW-129. Restrooms are functional and in good repair.

FW-130. Recreational uses that are shown to be negatively affecting federally listed or Regional Foresters Sensitive species will be modified to reduce or eliminate negative effects.

FW-131. Horseback riding, mountain biking, OHV use, and camping are prohibited on all permanent wildlife openings, including linear openings, to protect established vegetation.

FW-132. Swimming water will be monitored to ensure State and Federal water quality criteria are met in accordance with the water quality monitoring plan of operation.

FW-133. Recreation Opportunity Spectrum (ROS) direction will govern all new projects (including special uses). Existing conditions may not meet the assigned ROS class.

Trails:

FW-134. A qualified bridge inspector inspects trail bridges at required intervals.

National Recreation Trails:

FW-135. One hundred feet on both sides of these trails shall be designated as trail corridor protection zones.

FW-136. Timber activity shall be allowed for the removal of fallen trees blocking the trails, creating small vistas (1/4 acre maximum), enhancing scenic integrity, or removal of hazard trees.

FW-137. The remainder of the trail foreground (beyond 100 feet) will be managed for a high scenic integrity objective.

Off-Highway Vehicles (OHV)

FW-138. OHVs are permitted on designated OHV trails, and OHVs are permitted on open public roads if the OHV meets all state legal requirements for public road use.

FW-139. Public Cross-country OHV use is not allowed.

FW-140. Administrative Cross-country OHV use may be approved for resource protection and public health and safety concerns unless otherwise restricted by statute or regulation.

FW-141. Vehicles falling under the description of an All-Terrain Vehicle (ATV) described in FSH 2309.18 (modified to include vehicles 50" wide or less) and motorcycles are the only type of motorized transport allowed on designated OHV, ORV, or ATV trails.

FW-142. Noise emissions from motorized equipment on trails will not exceed 94 dB for all motorcycles and quadcycles manufactured after January 1, 1986 as measured by the SAE J1287 June 1988 stationary test. (See Technical Report "Correlation of Off-Highway Motorcycle Sound Test Methods: EPA/SAE" for test procedure.)

Horse Trails

FW-143. Equestrian use is permitted on designated horse trails and open public roads. Equestrian use on closed Forest Service Roads is permitted if the closed road is designated a horse trail by the district ranger.

FW-144. Cross-country equestrian use is not allowed except by Special Use permit.

Wilderness and Wild and Scenic Rivers

Congressionally designated wilderness areas are protected by law and valued for their ecological, historical, scientific and experiential resources. National Forests in Alabama currently have 3 designated wilderness areas containing a total of 42,211 acres, or 6 percent of the total forest area. The National Forests in Alabama do not contain any wilderness study areas or recommended wilderness study areas that have not been acted upon by Congress. The existing wilderness areas will be managed to maintain the areas' natural characteristics. Natural occurrences such as outbreaks of insects or disease are allowed as part of the natural cycle. Man caused intrusions is not allowed. Under emergency conditions, mechanical equipment and motorized transport may be approved for use to control fire that threatens life, property, or the wilderness resource.

The Wild and Scenic Rivers Act (Public Law 90-542: 16 USC 1271-1287, October 2, 1968) and its amendments provide for the protection of selected rivers and their immediate environments. To be eligible for designation rivers must possess one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Designation preserves rivers in free-flowing condition, *protects* water quality and protects their immediate environments for the benefit and enjoyment of present and future generations.

The National Forests in Alabama has one designated WSR, the Sipsey Fork, West Fork River and selected tributaries. Congress amended the National Wild and Scenic River Act in 1975 to include a study of Sipsey Fork, West Fork, and the Sipsey was designated October 28, 1988. Most of the river and its tributaries are located within the Sipsey Wilderness Area. Its 61.4 designated miles, all on the Bankhead National Forest, include approximately 25 miles that are not bounded by wilderness.

GOAL 25 Wilderness, roadless, and other unroaded areas are managed to provide their full range of social and ecological benefits.

OBJECTIVES

25.1 Develop a Limits of Acceptable Change inventory and monitoring system for each wilderness. LAC will address invasive species, fire plan, visitor education, and other resource issues.

GOAL 26 Wild, Scenic and Recreation Rivers which are designated by Congress, recommended for designation, or are eligible for designation, will be managed to protect their outstandingly remarkable values.

OBJECTIVES

26.1 Complete the suitability study for Five Runs this plan period.

Scenery

Large portions of the National Forests in Alabama can be seen from adjacent or interior roads, trails or waterways largely due to the density of the various travel routes. The more scenic landscapes (those in Retention and Partial Retention VMS or in High or Moderate SMS) are generally associated with or occur adjacent to important roads, lakes, rivers and streams, or highly developed recreation areas and National Trails. Elevations on the National Forest in Alabama range from a high point at Odum Point (2342') just off Talladega Mountain to lower elevations of less than 150 feet in the Conecuh and Yellow River valleys of the Conecuh Ranger District. Views beyond the immediate foreground are influenced by vegetation type, vegetation density, and terrain. Topography ranges from steep ridges, to relatively flat coastal plains, to deeply dissected dendretic drained landforms. The forest is covered with an almost-continuous canopy of soft- to medium-textured rounded tree forms, creating a natural-appearing landscape character. Since the late 1990s, as a result of the Southern Pine Beetle infestation that killed large numbers of introduced and native pines, part of the canopy has opened. Groups of tall, gray, defoliated stems, generally varying in size from less than an acre to more than 25 acres. A few spots are considerably larger with one being nearly 1000 acres. The openings eventually give way to an emerging deciduous and evergreen understory.

National Forests in Alabama landscapes may be described by referring to descriptions of its physiographic sections. National Forests in Alabama include land in the:

1. Outer Coastal Plain Mixed Forest Province, Coastal Plain and Flatwoods Lower Section;
2. Southeastern Mixed Forest Province, Coastal Plain Middle Section;
3. Southeastern Mixed Forest Province, Southern Ridge and Valley Section; and
4. Southeastern Mixed Forest Province, Southern Cumberland Plateau Section as described by Bailey and others (1994).

These lands provide distinctive, common, and undistinguished examples of these physiographic provinces and sections.

Landscape character is described as the particular attributes, qualities, and traits of a landscape that give it an image and make it identifiable or unique. Landscape themes refer to the general focus or subject of variations on landscape character settings.

They may be thought of as detailed description of desired landscape character. Themes range from a natural to an urban landscape. Of the seven Land Use Themes described in the Southern Appalachian Assessment, National Forest in Alabama landscapes can be grouped predominantly into three: Natural Evolving, Natural Appearing, and Rural-Forested.

The vast majority of the Forest is characterized as Natural Appearing. Designated Wilderness (42211 acres or 6%), lands where ecological processes predominate, are characteristically Natural Evolving landscapes. Rural-Forested is a very small category that includes the Forest's most highly developed recreation areas.

Goals and Objectives:

GOAL 27 Protect and enhance the scenic and aesthetic values of National Forest lands through application of the Scenery Management System and assigned Scenic Integrity Objectives.

OBJECTIVES

27.1 Maintain a current inventory of scenic classes and scenic integrity objectives.

GOAL 28 The National Forests will be managed to provide a variety of Landscape Character Themes with the predominant themes being Natural Appearing, Natural Evolving, and variations of these themes.

GOAL 29 In areas where the inventoried existing scenic integrity condition is Low, Very Low or Unacceptably Low, strive to improve the scenic integrity.

Standards

FW-145. The Forest Scenic Integrity Objectives (SIO) maps and the Scenic Integrity Objectives Table will govern all new projects (including special uses). Assigned SIOs are consistent with Recreation Opportunity Spectrum management direction. Existing conditions may not currently meet the assigned SIO.

FW-146. The Scenery Management Systems guides protection and enhancement of scenery on the National Forests in Alabama. The Scenic Class inventory, including Landscape Visibility, Concern Level, and Scenic Attractiveness, is maintained, refined, and updated as a result of site-specific project analysis. The standards under each management prescription in Chapter 3 refer to Scenic Class inventory as updated.

FW-147. Lands mapped as concern level 1 middleground from travelways and use areas will be inventoried as Scenic Class 2 or higher and will be managed for an SIO of Moderate or higher.

Heritage Resources

The Bankhead Management Area has a rich and wide variety of heritage resources. The archeological sites range from prehistoric sites, approximately 9,000 to 10,000 years old, to early 20th Century historic sites, which include pre-national forest settlement and early national forest sites. The bluff shelters on the forest have been occupied from the earliest periods of prehistory, and occupied again during the Civil War. The bluff shelters contain some of the most fragile of heritage resources, particularly the petroglyphs and other rock art. The bluff shelters have been the targets of illegal digging for artifacts and other vandalism since long before the creation of the national forest. Upland lithic scatters occur along the narrow ridges, particularly on ridge saddles. Prehistoric travel routes, later used historically, are known to have remnants on the forest. Early historic house sites from the early 19th century occur on terraces, close to water sources. Later, the house sites move higher on the ridges and wells were dug to provide water. Historic sites from the first half of the 20th century include bridges, fire towers, and other elements of the infrastructure and are associated with the Civilian Conservation Corps and the early national forest history. There are three study areas on the Bankhead that fall under Prescription 4.E. They are Indian Tomb Hollow, Kinlock, and Hightown Path. These areas contain a high density of archeological sites as well as being the locations of traditional cultural activities for local people of Native-American descent. The Conecuh Management Area has a relatively light scattering of heritage resources. The prehistoric sites, dating back to 8,000 to 10,000 years ago, represent the short-term occupations of small groups of people traveling from the Gulf Coast to the Tallahatta quartzite lithic sources that outcrop north of Andalusia. These sites occur along the first and second terraces overlooking streams and creeks, and on the higher ridges overlooking the larger sinkholes. Historic sites, the earliest being from the mid-19th century, represent the settlement of the area and the logging industry prior to the creation of the national forest. Historic sites from the first half of the 20th century include fire towers, recreational facilities, and other elements of the infrastructure and are associated with the Civilian Conservation Corps and the early national forest history.

The Oakmulgee Management Area has a moderately dense distribution of heritage resources. Prehistoric sites, dating back to 8,000 or more years ago, occur on almost any level landform near water. Sites situated on ridge lines tend to have a higher degree of disturbance due to the severe erosion that occurred across the forest historically, but sites on the first and second terraces tend to be intact if they were not later subjected to farming. Historic sites, representing the 19th century settlement of the area and the logging industry, are scattered over the forest. Sites from the early 20th century include fire towers and other sites associated with the early forest development. The western portion of the Oakmulgee, west of the Cahaba River, was initially acquired into federal ownership through the West Alabama Resettlement Administration program, a New Deal program. Payne Lake, originally called Lake Margaret, and other infrastructure and administrative sites associated with this program exist.

The Talladega Management Area has a density of heritage resources similar to that of the Oakmulgee. Small prehistoric sites can be located on most level landforms near water sources. Past erosion on the steeper slopes has disturbed most of the upland sites, but

some small intact lithic scatters are found on the lower terraces near water sources. Historic sites, representing the 19th century settlement of the area and the logging industry, are scattered over the forest. Sites from the early 20th century include fire towers, recreational areas, and other infrastructure elements associated with the early forest development and the Civilian Conservation Corps. Two known historic transportation routes are of interest on the management area. The McIntosh Trail runs east/west across the management area south of Interstate-20. This is an early historic trade route that connected the Creek Nation to South Carolina Colony. The Oxford-Cheaha CCC Road is an early 20th century road, built by the Civilian Conservation Corps that provided the route from the CCC camp at Oxford to the top of Cheaha Mountain.

The Tuskegee Management Area has a relatively high density of heritage resources. Small lithic scatters, representing various periods of prehistory, can be found on level landforms in the uplands. However, most of the upland settings have been severely disturbed from past erosion and subsequent land management activities. Historic Creek Indian sites, including small villages or extended hamlets, have been located along Choctafaula Creek. Some of these sites may date to the early 19th century, just prior and during the Creek Civil War. Site 1Mc110, is a Creek Indian village site listed on the National Register of Historic Places, and placed in Prescription 4.E. The Tuskegee Management Area was initially acquired into federal ownership through the East Alabama Land Resettlement Administration. Early 20th century infrastructure elements, fire towers, recreational facilities associated with the resettlement administration can be found on the management area.

Goals and Objectives:

- GOAL 30** Manage areas with special paleontological, cultural, or heritage characteristics to maintain or restore those characteristics.
- GOAL 31** Use a systematic program of heritage resource inventory, evaluation, and preservation aimed at the enhancement and protection of significant heritage resource values in compliance with Sections 106 and 110 of the Historic Preservation Act of 1966 as amended (1980). Emphasize integration of heritage resource management concerns and coordinate with the public, scientific community, appropriate Native American and other ethnic groups.

OBJECTIVES

- 31.1** Inventory heritage resources with priority given to proposed project areas.
- 31.2** Develop preservation/maintenance plans for historic properties.

Standards

- FW-148.** Coordinate inventory, evaluation, nomination, protection, enhancement, and interpretation procedures with the Alabama State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), and Tribal Historic Preservation Officer (THPO) as necessary before project decisions.
- FW-149.** All coordination relating to the National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR 800) will also tier to any programmatic agreements, MOUs, MOAs or other agreements between the Forest and SHPO. The Forest Heritage Program manager serves at the SHPO/Forest point of contact.
- FW-150.** Consultation will include, when necessary, federally recognized Native American tribes with geographic or cultural ties to the Forest, pursuant to provision in the Archeological Resources Protection Act (ARPA), American Indian Religious Freedom Act (AIRFA), Native American Graves Protection and Repatriation Act (NAGPRA), and the Region 8/Region 9 Treatment of Human Remains Policy. Forest Heritage staff will develop mechanisms for consultation. Provide for traditional use or collection of forest resources by Native Americans.
- FW-151.** Decision documents (Record of Decision, Decision Notice or Decision Memo) will evidence compliance with the NHPA, 36 CFR 800, and other Heritage-related regulations, as appropriate. The Forest Supervisor will suspend any project (or undertaking) not in compliance until compliance is documented.
- FW-152.** Use the Cultural Resources Management Survey Form to request archeological survey or status of compliance with Section 106 of the National Historic Preservation Act (NHPA) and NEPA. For projects known to contain heritage properties, coordinate mitigative or protective procedures with the Forest Heritage Program Manager.
- FW-153.** Ensure that Section 106 compliance clauses are inserted in contracts and sales documents, and that clauses are discussed in pre-work conferences.
- FW-154.** If additional evidence or information regarding a “not significant” property becomes available, it will be re-evaluated

Minerals and Geologic Resources

The use of mineral resources is essential to the local, regional and national economy as well as to the public use, management, and sustainability of the National Forest. Congress has passed various laws providing for the exploration and development of mineral resources, including oil and gas, on National Forest System lands. Federal mineral resources on the National Forests in Alabama are divided into two categories: 1) leasable minerals, and 2) mineral materials. Leasable minerals are managed in cooperation with the Bureau of Land Management (BLM), U.S. Department of Interior, and include oil, gas, coal, metallic minerals and other hardrock leasable minerals.

Mineral materials are managed by the USDA Forest Service, and include road aggregate, landscaping rock, riprap, and other earthen construction materials. Mineral materials are used to build and maintain trails, roads, campgrounds; to control erosion and sedimentation; to restore riparian and aquatic habitat; to repair flood damage; etc.

Total federal mineral ownership under the federal surface estate is 585,394 acres, which is about 87.9% of the Forest area. An additional 4,677 acres of federal mineral ownership lie under privately owned lands within the national forest boundaries. This is the result of the U.S. reserving the federal mineral interests when the lands were exchanged. Outstanding mineral rights are property rights that were severed from the surface estate prior to the government's acquisition of the property. Reserved mineral rights are established when the landowner reserves the mineral interests at the time the surface is conveyed to the U.S. The Forest Service, as surface owner, cannot exclude entry by the mineral estate owner, either permanently or for an unreasonable amount of time. The mineral estate owner has the right to make such use of the surface as is reasonably necessary. Public Domain lands are lands that have never left government ownership. The Bureau of Land Management (BLM) administers or manages the mineral estate where the United States holds title and the Forest Service administers the surface estate. There are currently 46 Federal oil and gas leases on the Forests with 4 producing wells on 3 of the Federal leases.

GOAL 32 Administer mineral resource program to meet demands for energy and non-energy minerals consistent with management prescription, multiple use objectives and in accordance with Washington Office policies and existing laws.

OBJECTIVES

- 32.1** Applications for federal mineral leases, licenses, and permits are processed within 120 days.
- 32.2** For mineral material authorizations, emphasize authorizations of minerals needed for environmental protection, public infrastructure, flood protection, erosion control, and watershed restoration.
- 32.3** Reclaim mineral sites at the appropriate stage of the mineral operation. Identify opportunities for reclamation to achieve post-mine land uses that complement the desired condition of the appropriate management prescription.

GOAL 33 On National Forest System tracts where mineral rights are outstanding or reserved, the exercise of private mineral rights to explore and develop mineral resources will be respected.

- 33.1** Operations proposed under outstanding and reserved mineral rights are processed within 60 days and 90 days, respectively.

GOAL 34 Manage geologic resources to provide multiple public benefits. Manage geologic hazards to protect public safety and facilities while integrating the keystone role of these natural disturbances in riparian and watershed management. Integrate geologic components (processes, structures, and materials) in management of riparian areas, watersheds and ecosystems.

Standards

Reserved and Outstanding Minerals

- FW-155.** Any mineral operation undertaken on National Forest land where minerals have been reserved, will comply with applicable state and federal laws, and the Secretary's rules and regulations.
- FW-156.** Any mineral operation undertaken on National Forest land where minerals are outstanding, will be administered in strict accordance with the terms of the deed of separation, and comply with applicable state and federal laws.
- FW-157.** Management Prescriptions, Management Area Direction, and Forest-wide Direction are subject to outstanding and reserved mineral rights. The government should pursue acquiring private mineral rights through purchase, exchange or donation in the following areas (if appropriate): designated Wilderness; designated Wild Rivers; designated Rare Communities and Special Biological Areas. Unless and until such private rights are acquired, the exercise of reserved and outstanding mineral rights to explore and develop mineral resources will be respected.
- FW-158.** All projects (mineral or non-mineral) or consideration of special designations shall include a review of the status of private mineral rights. Where private mineral rights could be negatively affected, the public involvement process will inform and seek comments from the current owners of private mineral rights. The potential effects on private mineral rights will be assessed.
- FW-159.** Where reserved or outstanding mineral rights are involved, the mineral owner is encouraged to implement all surface-disturbing activities outside riparian areas.

Geologic Resources

- FW-160.** Locate and design facilities and management activities to avoid, minimize, or mitigate negative effects on geologic resources with identified values (scientific, scenic, paleontological, ecological, recreational, drinking water, etc.).

Geologic Hazards

- FW-161.** Locate, design, and maintain trails, roads, other facilities, and management activities to avoid, minimize, or mitigate potential geologic hazards.

Federal Leasable Minerals - General

FW-162. Following exploration and production operations, the permittee is responsible for reclaiming disturbed sites in accordance with an approved reclamation plan. Reclamation shall meet the requirements of 36 CFR 228. Plans will consider opportunities to enhance the desired future condition of the particular management prescription.

Federal Leasable Minerals - Oil and Gas

FW-163. The Regional Forester consents to lease those lands on the Forest, which have not been statutorily withdrawn, subject to standard lease terms, except as specified by the individual management prescription. This consent is valid until the Forest Service provides the Bureau of Land Management written notification that consent is withdrawn or amended.

FW-164. Operations will comply with environmental protection standards from several sources: Forest Plan standards for the management prescription where the operations will occur; lease terms and conditions; federal Onshore Oil and Gas Orders; Oil and Gas Resources regulations (36 CFR 228 E); Conditions of Approval in Applications for Permits to Drill; and Federal and State requirements and regulations promulgated to establish performance standards for protecting soil, water, riparian, and aquatic resources and for reclamation of areas affected by oil and gas activities.

Federal Leasable Minerals - Coal

FW-165. Operations will follow Federal and State rules and regulations promulgated to establish performance standards for protecting soil, water, riparian, and aquatic resources and values; and for restoration and reclamation of areas affected by mining activities. Such rules and regulations include requirements for protection of surface and groundwater quantity and quality; prevention and control of acid mine drainage, erosion, and sediment deposition; and protection of streams and hydrologic balance

Federal Leasable Minerals - Other

FW-166. Unless statutorily withdrawn, other Federal hardrock leasable minerals are available.

Mineral Materials

FW-167. Mineral materials are available for commercial, personal, free, and administrative uses.

Mineral Collection

FW-168. The public can collect rocks, minerals, and invertebrate fossils for non-commercial purposes (scientific, educational, and recreational, including

recreational gold panning). If such activities would involve motorized excavation equipment or significant disturbance, then a Permit would be required. Collecting for commercial purposes requires a Permit.

Infrastructure

The transportation system on the National Forests in Alabama serves a variety of resource management and access needs. The management of the transportation system is based on a set of Road Management Objectives (RMOs) that establish the specific intended purpose based on management needs and that contain design, operation and maintenance criteria and standards for each road. The RMOs for the Forest range in purpose from being physically blocked to all traffic awaiting need for entry for various activities on an intermittent basis to being open year round to public traffic in a standard 4-wheel passenger car. The design, operation and maintenance criteria correspondingly vary according to the range of intended purpose. Appendix D describes the five generic RMOs for the Forest.

There are approximately 2,000 miles of inventoried, classified National Forest System Roads (NFSR) on the National Forests in Alabama including approximately 600 miles of Maintenance Level (ML) 3, 4 and 5 roads that are suitable for low-clearance vehicles (passenger cars). The remainder, are ML 1 and 2 roads that are suitable for high clearance vehicles, closed for administrative traffic or blocked to all traffic. These roads are single-purpose, low volume roads normally single-lane and unsurfaced.

NFSRs are maintained to varying standards depending on the level of use and RMOs. There are five maintenance levels used by the Forest Service and described in *FSH 7709.58 Transportation System Maintenance Handbook*. The following is a description of the five levels taken from FSH 7709.58, Section 12.3, Item 2.

Roads assigned to maintenance levels 2-5 are either constant service roads or intermittent service roads during the time they are open to traffic.

- a. Level 1. Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are "prohibit" and "eliminate."

Roads receiving Level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for non-motorized uses.

- b. Level 2. Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either to (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.
- c. Level 3. Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.

Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either "encourage" or "accept." "Discourage" or "prohibit" strategies may be employed for certain classes of vehicles or users.

- d. Level 4. Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is "encourage." However, the "prohibit" strategy may apply to specific classes of vehicles or users at certain times.
- e. Level 5. Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally double lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is "encourage."

GOAL 35 Provide a transportation system that supplies safe and efficient access for forest users while protecting forest resources.

OBJECTIVES

- 35.1** Within 5 years, complete an assessment of existing road crossings in relation to aquatic species passage.
- 35.2** Prioritize road maintenance and reconstruction projects in accordance with threatened, endangered and sensitive species recovery and conservation efforts.
- 35.3** Institute seasonal closures on roads and trails over the 10 to 15 year period of the plan to provide additional acreage of remote habitats during spring and summer months.

- 35.4** Annually complete site safety inspection of all facilities, bridges and open roads. Correct high-risk conditions prior to use.
- GOAL 36** Accelerate the pace of decommissioning unneeded roads (classified and unclassified).
- GOAL 37** Improve the condition of forest roads/bridges that are adversely effecting surrounding resource values and conditions.
- GOAL 38** Identify and acquire easements and/or rights-of-way for existing forest roads and access needs.

Standards

- FW-169.** Locate proposed facilities (roads, campgrounds, buildings) outside floodplain boundaries of the 100-year flood, unless no practical alternative location exists.
- FW-170.** Water and sewage treatment systems will meet state and federal standards.
- FW-171.** Utility systems meet applicable state and local regulations.
- FW-172.** Communications towers no longer in use or determined to be obsolete are removed.

Land Acquisition

The National Forests in Alabama encompass 1,276,376 gross acres. Within the boundary of the four proclaimed National Forests, 666,081 acres are in national forest ownership. The majority of National Forests land in Alabama was acquired under the authority of the Weeks Law of 1911.

The National Forests in Alabama, primarily through land purchase and the land exchange programs, increased the total acquired U. S. lands to 666,081 acres as of October 10, 2002. Most of the lands have been acquired on the Talladega Division, Talladega National Forest.

The land ownership pattern confirms there is still work to be done. Because of lack of land purchase funds, land exchange is the most secure vehicle for meeting the land ownership program objective.

Additional acres within the National Forest Proclamation Boundary are needed to meet expected resource outputs (water, wildlife, threatened and endangered species, timber, recreation wilderness and range). Consolidation is desired end product for improving overall efficiency. Priority for acquisition or exchange for the National Forest is decided on a case-by-case basis. The best opportunity to improve landownership patterns has

been to acquire high priority lands within or adjacent to existing National Forest. The best opportunity to improve landownership patterns has been to acquire high priority lands within or adjacent to existing National Forest lands using scattered and or less efficiently managed forest lands for exchange. Since the implementation of the current Forest Land and Resource Management Plan (4/86), the forest has acquired 21,658 acres by land exchange, 11,209 acres by purchase and 242 acres by donation. Land exchange is done on a value for value basis. Net gain to the National Forest system through these programs has been 17,494 acres since plan implementation.

GOAL 39 Achieve a consolidated forest ownership pattern that reduces management costs and meets ecosystem management objectives.

GOAL 40 Acquire lands containing sites critical to the conservation of rare communities, federally listed threatened or endangered species, or species deemed at risk of losing viability within the planning area including, but not limited to, riparian areas, wetlands and land to connect large tracts to maintain biological and hydrologic linkages.

GOAL 41 Locate and maintain forest boundaries so that they are visible to forest users and neighbors.

OBJECTIVES

41.1 Maintain boundary lines on an eight-year rotation.

41.2 Achieve 100% establishment of boundary lines by the end of the plan period.

GOAL 42 Identify and resolve illegal trespass and occupancy of National Forest lands.

GOAL 43 Consolidate National Forest ownership along riparian corridors in order to allow greater protection of water quality and provision of habitat for riparian dependent species.

GOAL 44 Public lands are easily accessible.

OBJECTIVES

44.1 Acquire right-of-way or fee simple title in lands, as appropriate, to meet access needs.

GOAL 45 National Forest System (NFS) lands are consolidated to improve management effectiveness and enhance public benefits.

OBJECTIVES

- 45.1** Through purchase, donation, exchange, rights-of-way acquisition, transfer, interchange, and boundary adjustment; consolidate NFS ownership pattern.
- 45.2** Acquire lands or interests in lands needed to support specific resource management objectives.
- 45.3** Exchange or transfer lands or interests in lands that consolidate or provide public benefits.

Standards

- FW-173.** Prepare and maintain a landownership adjustment map based on the goals and objectives for a given area. (NOTE: For this Standard, the Forest Supervisor may approve changes to the map, as long as Forest Plan objectives are met. The Regional Office and Ranger Districts will be notified of any changes.)

Special Uses

All uses of National Forest System lands, improvements, and resources, except those governing the disposal of timber, minerals, and the grazing of livestock are designated “special uses”. The predominant use is for public roads and utility rights-of-way. These special uses serve a public benefit by providing public access through the National Forest, and providing for the transmission of electricity, natural gas, water, and various types of communication signals. Authorizations for access to private land are also considered. In addition, recreational activities such as outfitting & guiding and competitive events such as fishing tournaments, foot races, horse endurance races, mountain bike races, etc. also fall into the arena of “special uses”. Communication/electronic sites are designated as Prescription Area 5.B. and are usually located on mountain and ridge tops.

- GOAL 46** Evaluate special-use applications to determine if they are in the public interest, cannot be accommodated on private land, and comply with the Forest Plan, laws, regulations and statutes. Special uses are administered to compliment other resource values.

Standards

- FW-174.** Limit new special use permits to those uses that serve the public interest and cannot be met on private land.
- FW-175.** Charge occupancy and use fees commensurate with charges for similar uses on private lands. Fees should reflect fair market value for the use of

National Forest lands and improvements as determined by an appraisal, market survey, or other sound business management principle.

- FW-176.** Limit special use permits in wilderness areas, wilderness study areas, wild and scenic river study areas, Research Natural Areas, botanical or other special areas to scientific collection or research.
- FW-177.** Do not issue easements or leases in wilderness areas, wilderness study areas, wild and scenic river study areas, Research Natural Areas, botanical or other special areas.
- FW-178.** Do not issue new special use permits, or expand existing permits for recreation residences or cemeteries.
- FW-179.** The use of pesticide by any permittee will be determined by a site-specific environmental analysis.
- FW-180.** When seeding temporary openings such as driveways and utilities, use only native or non-persistent nonnative species.
- FW-181.** New communication tower installations and ridge-top recreational developments are designed to mitigate collision impacts to migratory birds through coordination of project planning and implementation with the U.S. Fish and Wildlife Service.
- FW-182.** New communications equipment is placed on existing towers or other structures where possible. Height of new towers does not exceed 200 feet above ground level.

Natural Resource Interpretation and Education

Natural resource education and public involvement are cornerstones of the Forest Service mission. Based upon a number of policy documents (2390 FSM; NEPA 1969; National Environmental Education Act of 1990), the Forest Service promotes educational activities as a means to involve people in the management of their public lands. Benefits include increased public awareness, knowledge, understanding, and involvement. Knowledgeable public involvement results in more effective and responsive natural resource management. In Alabama, current and ongoing educational activities range from District displays and pamphlets to school presentations, kids fishing days, and cooperative resource improvement programs. In the future, additional interpretive and partnership activities will be integrated into most of our programs, further enhancing our mission of sustainable natural resource management.

- GOAL 47** Increase public awareness, knowledge, understanding, appreciation, and involvement in Forest Service natural resource management activities.

OBJECTIVE

47.1 Develop a Forest-wide strategy for interpretive opportunities and facilities within five years.

GOAL 48 Engage the public and other agencies in cooperative, collaborative efforts that win their trust and support while helping to meet desired future conditions.

GOAL 49 Encourage cooperation and partnerships with individuals, non-profit organizations, other agencies, special interest groups, clubs and others to achieve the Forest's interpretive activities.

CHAPTER 3

MANAGEMENT PRESCRIPTIONS

Introduction

The 1986 Land and Resource Management Plan for the National Forests in Alabama included specific direction on how to manage different land areas. These land areas were called management areas. This revised plan also contains management areas, but the management areas are now related to physiographic regions and the major divisions of land found on the National Forests in Alabama, as described in Chapter 4. Each management area has a certain emphasis that will direct management activities on that piece of land. This emphasis is reflected in the management prescriptions applied. The management prescriptions are grouped in "categories" that have similar management emphases and were developed initially by the Southern Appalachian Planning group. This chapter does not include management area prescriptions considered in other alternatives but not used in the Revised Plan. There are twelve major categories of management emphasis included in the prescriptions.

Each management prescription includes:

Emphasis – a statement of the general management direction for the area.

Desired Condition - how the area will look and the opportunities and/or conditions that will be available in the future.

Standards - management direction that applies to a particular area or activity.

Table 3-1 below displays the acres allocated to each management prescription. These acres represent a broad-brush approach and are not exact but rather a calculation based on the GIS mapping.

Table 3-1: Summary of Prescription Allocations

Acres by Management Prescription Allocation	
Prescription	Acres
0.	2,023
0. Subtotal	2,023
1.A.	37,905
1.B.	540
1. Subtotal	38,445
2.A.1.	5,084
2.A.2.	3,429
2.C.	931
2. Subtotal	9,444

Acres by Management Prescription Allocation	
4.B.1	602
4.C.	74
4.D.	2,758
4.E.1.	14,504
4.E.2.	8
4.G.	-----
4.I.	1,209
4.L.	4,623
4. Subtotal	23,778
5.A.	286
5.B.	5
5. Subtotal	291
7.A.	3,473
7.B.	10,863
7.C.	4,287
7.D.	7,869
7.E.2.	124,753
7. Subtotal	151,245
8.A.1	-----
8.A.2.	-----
8.B.	5,842
8.D.1.	161,415
8. Subtotal	167,257
9.C.3.	63,889
9.D.	84,077
9.D.1.	93,057
9.F.	*
9.G.	10,380
9. Subtotal	251,403
10.A.	-----
10.B.	-----
10.D.	1,678
10. Subtotal	1,678
11.	112,387
11. Subtotal	112,387
12.A.	15,865
12.B.	4,444
12. Subtotal	20,309

* No acres estimate available for Prescription 9.F.

The plan maps display the management prescriptions applied to the National Forests in Alabama through this Revised Plan, and following are the descriptions.

0. CUSTODIAL MANAGEMENT

Emphasis: These areas are managed at a minimum level prior to disposal or land exchange. No expenditures will be involved except those required by law or to protect human health or safety. No resource is emphasized. These areas are unsuitable for timber production.

Desired Condition: These areas will be characterized by mid- to late-successional forests, with little to no human-caused forest openings. Much of the vegetation will develop into medium and large patches of old growth, except where significant natural disturbances occur. Vegetation is influenced primarily by natural processes such as flooding, hurricanes, storms, insects and disease, and fires. Lands will be classified as unsuitable for timber production.

These areas are generally surrounded by private lands and not accessible by the general public. There are no developed or dispersed recreation opportunities except for adjacent private landowners. The landscape character will be natural appearing. No habitat associations are emphasized.

Standards:

- 0-01. Lands: Land expenditures are allowed in order to dispose of isolated tracts of land.
- 0-02. Special Uses: Existing uses are allowed to continue and new uses are authorized, provided funding is adequate to cover processing the use.
- 0-03. Federal Minerals: Subject to valid existing rights, Controlled Surface Use and No Surface Occupancy stipulations will be used on an as-needed basis to protect surface resources. Mineral material authorizations for local, State, and other Federal agencies are permitted for public health, safety, and emergencies. Commercial use of mineral materials is permitted provided that fees for these uses are adequate to recover administration costs.
- 0-04. Forest Health: Insect and disease outbreaks may be controlled where threatened, endangered, proposed, sensitive, or locally rare species and their habitats may be adversely impacted; to prevent damage to resources on adjacent land; or where needed for safety or legal reasons. Eradication of recently established invasive non-native species may be considered. Salvage timber may be removed after catastrophe if needed for safety or legal reasons.
- 0-05. Fire: Prescribed fire will not be used as a management tool. Wildfires will always be suppressed.

- 0-06. Roads: New roads will not be built. Decommission roads that are not needed and are adversely affecting surrounding resource values and conditions, will be decommissioned or closed.
- 0-07. OHVs: This area is closed to OHV use.
- 0-08. ROS Settings: Roaded Natural and Semi-Primitive Motorized.
- 0-09. Scenery: Scenic integrity objectives are high or very high.

1. WILDERNESS AREAS

1.A. DESIGNATED WILDERNESSES/WILDERNESS STUDY AREAS

Emphasis: The emphasis is to allow ecological and biological processes to progress naturally with little to no human influence or intervention, except the minimum impacts made by those who seek the wilderness as a special place offering opportunities to experience solitude and risk in as primitive surroundings as possible. These areas are unsuitable for timber production.

Desired Condition: As stated eloquently in the Wilderness Act, the wilderness provides “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain . . . an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which 1) generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable; 2) has outstanding opportunities for solitude or a primitive and unconfined type of reaction; 3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value.”

The naturally-evolving character of the landscape in wilderness is primarily older forests with a continuous canopy, except for occasional gaps created by natural occurrences such as storms, insect or disease outbreak, and fire. Old growth forest communities will increase over the decades, except where significant natural disturbances occur. Lands are classified as unsuitable for timber production. Vegetation management is limited to trail clearing with hand tools and prescribed fire. Management-ignited prescribed fire may be used to reduce an unnatural buildup of fuels to an acceptable level and reduce the risks and consequences of wildfire within wilderness or escaping from wilderness. Lightning fires are permitted to play a natural role when weather, terrain, and external values at risk permit.

Management of the area is focused on protecting and preserving the natural environment and natural processes from human influences. Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited. Trailheads at surrounding roads are designed with sensitivity to scale and character to set the tone for experiencing a

primitive recreation experience. Once in the designated wilderness, visitors on foot or horseback must rely, to varying degrees, on their own personal physical abilities and primitive recreation skills. Wilderness recreation includes inherent risks. Visitors are isolated from sights and sounds of other human activity; encounters are rare. Travel and recreation within wilderness are strictly nonmotorized.

Most visitor information is dispensed outside of the wilderness at trailheads and through off-site public information and education efforts. Wilderness visitors are encouraged to “pack-it-in and pack-it-out” and to “leave no trace.” Trails are present in wilderness. They lie lightly on the land, are typically narrow footpaths or horse trails, and have minimum directional signing that blends well with the natural surroundings. Visitors will be physically challenged as they ford streams and climb over downed trees.

Very few facilities are provided. Permanent human-made shelters may be present if they existed prior to wilderness designation, particularly along the Appalachian National Scenic Trail. Construction of new shelters on new sites within wilderness is not appropriate, unless there is an obvious and overriding need to protect natural resources from impacts of human visitors. Structures including signs, bridges, trail waterbars, and improved water sources for the comfort or convenience of visitors in wilderness are minimal. The few structures appearing in wilderness are generally for the protection of resources or were present prior to wilderness designation. Wilderness acres are managed for Primitive ROS even if area does not meet all inventory criteria except the existing wagon roads will continue in the Sipsey Wilderness.

There will be good to optimal habitat conditions for mid- to late-successional deciduous forest associates; area-sensitive, mid- to late-successional deciduous associates; bottomland hardwood associates; mixed mesic forest associates; and basic mesic forest associates. Rare communities and species associates, along with population occurrences of threatened, endangered, sensitive, and locally rare species that thrive under undisturbed conditions or low levels of natural disturbance will be provided for.

Standards:

- 1.A-01. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these areas. Other special uses may be authorized if consistent and compatible with the goals and objectives of each designated wilderness area.
- 1.A-02. Federal Minerals: Subject to valid existing rights, the minerals in lands designated under the Wilderness Act of September 3, 1964, are withdrawn from all forms of disposition under all laws pertaining to mineral leasing. Mineral material authorizations will not be allowed.
- 1.A-03. Forest Health: Insect and diseases outbreaks will be treated where threatened, endangered, proposed, sensitive, or locally rare species and their habitats will be adversely impacted or to prevent damage

to resources on adjacent private lands.

1.A-04. Fire: Prescribed fire may be used if approval within wilderness is documented, is preplanned, and specific conditions exist. Management-ignited prescribed fire can be used in wilderness by qualified Forest Service personnel to reduce an unnatural buildup of fuels to an acceptable level to reduce risks and consequences of wildland fire within wilderness or escaping from wilderness. Wildland fire ignited by lightning may also be managed in wilderness to permit lightning-caused fires to play, as nearly as possible, their natural ecological role, as long as the applicable documentation has been prepared and approved.

1.A-05. ROS Settings: Primitive.

1.A-06. Scenery: Scenic integrity objective is very high.

1.B. RECOMMENDED WILDERNESS STUDY AREAS

Emphasis: Manage these areas to protect wilderness characteristics pending legislation as to their classification and provide for existing uses where compatible with protecting wilderness character. These areas are unsuitable for timber production.

Desired Condition: Roadless characteristics are enhanced. The desired condition for wilderness resources and recreation opportunities in this area is the same as described in 1.A. This type of management is to continue until Congress decides whether or not to include the area in the National Wilderness Preservation System.

Standards:

1.B-01. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material permits will not be issued. (If Congress does not include the areas in the National Wilderness Preservation System, the standards and guidelines from the adjacent prescription area(s) will apply.)

All else, same as 1.A.

2. WILD AND SCENIC RIVERS

2.A.1. WILD RIVERS

Emphasis: Congress designated these wild river segments and their associated corridors as a part of the National Wild and Scenic Rivers System. They are managed to enhance and protect the outstandingly remarkable values and unique qualities of the river and its surroundings. The river will be preserved in a free-flowing condition for the benefit, use, and enjoyment of present and future generations.

Desired Condition: The primary emphasis for management of the river and river corridor is to protect and enhance the outstandingly remarkable values of that river or river segment. Of all of the river designations, this one offers the most primitive and remote setting. Management of the river corridor is focused on protecting and preserving the natural environment and natural processes from human influences. Recreation management is designed to provide solitude and remoteness in the most primitive and natural recreation setting possible. To this end, access to the area is limited to roads outside of the corridor. Trailheads at perimeter roads are designed with sensitivity to scale and character to set the tone for a primitive experience. Motorized recreation and mountain bikes are not compatible in this area.

The majority of this prescription area will be managed as semiprimitive nonmotorized, however, roads outside the wild river corridor may occasionally intrude on the sights and sounds within the area providing a less-primitive recreation experience. Once in the designated wild river corridor, visitors hiking, fishing, or floating must rely—to varying degrees—on their own personal physical abilities and primitive recreation skills. Trails are designed to accommodate use and river access while protecting resources and the river’s outstanding resource values. Signs are designed to complement the natural environment in scale, character, and color. Most visitor information is provided outside of the wild river corridor at trailheads and through off-site public information and education efforts. Wild river visitors are encouraged to “pack-it-in and pack-it-out” and to “leave no trace.”

The landscape character is naturally evolving, only the linear swath of the river breaks the continuous forest canopy, although occasional small gaps may occur in the canopy as the results of natural disturbances. The mature forest is comprised primarily of large hardwoods on slopes and a mixture of hardwoods and hemlocks along the river’s banks. Understory plants—particularly rhododendron and edge-favoring, small flowering trees (such as silverbell, dogwood, and redbud)—provide a lush vegetative understory visible from the river and trails. Old growth forest communities will increase over the decades, except where significant natural disturbances occur. The lands are classified as unsuitable for timber production. Vegetation management is limited to trail clearing and prescribed fire. Management-ignited prescribed fire may be used to reduce an unnatural buildup of fuels to an acceptable level and reduce the risks and consequences of wildfire within the river corridor or escaping from the corridor. Lightning fires are permitted to play a natural role when weather, terrain, and external values at risk allow. Prescribed fire can also be used for control of exotic pests and to create, enhance, or maintain threatened, endangered, sensitive, and locally rare species habitat necessary to perpetuate these flora or fauna.

There will be good to optimal habitat conditions for mid- to late-successional deciduous forest associates; area-sensitive, mid- to late-successional deciduous associates; bottomland hardwood associates; mixed mesic forest associates; and basic mesic forest associates. These linear travelways of relatively remote habitat will also provide safe migration corridors for a wide variety of species. Rare communities and species associates, along with population occurrences of threatened, endangered, sensitive, and locally rare species that thrive under undisturbed conditions or low levels of natural disturbance will be provided for.

Standards:

- 2.A.1-01. Lands: Privately owned surface and subsurface rights within these areas are high priorities for acquisition. Private lands adjacent to the river corridor will be high priority for acquisition when such acquisition would improve the manageability of the corridor.
- 2.A.1-02. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these areas. Existing nonconforming uses will generally not be renewed. Other special uses may be authorized if consistent and compatible with the goals and objectives of these areas.
- 2.A.1-03. Federal Minerals: Subject to valid existing rights, the minerals in federal lands, which constitute the bed or bank, or are situated within ¼ mile of the bank of any river designated a “Wild River” under this Act, are withdrawn from operation of the mineral leasing laws.
- 2.A.1-04. Private Mineral Rights: The Government will seek to acquire private mineral rights through purchase, exchange, or donation. Until such private rights are acquired, the exercise of reserved and outstanding mineral rights to explore and develop mineral resources will be respected.
- 2.A.1-05. Forest Health: Insect and disease outbreaks will be treated where threatened, endangered, proposed, sensitive, or locally rare species and their habitats will be adversely impacted or to prevent damage to resources on adjacent private lands.
- 2.A.1-06. Fire: Prescribed fire may be used if it is preplanned, and specific conditions exist. Management-ignited prescribed fire can be used by qualified Forest Service personnel to reduce an unnatural buildup of fuels to an acceptable level to reduce risks and consequences of wildland fire within wild river corridor or escaping from the corridor. Wildland fire ignited by lightning may also be managed in this corridor to permit lightning-caused fires to play, as nearly as possible, their natural ecological role, as long as the applicable documentation has been prepared and approved.
- 2.A.1-07. ROS Settings: Semi-Primitive Non-Motorized.
- 2.A.1-08. Scenery: Scenic integrity objective is very high.

2.A.1-09. OHVs: This area is closed to OHV use.

2.A.2. SCENIC RIVERS

Emphasis: Congress designated these scenic river segments and their associated corridors as a part of the National Wild and Scenic Rivers System. They are managed to protect and perpetuate the outstandingly remarkable values that led to their designation. The river itself is preserved in a free-flowing condition for the benefit, use, and enjoyment of present and future generations. Recreation opportunities emphasize relatively low development levels. These areas are unsuitable for timber production.

Desired Condition: The primary emphasis for management of the river and river corridor is to protect and enhance the outstandingly remarkable values of that river or river segment. Scenic rivers and their surroundings are slightly more developed by humans than their “wild” counterparts. The river’s shorelines are largely undeveloped; however, occasional roads or railroads may reach or bridge the river, and there may be designated parking areas and trailheads. Trail users may include hikers, mountain bikers, and horseback riders, but not motorized vehicles.

Portions of the river corridor that currently meet the criteria for semiprimitive, nonmotorized recreational opportunities will be maintained; however, the majority of these corridors will be managed as semiprimitive, motorized or roaded natural. Visitors enjoy a natural setting although sights and sounds of human activity and motorized vehicles may be present. Visitors’ physical abilities and primitive recreation skills are challenged moderately. The opportunity to encounter other visitors is moderate to high, depending on the location and time of year. Visitors seeking solitude may find it by visiting during nonpeak seasons, midweek, or by hiking some distance from roads and parking areas.

The landscape character is “naturally appearing” or “pastoral” with high scenic integrity. Predominately old growth forest communities will develop throughout the area except where natural disturbances occur. A visitor may see some evidence of human disturbance reminiscent of early America—including rural structures, grazing animals, meadows, fields, rustic campgrounds, and occasional roads. Facilities are minimized and are primarily for visitor safety and access and to protect river resources. Facilities may include parking areas, trailheads, interpretive kiosks, rest rooms, trails, and signs. Facilities are understated in appearance and are designed to complement the natural environment in scale, character, and color. Trails are designed to accommodate use and river access while protecting the resources and the river’s outstanding resource values.

Disturbances would be primarily caused by natural processes (floods, windstorms, and fires). Lands are classified as unsuitable for timber production, although management of vegetation is permitted within the river corridor. Prescribed fire, commercial timber harvest, and noncommercial felling of trees may be used for scenic enhancement or rehabilitation to provide watchable wildlife opportunities; maintain developed recreation facilities; improve threatened, endangered, sensitive, and locally rare species habitat;

restore native vegetative communities; restore riparian ecosystems; reduce unnatural fuel buildups; or control nonnative invasive vegetation. Lightning fires are permitted to play a natural role when weather, terrain, and external values at risk allow.

There will be good to optimal habitat conditions for mid- to late-successional deciduous forest associates, bottomland hardwood associates, mixed mesic forest associates, and basic mesic forest associates. (See table xx for a list of species within these associations.) These linear travelways of relatively remote habitat will also provide safe migration corridors for a wide variety of species. Where the forested canopy is at least 70 percent closed across the landscape, good to optimal habitat conditions for area-sensitive, mid- to late-successional habitat associates will also be provided. Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 2.A.2-01. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these corridors. Existing nonconforming uses will generally not be renewed. Other special uses may be authorized if consistent and compatible with the goals and objectives of these areas.
- 2.A.2-02. Federal Minerals: Federal leases are not allowed.
- 2.A.2-03. Forest Health: Insect and disease outbreaks may be controlled when threatening the outstandingly remarkable values of the river corridor and where needed to protect adjacent private land values, or for safety or legal reasons.
- 2.A.2-04. ROS Setting: Semi-Primitive Motorized and Roaded Natural.
- 2.A.2-05. Scenery: Scenic integrity objective is high.
- 2.A.2-06. Roads: There will be a low open road density (generally $1\frac{1}{2}$ miles/1,000 acres). Roads may be needed to cross the river but should not parallel the river segment.

2.C. RIVERS ELIGIBLE AS WILD AND SCENIC RIVERS

Emphasis: These river segments and their associated corridors are eligible for designation by Congress to be a part of the National Wild and Scenic Rivers System. The suitability analysis has not been completed on these rivers and streams, but they are managed to protect and perpetuate the outstandingly remarkable values that led to their eligibility. These areas are unsuitable for timber production.

Desired Condition: The primary emphasis for management of the river and river corridor is to protect and enhance the outstandingly remarkable values of that river or river segment. The river's shorelines are largely undeveloped; however, occasional roads or railroads may reach or bridge the river, and there may be designated parking areas and trailheads. Trail users may include hikers, mountain bikers, and horseback riders, but not motorized vehicles.

Portions of the river corridor that currently meet the criteria for semiprimitive, nonmotorized recreational opportunities will be maintained; however, the majority of these corridors will be managed as semiprimitive, motorized or roaded natural. Visitors enjoy a natural setting although sights and sounds of human activity and motorized vehicles may be present. Visitors' physical abilities and primitive recreation skills are challenged moderately. The opportunity to encounter other visitors is moderate to high, depending on the location and time of year.

The landscape character is "naturally appearing" or "pastoral" with high scenic integrity. Predominately old growth forest communities will develop throughout the area except where natural disturbances occur. A visitor may see some evidence of human disturbance reminiscent of early America—including rural structures, grazing animals, meadows, fields, rustic campgrounds, and occasional roads. Facilities are minimized and are primarily for visitor safety and access and to protect river resources. Facilities may include parking areas, trailheads, interpretive kiosks, rest rooms, trails, and signs. Facilities are understated in appearance and are designed to complement the natural environment in scale, character, and color. Trails are designed to accommodate use and river access while protecting the resources and the river's outstanding resource values.

Disturbances would be primarily caused by natural processes (floods, windstorms, and fires). Lands are classified as unsuitable for timber production, although management of vegetation is permitted within the river corridor. Prescribed fire, commercial timber harvest, and noncommercial felling of trees may be used for scenic enhancement or rehabilitation to provide watchable wildlife opportunities; maintain developed recreation facilities; improve threatened, endangered, sensitive, and locally rare species habitat; restore native vegetative communities; restore riparian ecosystems; reduce unnatural fuel buildups; or control nonnative invasive vegetation. Lightning fires are permitted to play a natural role when weather, terrain, and external values at risk permit.

There will be good to optimal habitat conditions for mid- to late-successional deciduous forest associates, bottomland hardwood associates, mixed mesic forest associates, and basic mesic forest associates. These linear travelways of relatively remote habitat will also provide safe migration corridors for a wide variety of species. Where the forested canopy is at least 70 percent closed across the landscape, good to optimal habitat conditions for area-sensitive, mid- to late-successional habitat associates will also be provided. Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 2.C-01. Federal Minerals: Leasing of leasable minerals may be authorized under a Controlled Surface Use (CSU) stipulation on the potential scenic areas. Those areas that are eligible for Wild River designation can be leased with a NSO stipulation within a quarter-mile corridor along the wild segment, and CSU stipulation for those areas outside the quarter-mile corridor.
- 2.C-02. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these corridors. Other special uses may be authorized if consistent and compatible with the goals and objectives of these areas.
- 2.C-03. Forest Health: Insect and disease outbreaks will be treated using Integrated Pest Management techniques, when threatening the outstandingly remarkable values of the river corridor and where needed to protect adjacent private land values, for safety, or legal reasons.
- 2.C-04. ROS Setting: Semi-Primitive Motorized and Roded Natural.
- 2.C-05. Scenery: Scenic integrity objective is high.
- 2.C-06. Roads: There will be a low open road density (generally <math><1\frac{1}{2}</math> miles/1,000 acres). Roads may be needed to cross the river but should not parallel the river segment.

4. SPECIAL AREAS**4.B. RESEARCH NATURAL AREAS****4.B.1. EXISTING RESEARCH NATURAL AREAS**

Emphasis: Manage for scientific research in an undisturbed state as a baseline for comparison with other forest environments. These areas are unsuitable for timber production.

Desired Condition: The research natural area (RNA) and its ecosystems continue to furnish ecological information of value to the Forest Service and society at large. The area continues to be representative of the ecosystems it was established to represent. The landscape character will be naturally evolving. Human uses are not causing detectable and significant ecological changes.

Vegetation is entirely influenced by natural processes. Lands are classified as unsuitable for timber production. Predominately old growth forest communities will develop throughout the area, with small canopy gaps and occasional large openings of early successional habitat created through natural disturbance. Non-native species occur only

as transients and are not self-perpetuating. For all data collection, the locations, collectors, methods, tools, and dates are known and the unanalyzed data is available.

The protection of rare communities and species associates will be provided, along with the protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Primary uses of the area during this time will be information collection for scientific research, graduate student theses, and supervised environmental education. All users, including Forest Service researchers, are subject to use limitations. Other compatible uses—such as individual nature study, which does not include specimen collection, photography, or day hiking—are permissible unless the use threatens the ecological integrity of the area and therefore its value as a research natural area representative of an important ecosystem. Infrastructure development, such as trails or parking areas, will be done only after the involvement of Forest Service research on the need for the project and the most appropriate methods and tools. There is little or no interaction among visitors. People must rely heavily on primitive recreation skills such as orienteering.

Standards:

- 4.B.1-01. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these areas. Other special uses are authorized if consistent and compatible with the goals and objectives of these areas.
- 4.B.1-02. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations would not be allowed.
- 4.B.1-03. Forest Health: Insect and disease outbreaks may be controlled when necessary to protect the values for which the area was established, to reduce hazards to visitors, or for safety or legal reasons.
- 4.B.1-04. ROS Setting: Semi-Primitive Non-Motorized.
- 4.B.1-05. Scenery: Scenic integrity objective is very high.
- 4.B.1-06. OHVs: This area is closed to OHV use.

4.C. GEOLOGIC AREAS

Emphasis: The primary desired outcome of management is a public understanding of, and appreciation for, the influence of geology in the ecology and human history of the larger land area being represented by the designated geologic area. These areas are unsuitable for timber production.

Desired Condition: Geologic areas provide outstanding opportunities for people to learn about the natural history of the forest and to enjoy a variety of recreation opportunities in an attractive setting.

There is low to moderate need for visitors to rely on their personal physical abilities and primitive recreation skills. Education and interpretation are strongly emphasized. Visitors often see sights and hear sounds of other human activity; the opportunity for this is from moderate to high. Visitors seeking solitude may find that difficult to achieve.

Visitors enjoy a natural-appearing setting with interesting geologic formations. Much of the vegetation will develop into medium and large patches of old growth, except where significant natural disturbances occur. Visitors are encouraged to practice minimum impact techniques while recreating. Trash receptacles may be provided at parking areas and high-use areas. Facilities of a modern nature will be present to provide for visitor safety and comfort and to protect resources. Facilities are designed with sensitivity to character, scale, and color, which complement the surroundings at each specific site. This could range from semi-primitive to rural. Facilities might include parking areas, trailheads, bulletin boards, interpretive kiosks, signs, rest rooms, and picnic sites.

Habitat associations being emphasized include mid- to late-successional deciduous associates and bottomland forest associates. Habitat conditions beneficial to mixed mesic associates and mixed xeric associates (primarily xeric oak and xeric oak-pine habitats) are provided. The mix of habitats provides suitable habitat for eastern wild turkey and white tailed deer. Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 4.C-01. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations would not be allowed.
- 4.C-02. Forest Health: Insect and disease outbreaks may be controlled when necessary to protect the values for which the area was established, to reduce hazards to visitors, or for safety or legal reasons. Hazard trees could be felled in areas occupied by humans (i.e., roads and picnic sites).
- 4.C-03. ROS Setting: Roded Natural.
- 4.C-04. Scenery: Scenic integrity objectives range from high to moderate.
- 4.C-05. Roads: There will be a variety of levels of access.
- 4.C-06. OHVs: This area is closed to OHV use.

4.D. BOTANICAL - ZOOLOGICAL AREAS

Emphasis: These lands serve as core areas for conservation of the most significant elements of biological diversity identified to date on the forest. In priority order, the goals of designation and management of these areas are: (1) to perpetuate or increase existing individual plant or animal species that are of National, regional, or State significance as identified on TES lists; and (2) to perpetuate plant and animal communities that are unique at the scale of their ecological section or subsection unit. These areas are unsuitable for timber production.

Desired Future Condition: Desired conditions include the following at each site: (1) protection of threatened, endangered, sensitive, or locally rare species from human taking or human-caused detrimental habitat changes; (2) viable and increasing populations of threatened, endangered, sensitive, or locally rare species; and (3) ecosystems functioning with natural change only.

These naturally-evolving or naturally-appearing areas are characterized by a variety of forested and nonforested communities generally being affected more by the forces of nature than by humans. Old growth forest communities currently exist in some of these areas, and additional acres will develop in future years. Ideally, natural processes within these areas proceed unencumbered; however, in some cases, the prevailing environmental conditions have changed to prevent, or at least hinder, natural processes. Examples of these conditions include adjacent human development and influx of nonnative species.

All areas will be protected from human-caused detrimental habitat change, the taking of threatened or endangered species, and the collection of living plants or animals unless such collections are for the purpose of achieving the stated management goals. Recreational access through these areas may be limited in order to protect natural heritage resources. Where public access is unrestricted, interpretive information will be available to develop understanding of the importance of protecting the plant and animal communities of the area.

Access is limited to existing roads and trails generally outside the perimeter of the area. New trail sections to link existing trails or for education and interpretation are considered on a case-by-case basis. Recreation opportunities are limited to interpretation, bird-watching, wildlife viewing, nature photography, and hiking on nonmotorized, nonmechanized foot trails.

These sites can be nominated for placement on natural areas registries maintained by the State chapters of The Nature Conservancy. These voluntary agreements recognize that protection and management of natural areas support rare species and significant natural communities.

Standards:

- 4.D-01. Special Uses: New utility corridors or communication/electronic sites will not be authorized within these areas. Other special uses

are authorized if consistent and compatible with the goals and objectives of these areas.

- 4.D-02. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to protect the area may be permitted.
- 4.D-03. Forest Health: Insect and disease outbreaks may be controlled when necessary to protect the values for which the area was established and to reduce hazards.
- 4.D-04. ROS Settings: Roded Natural and Semi-Primitive Motorized.
- 4.D-05. Scenery: Scenic integrity objectives range from high to moderate.
- 4.D-06. Roads: There should be a low open road density (generally $1\frac{1}{2}$ miles/1,000 acres). There should be no new roads constructed. Unneeded roads should be decommissioned.
- 4.D-07. OHVs: This area is closed to OHV use.

4.E. CULTURAL/HERITAGE AREAS

4.E.1. CULTURAL/HERITAGE AREAS

Emphasis: The primary desired outcome of management is a public understanding and appreciation for heritage resources in order to promote their protection within the designated area. Management activities are directed at achieving the desired public understanding and appreciation through (1) public access to cultural, heritage, and archaeological features; and (2) on-site communication in all forms about past history and human influences that operated in the area.

Desired Condition: Desired conditions include the following at each site: (1) protection of archaeological, cultural, and historical resources from human taking or human-caused detrimental changes, and (2) public access to, and understanding of, archaeological, cultural, and historical resources of each area. Sites will be preserved and protected as appropriate in accordance with the law.

These areas are characterized by a variety of forested and nonforested communities, often showing a great deal of human influence. The landscape character could range from naturally appearing to historic/pastoral/cultural. Old growth forest communities now occur in some of these areas and additional acres may be allowed to develop in future years if consistent with the historic character of the area. All heritage resources within the areas will be protected from vandalism and overuse. The collection of living plants or animals and artifacts will be prohibited unless such collections are for the purpose of achieving the stated management goals. These areas will generally be classified as unsuitable for timber production, unless a regulated timber harvest would be consistent with the archaeological, cultural, or historic character being interpreted.

Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Recreation opportunities focus primarily on public education and interpretation of the cultural/heritage resources. Other appropriate recreational activities include hiking, bird watching, photography, hunting, and fishing. In developed areas, visitors do not need to rely heavily on physical abilities or primitive recreation skills. At these sites, the opportunity to encounter other people is high. In the more wooded or remote sites, visitors may need to rely on their own physical abilities for hiking steep slopes and fording small streams. Reliance on primitive recreation skills is moderate. The opportunity to encounter other visitors is from low to moderate.

Facilities are designed with sensitivity to character, scale, and color—which complement the surroundings at each specific site. Facilities at the more developed sites may include parking areas, trailheads, trails, bulletin boards, and interpretive kiosks. Trails may be highly developed where appropriate, including hardened trails for a high level of accessibility for persons of all abilities. The more remote cultural/heritage sites may have only a nonmotorized hiking or interpretive trail with no additional facilities for visitors' comfort. New mountain bike trails are not developed in these areas. Existing mountain bike trails are analyzed to determine if negative impacts are occurring to the cultural resource, the historic integrity of the site, or interpretation of that resource. Horse trails are also analyzed for their impacts; however, it is understood that horse travel and use of horses for labor were once historic parts of the scene at many of the cultural/heritage sites.

Standards:

- 4.E.1-01. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to administer the area may be permitted.
- 4.E.1-02. Forest Health: Insect and disease outbreaks may be controlled when necessary to protect the values for which the area was established and to reduce hazards.
- 4.E.1-03. ROS Settings: Semi-Primitive Motorized.
- 4.E.1-04. Scenery: Scenic integrity objectives range from high to moderate.
- 4.E.1-05. Roads: There will be a variety of levels of access.
- 4.E.1-06. OHVs: This area is closed to OHV use.

4.E.2. NATIONAL REGISTER DISTRICTS AS SPECIAL AREAS

Emphasis: Ensure that National Register (NR) Districts are preserved and protected, as appropriate in accordance with the law. These areas are generally classified as unsuitable for timber production.

Desired Condition: There will be hundreds of contributing sites within each NR District, which are to be protected from disturbance of the aboveground and below-ground features. Between the contributing sites, designated by the Forest Archaeologists, most normal forest activities can occur. Interpretive signs and trails will be encouraged and maintained. The landscape character could range from natural appearing to cultural/heritage. These areas can be classified as either suited or unsuited for timber production depending on local conditions and the goals and objectives of the Management Area.

Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Recreational opportunities and facilities are essentially the same as those described in prescription 4.E.1 above, except this area allows for a potentially broader range of recreation opportunities. Motorized recreation, horse, and mountain bike use are considered on a case-by-case basis, as determined by the Forest Archaeologist in coordination with recreation specialists.

New Areas: As new sites are identified within the NR District, they will be added to this prescription and removed from the timber base. Likewise, as new NR Districts are identified, they will be added to the NR prescription.

Standards:

4.E.2-01. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations would not be allowed.

All else, same as 4.E.1.

4.I. NATURAL AREAS - FEW OPEN ROADS

Emphasis: Provide recreation opportunities in isolated areas where users can obtain a degree of solitude and the environment can be maintained in a near-natural state.

Desired Condition: The landscape will appear to be primarily shaped by ecological processes, rather than management activities. Much of the vegetation will develop into medium and large patches of old growth, except where significant natural disturbances

occur. The areas will be unsuitable for timber production, and they will be managed for “Roaded Natural 2” or “Semi-primitive Motorized” conditions.

Terrestrial conditions will provide suitable to optimal habitat for species associated with late-successional deciduous forest habitats and late-successional high-elevation forest habitats. Habitat associates emphasized within this allocation are mid- to late-successional deciduous forest associates; general high-elevation forests and high-elevation spruce-fir associates; and basic and mixed mesic forest associates. Aquatic habitats and associated species within or downstream of these areas will be maintained or improved because of the undisturbed terrestrial and riparian forest, resulting in high water quality conditions. Management and/or protection of rare communities and species associates will be provided, along with management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

These areas will provide tracts of backcountry recreation opportunities where human activities are subordinate to the landscape. Visitors will see little evidence of humans or human activities other than backcountry recreation use, with the exception of the few open roads that provide access. Development of hiking trail systems will be emphasized. Outdoor skills and self-reliance will be important for visitors because of the limited access to these areas. Hiking, nature study, backpacking, orienteering, hunting, and fishing will be typical activities available in a setting where freedom from sights and sounds of modern civilization is important.

Standards:

- 4.I-01. Federal Minerals: Leases will be issued subject to standard lease terms. Mineral material authorizations would be allowed.
- 4.I-02. Forest Health: Stands may be actively managed to reduce the risks and hazards of damage from native and invasive non-native species, while still meeting a medium to high level of scenic integrity. Forest pests are kept within acceptable levels through Integrated Pest Management Techniques. “Acceptable” levels will be determined based on site conditions and specific pest species involved. Involve Forest Health professionals as appropriate.
- 4.I-03. Roads: There will be a low open road density (generally $1\frac{1}{2}$ miles/1,000 acres). Existing roads can be used, but new roads will not be constructed.
- 4.I-04. ROS Settings: Semi-Primitive Non-Motorized.
- 4.I-05. Scenery: The scenic integrity objective ranges from very high, high, and moderate.

4.L. CANYON CORRIDORS

Emphasis: This prescription applies only to the Cumberland Plateau physiographic region. This area will be managed to (1) protect canyon corridors and associated aquatic, riparian and upland flora and fauna; (2) restore degraded canyon character; (3) recover threatened, endangered, sensitive and/or locally rare species that may occur as part of the canyon corridor; and (4) offer a variety of dispersed recreational opportunities including environmental education and interpretation.

This prescription area would be unsuitable for timber production. There will be no timber salvage; however, there may be some timber by-products because of providing for safety and legal requirements (ESA, CWA).

Desired Condition: The canyon corridor is characterized by a narrow river valley and its adjacent steep cliffs or hillslopes. The lateral extent of this prescription includes the aquatic component (with its associated water, biotic communities, and the habitat features), the riparian component, the ecotone of transition between riparian and upland ecosystems, and the canyon bluff lines or steep hillslopes. This prescription contains the habitat for many aquatic and plant threatened, endangered, sensitive (TES), or locally rare species, as well as habitat for Gray bat. It also encompasses many cultural resources sites.

Most canyon corridors would be in a mid- to late-successional stage with a continuous forest canopy. Dead, dying and down trees are common. This prescription is compatible with old growth prescriptions in that it already contains old growth stands and the long-term forest community will be old growth. Predominant forest trees within the canyon ecosystem include beech, hemlock, sweet birch, cucumber tree, and some oak species. Ground cover appears as a continuous mat of varying depths and composition. Disturbances caused by natural processes (floods, wind storms, and fires) will occur, however, detrimental impacts to facilities or improvements will be corrected. This prescription would be classified as unsuitable for timber production. Occasionally, some vegetation manipulation and open forest canopies would be present due to TES or locally rare species habitat improvement or protection and restoration of the canyon character.

Evidence of past and present management activities (i.e. tree stumps, trails, firelines) may be present. No wildlife openings would be allowed as well as no new roads except at crossings. Prescribed fire will commonly burn into and/or through these areas. Pushed firelines used for controlled fires within the corridor are located to avoid sensitive areas. Pushed lines running near the edge of the corridor will be located to preserve the canyon character.

The area will be managed to maintain a naturally appearing landscape character. Dispersed recreation would be offered where it meets the intent of these Desired Conditions and management objectives for water quality and riparian areas. Hiking, backpacking, dispersed camping, hunting, and fishing are typical activities available. Human activities may be evident in some places, especially at road and trail crossings. Some lengthy segments of foot trails may be contained within this prescription. Forest visitors will occasionally see other people especially near popular stream related sites, or

in those areas with motorized access. Roads and non-motorized trails will provide the predominant means of access. Outdoor skills are of moderate importance to visitors in these areas except where knowledge of specialized activities such as canoeing or kayaking is critical. Existing recreation sites are allowed to continue and may be expanded to meet visitor demands where compatible with the capabilities and functions of canyon corridors. The development of new recreation activities (i.e. horse trails, interpretive trails) will be weighed against Desired Conditions and potentially damaging impacts. Attention would be given to improving conditions where human activities, i.e. roads, trails, dispersed sites, are, or have degraded water quality or riparian functions.

The habitat associations being emphasized include: warm water aquatic habitats; streamside associates; mid- to late- successional deciduous forest associates; and bottomland hardwood associates. Large diameter hardwood, lush understory and/or old growth forest structure would characterize the canyon corridors. The habitat conditions will be suitable for the basic and mixed mesic associates and the mixed xeric associates. The mix of habitats will also provide suitable habitat for the eastern wild turkey and low levels of suitable habitat for early successional forest associates. The management and/or protection of rare communities and species associates will be provided, along with the management and/or protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Due to their spatial extent, only a representation of canyon corridors is identified on the map of prescription allocations. During the project planning process, canyon corridors will be added to the 4.L prescription and mapped as found. Site-specific field investigation will determine the extent of the canyon corridor to ensure that the canyon character and function are protected. Canyon corridors containing existing infrastructure and private lands will have canyon character and function protected where feasible.

Standards:

- 4.L-01. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations to administer the watershed and to restore riparian areas and aquatic habitat may be allowed.
- 4.L-02. Forest Health: Insect and disease outbreaks will be treated where threatened, endangered, proposed, sensitive or locally rare species and their habitats may be adversely impacted or to prevent damage to resources on adjacent land. Eradication of recently established invasive, non-native species may be considered when the risk of loss is high and/or inaction would allow a new exotic pest to become established. Biological control of established invasive, non-native species through the release of natural enemies may be considered. Native pests are not suppressed unless negative ecological impacts to streams will occur because of inaction. Felling

of dead trees in streams will not occur unless beneficial to aquatic resources. However, hazard trees could be felled in areas occupied by humans (i.e., roads and recreation sites) for their safety.

- 4.L-03. Fire: Prescribed fire may be used for understory maintenance, wildlife habitat improvement, and to enhance the recreation experience. Prescribed fire will be scheduled to insure minimal impact on recreational opportunities. Pushed firelines will follow Forestwide Standards, particularly SMZ and riparian standards.
- 4.L-04. Roads: There will be a low open road density (generally <1.5 miles/1,000 acres).
- 4.L-05. OHVs: Closed to OHV use.
- 4.L-06. Wildlife: No wildlife openings will be permitted. Existing wildlife habitat improvements that meet the Desired Condition may be maintained. Additional improvements are appropriate if they contribute to achievement of the overall recreational experience and met protection of soil and water resources.
- 4.L-07. ROS Settings: Roded Natural and Semi-Primitive Motorized.
- 4.L-08. Scenery: The scenic integrity objective is high.

5. SPECIAL USES/ADMINISTRATION SITES

5.A. ADMINISTRATIVE SITES

Emphasis: Sites are managed to serve/support resource programs and will be maintained to protect capital investment. Includes areas such as work centers, lookout towers, Forest Service-owned houses and offices. These areas are unsuitable for timber production.

Desired Condition: Provide administrative sites and facilities that effectively and safely serve the public and accommodate the work force. Administrative sites are readily accessed by roads and trails. Facilities should have barrier-free access.

The landscape character could range from natural appearing to urban/cultural. These areas are classified as unsuited for timber production.

The protection of rare communities and species associates will be provided, along with the protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Forest Service offices and/or visitor centers provide educational and interpretive opportunities such as exhibits and displays, books, videos, and brochures. Where

feasible and appropriate, short hiking trails are provided in association with office visitor centers. Hunting and fishing are generally not allowed at administrative sites.

Standards:

- 5.A-01. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to administer the area may be permitted.
- 5.A-02. ROS Settings: Rural.
- 5.A-03. Scenery: Scenery integrity objectives range from high to moderate.

5.B. DESIGNATED COMMUNICATION/ELECTRONIC SITES

Emphasis: These uses include administrative management and public benefit. Ridge top towers and other related facilities to provide for the nation's communication and electronic network. These designated areas are managed to minimize adverse impacts on other resources. These areas are unsuitable for timber production.

Desired Condition: Existing special-use authorizations for communications and electronics continue within these designated areas. Each site is developed and utilized to its greatest potential in order to reduce the need to develop additional sites. Where possible, existing sites are expanded as needed rather than creating additional areas. All users' equipment will be compatible to forest surroundings and other users equipment and frequencies. New equipment should be as inconspicuous to the surrounding terrain as possible. Special-use permits will be issued.

The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

The landscape character could range from natural appearing to cultural. Scenery management techniques are used to mitigate adverse impacts. Utilizing existing and proposed towers to accommodate as many users as possible within technical constraints reduces tower clutter. These sites are nonforested, benefitting wildlife species that favor grass, shrubs, old fields, and forest edges. These areas are managed to retain low-growing vegetation, which conforms to the safe-operating requirements of the utility and which reduces surface water runoff and erosion. These lands will be classified as unsuited for timber production. Recreation is discouraged at these sites.

Standards:

- 5.B-01. ROS Settings: Roaded Natural and Rural.
- 5.B-02. Scenery: Scenic Integrity Objectives range from moderate to low.

7. RECREATION/SCENIC EMPHASIS AREAS

7.A. SCENIC BYWAY CORRIDORS

Emphasis: A scenic byway corridor is managed to provide visitors with enjoyment of outstanding scenery of natural and cultural landscapes along a well-maintained road. The area may also contain recreational and interpretive trails. The byway corridor is defined by the area that is visible during the leaf-off season for up to ½ mile from either side of the road, unless other criteria are established in the specific scenic byway corridor management plan. Management is focused on protecting and showcasing the unique and scenic natural and cultural resources, which were the basis for the corridor being designated a scenic byway. The area is classified as unsuitable for timber production.

Desired Condition: The area provides exceptional opportunities for motorized recreation, including scenic driving. Views along the byway are natural appearing and include a variety of landscape characters, primarily a continuous overstory canopy of large hardwoods and pines as well as understory and ground cover vegetation, which provide colorful accents and interesting textures for each season. There is an occasional opening or meadow in the forest where visitors may enjoy viewing wildlife, a water or geographic feature, or a cultural landscape such as a hayfield, grazing livestock, or old stone or log cabin. Road corridor improvements and interpretive facilities are evident changes to the natural environment, but these human-made alterations fit well with the character of the surrounding landscape. Other management activities are not evident to the average visitor.

The prescription area is easily accessed. The potential for encounters with other forest visitors is moderate to high, especially at byway facilities, which might include pullouts, overlooks, interpretive kiosks, trails, rest rooms, and picnic sites. Scenic, historic, and natural resources may be interpreted for the benefit of visitors. These recreation and interpretive facilities are designed and constructed to blend well and complement the natural or cultural environment surrounding the byway. Most, if not all, facilities are designed to accommodate persons with disabilities.

Maintaining a good road surface and providing informational signs for protection of the natural and cultural resources will minimize impacts from visitors within the prescription area, as well as provide for the safety and comfort of visitors.

Biological communities are maintained or improved to provide an attractive setting for visitors, complement the recreational and scenic values, and provide varied plant communities, structural stages, and associated wildlife. Management and protection of rare communities and species associates will be provided, along with the management and protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands. High quality watershed conditions are provided resulting in secure aquatic ecosystems/habitats on NFS lands. The landscape character could range from natural appearing to pastoral. Vegetation is influenced both by natural processes and by humans. The area is primarily in mid- and late- successional conditions

with much of the vegetation in old growth conditions. Some restoration activity may take place in order to improve the long-term visual integrity of the byway.

Standards:

- 7.A-01. Vegetation Management: During any vegetation manipulation, flowering trees will be maintained. Vegetative manipulation will only be allowed for public safety, TES habitat improvement, private land protection, elimination of off site species (restoration), and scenic enhancement. Slash from harvesting operations will be no higher than 6 inches in the zone 25 feet from edge of road unless the area is out of sight from vehicles. Slash from harvesting operations will be no higher than 2 feet in a zone 25 feet to 75 feet from the edge of road unless the area is out of sight from vehicles. Vegetation manipulation will only be used to open up vistas, create spatial diversity along travel ways, decrease straight line effect of cleared utility corridors, for insect and disease suppression, for scenic rehabilitation, or on a limited basis, restoration. Openings and restoration areas will be 25 acres or less.
- 7.A-02. Prescribed Fire: Firelines will be rehabilitated to original contour within sight distance of the drive.
- 7.A-03. Recreation: New structures, including but not limited to buildings, signs, kiosks, walls, towers, and fences, will conform to the USDA Forest Service BEIG.
- 7.A-04. OHV: Trails are not compatible except at designated trailheads.
- 7.A-05. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to protect the area may be permitted.
- 7.A-06. Roads: Design and construct access roads to meet the scenic integrity of high. Permit new access roads, provided they quickly enter and leave the seen area and do not parallel existing travel ways.
- 7.A-07. ROS Setting: Roaded Natural.
- 7.A-08. Scenery: Scenic integrity objective is high.

7.B. GATEWAY FOREST

Emphasis: This prescription applies to National Forest Lands within a designated gateway forest boundary. The management emphasis is on providing, high-quality scenery on National Forest lands in very sensitive recreational and travel way settings. The concept of this prescription is to enhance, through restoration or maintenance and

design, the scenic quality of these public lands as seen from road and trails and as viewed from interspersed private lands. Examples include National Forests adjacent to the “gateway” communities; areas around lakes, rivers, and streams; and backdrop areas viewed from State-designated byways, major travel ways and from adjacent private lands and developments.

Desired Condition: Visitors will view high-quality scenery in a setting conducive to a variety of recreational experiences. Human modifications will be subordinate to the characteristic landscape. Landscape restoration and rehabilitation to meet high-quality scenic conditions will be a high priority. Designation and management of Gateway Forests occurs on National Forest land only.

The National Forest landscape is predominantly natural appearing and is generally an intact, continuous forest canopy. Understory vegetation includes a variety of native deciduous and evergreen flowering trees, shrubs, and wildflowers. Some views into park like stands to highlight larger diameter trees and scenic water features may be present. The Gateway Forest may also be a natural appearing open area, bald, or a pastoral landscape. Areas may show evidence of forest resource management activities but management activities are visually subordinate to the characteristic landscape. Restoration of areas with predominantly off site species is permitted.

Non-motorized and motorized recreation may occur in this prescription area as long as it does not negatively impact the scenic value of the area as viewed from sensitive travel ways, private and other public use areas, and gateway communities. Hiking, mountain biking, and horse trails are appropriate throughout the prescription area. OHV trails may be present, but new OHV trails are not constructed, except where desired to link existing trail systems. Facilities are designed to fit the character of the specific sites where they are located. Facilities might include roads, pullouts, overlooks, parking areas, trailheads, bulletin boards, interpretive kiosks, rail fences, signs, rest rooms, and picnic sites. Trails may be highly developed, including hardened trails for a high level of accessibility for persons of all abilities. Facilities will be designed to harmonize with the desired landscape setting.

Biological communities are maintained or improved to provide an attractive setting for visitors, complement the recreational and scenic values, and provide varied plant communities, structural stages, and associated wildlife. Management and protection of rare communities and species associates will be provided, along with the management and protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands. High quality watershed conditions are provided resulting in secure aquatic ecosystems/habitats on National Forest System lands.

Gateway Forests may show evidence of multiple-use management activities but these activities are visually subordinate to the characteristic landscape. National Forest System lands within the designated Gateway Forest will be maintained primarily in mid- and late- successional condition, with much of the vegetation in old growth conditions. These lands can be classified as either suited or unsuited for timber production

depending upon local conditions and goals and objectives of the management within the area.

The landscape character of the Gateway Forest and surrounding area will predominantly be variations of natural appearing landscapes. The recreational opportunity spectrum will range from semi-primitive non-motorized, semi-primitive motorized, roaded natural, to rural. Scenic integrity objectives for National Forest lands will be in the upper values of high to moderate.

Standards:

- 7.B-01. Vegetation Management: Slash treatment zones will be established for 50 feet from the edge of trail, on both sides. Slash will be removed from this zone, or lopped to no higher than 2 feet above ground level. Conserve flowering trees during any vegetation manipulation activities. Vegetative manipulation will only be allowed for public safety, TES habitat improvement, private land protection, elimination of off site species (restoration), and scenic enhancement. Clearcuts and regeneration harvest units will only be used to open up vistas, create spatial diversity along travelways, decrease straight line effect of cleared utility corridors, for insect and disease suppression, for scenic rehabilitation, or on a limited basis, restoration. Clearcuts and regeneration harvest units will be 25 acres or less.
- 7.B-02. Prescribed Fire: Firelines will be rehabilitated to blend in with surrounding landscape for at least 50 feet from each side of trails, roads and common viewing areas.
- 7.B-03. Recreation: New structures, including but not limited to buildings, signs, kiosks, walls, towers, and fences, will conform to the USDA Forest Service BEIG.
- 7.B-04. OHV: New OHV trails are not compatible except to link existing OHV trail systems.
- 7.B-05. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to protect the area may be permitted.
- 7.B-06. Roads: Design and construct new roads to meet the scenic integrity of high.
- 7.B-07. ROS Settings: Roaded Natural on National Forest lands.
- 7.B-08. Scenery: Scenic integrity objectives range from high to moderate.

7.C. OHV USE AREAS

Emphasis: The emphasis will be to provide for motorized recreation opportunities in designated areas. ATVs and motorcyclists would utilize designated routes within prescription area. Larger OHVs such as four-wheel-drive vehicles would use existing, open, system roads, which are suitable for high-clearance vehicles. Facilities, such as trailheads, are provided to enhance the quality of the recreational experience and provide access to designated routes. This area is managed to minimize impacts to riparian functions and aquatic habitats. These areas are suitable for timber production.

Desired Condition: An OHV use area is managed to provide a variety of motorized recreation opportunities on identified routes in naturally appearing settings. Within this area, route mileage should total at least 20 miles. Routes will be maintained, improved, or expanded to meet local demands. Trail difficulty levels vary to accommodate a variety of desires and abilities. Users are adequately advised of trail difficulty levels and hazards. Support facilities including trailheads, parking lots, rest rooms, water access, and information boards are well designed to meet the needs of the visitor. Use area and route information and regulations are provided to make the visitor's experience more enjoyable. This area will be managed and monitored to absorb moderate to high levels of use while protecting soil, water, and air resource conditions.

The recreation setting will meet RN or rural ROS conditions. This area will provide primarily motorized and some non-motorized recreation opportunities. While motorized recreation is emphasized on designated routes, other routes could be used for hiking, mountain biking, and horseback riding. Other recreation opportunities—such as hunting, fishing, and berry picking—occur within the prescription area that is adjacent to the designated route corridors. Physical impacts are confined to the immediate trail or road profile and do not spread beyond. Though physical impacts from OHV use are confined to the immediate road or trail environment, sounds of motorized vehicles may be audible in other sections of the prescription area.

The landscape character is natural appearing with variations created by the recreational facilities. A variety of landscapes will be appropriate along the trail corridor. Along many of the routes, views are restricted to the immediate foreground by vegetation and natural landform, but occasional openings reveal middle ground or distant background vistas. Constructed routes blend well with the natural environment. Small, created openings in the forest canopy may be apparent, and visitors may see evidence of resource management activities. However, treatments blend with the natural landscape, and vegetation diversity is enhanced over time. Constructed facilities are visually subordinate to the land.

Maintenance is performed to protect the routes and minimize effects to soil and water resources. Routes may be closed seasonally or during inclement weather to protect resources. Off-route and other unauthorized OHV use are not allowed. When such use occurs to a chronic degree, routes are closed permanently or until the situation is corrected. New routes are considered for development only when there is a demonstrated need and interest and a developed partnership with user groups.

Lands within this prescription area will be classified as suitable for timber production. Roads used or constructed to facilitate vegetation treatment are managed to provide non-conflicting access for both timber harvest and motorized recreation uses.

Protection of rare communities and species associates will be provided, along with protective measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 7.C-01. Recreation: Routes are closed to ATV/OHV use when unacceptable adverse effects occur or are likely to occur. The routes or trails remain closed until the adverse effects are eliminated and until measures are implemented to prevent recurrence.
- 7.C-02. Vegetative Management: Vegetative manipulation will only be allowed for public safety, TES habitat improvement, private land protection, and elimination of off site species (restoration).
- 7.C-03. ROS Settings: Roded Natural.
- 7.C-04. Scenery: Scenic integrity objectives range from high, moderate, and low.

7.D. CONCENTRATED RECREATION ZONE

Emphasis: Concentrated Recreation Zones are managed to provide the public with a variety of recreational opportunities in visually appealing and environmentally healthy settings. Developed recreation areas, concentrated use areas, and areas of high-density dispersed recreation activity are the components of Concentrated Recreation Zones. Facilities are provided to enhance the quality of the recreational experience and/or to mitigate damage to the affected ecosystems. These areas also serve as "gateways" to the wide diversity of recreation opportunities on the remainder of the forests. These areas are unsuitable for timber production.

Desired Condition: Visitors will be able to choose from a wide variety of recreation opportunities in high quality, well maintained developed or dispersed settings. Campgrounds, picnic sites, boat ramps, river access sites, swimming beaches, interpretive sites, primitive vehicle camps, and trails for walkers, horseback riders, bicycle riders, and off-highway vehicle (OHV) riders are all examples of facilities found in Concentrated Recreation Zones. Other facilities consistent with the mission and complimentary to the ecosystem may also be provided. Constructed facilities will almost always be visually subordinate to the land. There will be a variety of recreation facilities provided, dependent on the development scale appropriate to the recreational opportunity spectrum (ROS) class, and consistent with the design narrative in developed

recreation sites. Facilities outside the developed recreation sites will be provided to protect resources. Facilities that provide for user convenience, as well as protect resources, will be constructed and/or maintained in the developed recreation areas. Outdoor skills are generally of low importance except where knowledge of specialized activities, (i.e. boating or horseback riding) is critical. Motorized access and their support facilities (i.e. roads, parking lots, or water access) will be provided, but some experiences (i.e. walking and viewing nature) will be non-motorized.

Use may be highly concentrated in some spaces or relatively uncrowded in other sections of Concentrated Recreation Zones. Recreation information and regulation will be provided to make the visitors' experience more enjoyable. Interpretive programs may also be offered to enhance the visitors' educational and recreational experience. Access to fishing, hunting, and nature study will be emphasized. Fish stocking is appropriate for Concentrated Recreation Zones. Plants and animals will be managed (pest control) to protect visitor enjoyment in developed recreation sites, but not at the expense of the general health of local ecosystem. Plants and animals will be managed outside of developed recreation sites on a situation-by-situation basis.

The protection of rare communities and species associates will be provided, along with protection measures for population occurrences for threatened, endangered, sensitive, and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

The landscape character will be natural appearing with variations created by the recreational facilities. These variations will primarily occur in developed recreation sites to accommodate human use and protect high use sites. Lesser variation will occur in Concentrated Recreation Zones outside developed recreation sites. Ecosystem vegetative management will also be employed where necessary throughout Concentrated Recreation Zones. The scenic integrity objective will be high to moderate. The recreational opportunity spectrum will range from roaded-natural one (RN1) for development scale 1, 2, and 3 areas to rural for development scale 4 and 5 areas. Roads will be maintained to achieve the recreation objectives. The size of developed recreation areas will vary depending on the number and the layout of the constructed facilities.

Standards:

- 7.D-01. Health and Safety: To keep humans free from unhealthy exposures to human waste, the waste is removed immediately upon discovery or notification.
- 7.D-02. Health and Safety: A site safety inspection is completed annually. Documented high-risk conditions are corrected prior to use in all developed recreation areas.
- 7.D-03. Health and Safety: High-risk site conditions that develop during the use season are mitigated, or identified to protect the public, or the

site is closed.

- 7.D-04. Health and Safety: Electrical systems meet the National Electric Code.
- 7.D-05. Health and Safety: Employees, volunteers, and partners have dependable communications.
- 7.D-06. Federal Minerals: Leases will be issued with a Controlled Surface Use stipulation. Mineral material authorizations with conditions to protect the area may be permitted.
- 7.D-07. Fire: Firelines will be immediately (within 30 days of closure) returned to a natural appearance that blends with the adjacent forest floor in developed recreation areas.
- 7.D-08. Forest Health: Within developed recreation areas use a forest health strategy to prevent the occurrence of pest problems by managing host-type conditions at low hazard. Within concentrated-use areas and high-density dispersed areas use a forest health strategy to actively manage stands to reduce the risks and hazards of damage from native and invasive non-native species. Aggressive tactics should be used within one and one-half times the tree height of trails. Indigenous forest pests are kept within acceptable levels through IPM techniques. Forest pests native to the area are minimized through judicious use of biological controls, silvicultural practices, and timely salvage of damaged trees. "Acceptable" levels will be determined based on site conditions and pest species involved.
- 7.D-09. Hunting: Hunting is not permitted in developed recreation areas.
- 7.D-10. OHV: Major OHV route systems are not appropriate, but OHV trailheads and their support facilities with access routes to OHV-use areas or other OHV trail systems may be found in this prescription.
- 7.D-11. Special Uses: New utility corridors or communication/electronic sites will not be authorized within Concentrated Recreation Zones. Other special uses are authorized if consistent and compatible with goals and objectives of the area.
- 7.D-12. ROS Settings: Roaded Natural and Rural.
- 7.D-13. Scenery: Scenic Integrity Objectives range from high to moderate.

7.E. DISPERSED RECREATION AREAS

7.E.2. DISPERSED RECREATION AREAS WITH VEGETATION MANAGEMENT

Emphasis: These areas are managed to provide a variety of dispersed recreation opportunities, improve the settings for outdoor recreation, and enhance visitor experiences, in a manner that protects and restores the health, and diversity of the land. Timber harvesting and vegetative manipulation may be used to achieve recreational, wildlife, ecosystem restoration, or aesthetic values. These areas are suitable for timber production.

Desired Condition: These areas will be characterized by easy access and will be capable of sustaining a relatively high number of recreationists in a manner that protects the surrounding water, soil, vegetation, and wildlife. Visitors to these natural appearing settings will be able to choose from a wide variety of well-maintained nature-based recreation opportunities. Forest roads and well-marked trails through these areas provide convenient access for visitors. Management is designed to meet the growing demands of dispersed recreation and to showcase high quality scenery maintained through low intensity, planned vegetation management activities. Cooperatively managed State Wildlife Management Areas occur within this prescription allocation. Hunting and wildlife viewing are expected to be major recreation activities with wildlife viewing being an important component of sightseeing. Early successional forest habitat is an important condition in support of these opportunities. Therefore, it is desirable to provide 4% to 10% of the forested landbase in early successional forest (0-10 age class). Existing food plots or old fields may be maintained. Expansion of existing openings and creation of new openings may occur.

Dispersed recreation opportunities occurring are expected to vary; however, each Management Area has particular capabilities or emphases in the 7.E.2. allocation. These capabilities or attributes support particular dispersed recreational activities, some examples of the recreation uses for each Ranger District are: Bankhead Ranger District; sightseeing and trails opportunities will have emphasis where appropriate. The Black Warrior Wildlife Management Area is included in this prescription allocation; therefore, hunting and wildlife viewing are also expected to be major recreation activities with wildlife viewing being an important component of sightseeing. Conecuh Ranger District; the area serves to support the setting around Open Pond Recreation Area, Blue Lake Recreation Areas, and sections of the Conecuh Trail. The Blue Springs Wildlife Management Area is included within this prescription allocation; therefore, hunting and wildlife viewing are also expected to be major recreation activities. Oakmulgee Ranger District; this area serves to support the setting around Payne Lake Recreation Area. A Trail system linked to Payne Lake is another appropriate emphasis for this prescription. The Oakmulgee Wildlife Management Area is included within this prescription allocation; therefore, hunting and wildlife viewing are also expected to be major recreation activities. Shoal Creek Ranger District; sightseeing and trails opportunities will have emphasis where appropriate. The 7.E. prescription north of Interstate 20 serves to support the setting around the Pinhoti Trail, the horse trail system out of Warden Station Horse Camp, and Coleman Lake Recreation Area. The Choccolocco Wildlife Management Area encompasses almost the entire north end of the prescription; therefore, hunting and

wildlife viewing are also expected to be major recreation activities. The 7.E. prescription south of Interstate 20 serves to support the setting for the Talladega Scenic Byway and the Pinhoti Trail. Wildlife viewing is expected to be emphasized in this area as well. Talladega Ranger District; the area serves to support the setting for the Chinabee Silent Trail and the Skyway Loop Trail. The Walk in Turkey Hunting Area is located in this prescription; therefore, hunting, particularly turkey hunting, is an emphasis. No management activity is permitted on the Cheaha B Roadless Area if it is not consistent with the roadless rule. Tuskegee Ranger District; the area serves to support the setting for both sections of the Bartram Trail and the bicycle trail.

The sights and sounds of other visitors and motorized vehicles may be present. The opportunity to encounter other visitors is high along roadways, at parking areas, pullouts, and overlooks, but may be moderate to low on trails away from congregated use areas. There will be a wide range of recreational opportunities.

The area is generally assessable by road, but some roads may be managed through seasonal or year round motorized vehicle closure. Non-motorized and motorized trails will be maintained or improved as needed for visitor experience and resource protection. Trails may be expanded to meet local demands provided watershed and ecosystem health are not negatively affected. Limitations of use will occur if any dispersed activity results in, or is expected to result in, negative effects to watershed or ecosystem health.

A visually appealing landscape is emphasized by providing vista openings, featuring special attractions like rock outcroppings and waterfalls, and by providing park-like stands and a diversity of vegetation species and age classes. The landscape will predominantly be variations of structurally diverse mid- to late- successional communities with some open areas. Landscape character will be naturally appearing. Small and medium patches of old growth forest communities as well as small canopy gaps will develop over time throughout the area. The scenic integrity objectives will be in the upper values of high to moderate.

Forest management activities maintain or restore the natural characteristics that make the area popular. They are designed to 1) create a pleasing mosaic of various densities and stem sizes; 2) conserve flowering trees; 3) enhance herbaceous and shrub species; 4) create park like effects in the understory; 5) enhance both game and non-game wildlife habitat for viewing, photography and hunting; 6) minimize impacts from insect or disease outbreaks; or 7) rehabilitate areas damaged by insects or diseases. Management activities will normally be visually subordinate to the surrounding landscape. In the foreground of sensitive trails and roads, these activities will rarely be evident to the casual observer.

Timber harvesting operations focus on what is retained in the stand, not on wood fiber production. Timber harvest practices and restoration activities are designed to recognize the recreational and aesthetic values of these lands. Group selections, individual tree selections, thinnings, and shelterwood harvests are predominately used. Clear cutting will be an exception and will be used when it is the only management tool available to achieve the management objectives and ecosystem restoration.

Biological communities are maintained or improved to provide an attractive setting for visitors, complement the recreational values, and provide varied plant communities, structural stages, and associated wildlife. Management and protection of rare communities and species associates will be provided, along with the management and protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands. High quality watershed conditions are provided resulting in secure aquatic ecosystems/habitats on NFS lands.

Standards

- 7.E.2-01. The Landscape Architect or Recreation specialist in the Supervisor's Office will review timber harvesting activities in scenic class 1 & 2.
- 7.E.2-02. Slash treatment zones along roads and trails will be 50' from edge or as designated by the LA or Recreation specialist in the Supervisor's Office.
- 7.E.2-03. All project design will include landscape architect or Recreation specialist.
- 7.E.2-04. Protect native flowering trees along roads and trails.
- 7.E.2-05. Clearcutting will only be used when it is ecologically the best management tool available to achieve the recreational and ecosystem restoration objectives.
- 7.E.2-06. Timing and choice of herbicide treatments will be selected to minimize visual impacts.
- 7.E.2-07. Leave 2-4 large dominant or co-dominant mast producing hardwoods per acre, where available during harvest and vegetation management treatments. Leave trees will be left in clumps (groves), tied to SMZs, or edges.
- 7.E.2-08. ROS Settings: Roaded Natural.
- 7.E.2-09. Scenery: Scenic integrity objectives range from high to moderate.

8. LANDSCAPE HABITAT EMPHASIS AREAS

8.B. MIX OF SUCCESSIONAL HABITATS - EARLY SUCCESSIONAL HABITAT EMPHASIS

Emphasis: This area emphasizes providing optimal to suitable habitat for a variety of upland game species and plant and animal populations associated with early successional habitats in the form of open park like woodlands and savannas with

herbaceous ground cover. Management activities are designed to: (1) sustain a distribution of early successional habitat conditions interspersed throughout a forested landscape, (2) restore areas of native warm season grasses and maintain open, forb and grass-dominated groundcover, (3) optimize hard and soft mast production, and (4) control access to protect habitat when necessary. These areas are suitable for timber production.

Desired Condition: The area contains a mix of forest successional classes, primarily in southern pine and mixed pine-hardwood forest community types. There is much evidence of forest management activities in the area; including timber harvesting, prescribed burning, and wildlife food plot management. Herbaceous plants dominate the ground cover. Open, park-like, forest stands produce quality ground cover conditions for Bachman's sparrows, prairie warblers, and northern bobwhite quail. Permanent forest openings may contain native and desirable non-invasive exotic vegetation. In addition, some rare communities and associated species would continue to exist in the area, including disturbance-dependent communities that require fire and open canopies.

Habitat associations being emphasized include, early successional grass/forb associates, and early successional shrub/seedling/sapling associates. In addition, there will be suitable habitat for southern pine forest associates and pine savanna/woodland associates. The resulting landscape structure of this allocation provides a forest matrix considered marginal for linking large- and medium-sized old growth hardwood community patches. Old growth pine forest communities are a component of this landscape, contributing to early-successional habitat associates' needs through their frequently disturbed herbaceous layers. Management and protection will be provided for rare communities and species associates, along with management and protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

To emphasize early successional habitats, it is desirable to have 4% to 10% of the forested landscape in early successional forest (0 to 10 age class). Additional early successional habitat will exist as grass/forb and shrub/seedling conditions under open tree canopies. In the Southern Ridge and Valley, Piedmont, Coastal Plain, and Southern Cumberland Plateau areas, mid- to late-successional pine forest/woodland conditions may be found on at least 66 percent of the total pine forest acreage in the land allocated.

The landscape character will be natural appearing. Management activities may be evident, and visitors will likely see other people in this area. The Conecuh Trail crosses through this area.

Standards:

8.B-01. ROS Settings: Roaded Natural.

8.B-02. Scenery: Scenic integrity objectives range from high, moderate, and low.

8.D.1. RED-COCKADED WOODPECKER MANAGEMENT AREAS

Emphasis: This prescription is designed to provide suitable to optimal habitat conditions in areas containing small RCW populations in a larger designated habitat management area. These RCW populations are at the greatest risk of local extirpation and in need of immediate, aggressive management action to create and protect suitable habitat. Management will be based on the RCW FEIS. These areas are suitable for timber production.

Desired Condition: Habitat within the sub-HMA will consist of yellow pine and mixed pine-hardwood forest types. The RCW's nesting habitat consists of mature pines with an open, park-like understory; therefore, stand conditions in the sub-HMA will be maintained as mature or will be managed to establish mature stand conditions. This forest is primarily in mid- and late- successional conditions with a portion of the area in old growth conditions. Small and medium patches of the longleaf pine community type can be found throughout the area.

Habitat associations being emphasized include: southern yellow pine associates, pine savanna/woodland associates, and some fire-dependent species in early successional habitat associates. Northern bobwhite quail, Bachman's sparrows, and prairie warblers are benefited by the understory conditions produced by this management. Brown-headed nuthatches are common wherever large pines occur. Southeastern American kestrel and great crested flycatchers are also greatly benefited by management geared to RCW restoration. All of these species have declined precipitously in recent years. Suitable habitat will also be found for eastern wild turkey and white-tailed deer. This prescription is aimed at providing suitable to optimal habitats to support populations of these plant and animal species associates and to provide a very high likelihood that all species within these associations continue to persist on National Forest System lands.

Management and protection will be provided for rare communities and species associates (including disturbance-dependent communities), along with management and protection measures for TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

In emphasizing RCW management, at least 83 percent of the total pine forest acreage should be in mid- to late-successional pine forest/woodland conditions (greater than 20 years old) and at least 50 percent of the total pine forest acreage should be in late-successional pine forest conditions (greater than 60 years old). A maximum of 8.3 percent of the pine forest/woodland community should be in early successional grass/forb and shrub/seedling habitat conditions in patches greater than 10 acres in size. It is desirable to have 4% to 10% of the total forested landscape in early successional forest (0 to 10 age class). Additional early successional habitat will exist as grass/forb and shrub/seedling conditions under open tree canopies.

The landscape character will be natural appearing. This area will provide a variety of motorized and non-motorized recreation opportunities. Human activities may be evident. Visitors will likely see other people in the parts of this area with motorized access.

Outdoor skills are of moderate importance to visitors in this area, except where knowledge of specialized activities is critical.

Standards:

8.D.1-01. ROS Setting: Roaded Natural.

8.D.1-02. Scenery: Scenic integrity objectives range from high, moderate, and low.

All other standards are covered at the forestwide level. Specifically, the RCW standards are applied at the forestwide level for the Conecuh, Oakmulgee Division, and Talladega Division.

9. ECOSYSTEM RESTORATION/MAINTENANCE AREAS

9.C.3. SOUTHERN CUMBERLAND PLATEAU NATIVE ECOSYSTEM RESTORATION AND MAINTENANCE

Emphasis: The area will be managed to maintain or move towards restoration of a mix of hardwood, hardwood-pine and pine (including shortleaf and longleaf) forest communities based on historic conditions (as described in LTA and future LT descriptions). Restoration may be accomplished through a combination of silvicultural activities such as even-aged, two-aged and uneven-aged silvicultural methods, and/or other treatments such as prescribed burning. These areas are suitable for timber production.

Desired Condition: This prescription applies only to the Bankhead National Forest. Three major vegetative conditions, and the transition area between each, characterize this physiographic region. The northern part of the area contains primarily a mix of oak, oak-hickory and oak-pine forest community types. Moving southward, the area transitions to a mix of mesic hardwoods and shortleaf pine communities. Further south, the transition continues with a mix of mesic hardwoods and longleaf pine communities.

Loblolly pine is generally distributed over areas that were previously cleared and farmed. Virginia pine typically occurs in very shallow soils and rock outcrops/bluff lines. Oaks (mostly chestnut, post, northern red, black, black jack, white, and scarlet) and hickories (mostly pignut and mockernut) occur on ridges and slopes on the more northern sections. Gorges and ravines contain primarily beech, hemlock, sweet birch, cucumber tree and some oak species. On the Tennessee Valley escarpment, eastern red cedar, walnuts and cherry become important.

The northern part of the area is dominated by interior forest conditions, with large hardwood trees being common throughout. The communities are structurally diverse, with occasional openings or gaps (occurring from natural events or timber harvests). Hardwood communities on xeric sites will contain smaller trees and less diverse structure than those on mesic sites. Evidence of forest management activities (i.e., tree stumps, logging roads, prescribe burning) may be seen. Between 10-17% of the area may be in

early successional forest. These early successional conditions should be distributed across the community types and across the forest landscape. In addition, rare communities and associated species would continue to exist in the area, including disturbance dependent communities requiring active management. This forest is primarily in mid- and late-successional conditions with a portion of the area in old growth conditions. Small and medium patches of old growth can be found throughout the area.

The landscape character will be natural appearing. This area will provide a variety of non-motorized recreation opportunities. The sights and sounds of human activities, especially motorized uses along main travel corridors, will be evident in many parts of this area. Visitors will frequently see other people in some parts of this area. Motorized access will be available to many places.

Standards:

9.C.3-01. ROS Settings: Roaded Natural

9.C.3-02. Scenery: Scenic Integrity Objectives range from high, moderate, and low.

9.D. RESTORATION OF COASTAL PLAIN LONGLEAF PINE FORESTS

Emphasis: This prescription is designed to restore and maintain native longleaf forest communities in the coastal plains region of Alabama. This is accomplished through intensive silvicultural activities including but not limited to prescribed burning, mechanical and chemical vegetation control, even-aged, two-aged, and uneven-aged silvicultural methods. This prescription will provide suitable to optimal habitats to support populations of the plant and animal species associated with these communities. These areas are suitable for timber production.

Desired Condition: The area is dominated by longleaf pine forest communities with open herbaceous understories. This forest is primarily in mid- and late-successional conditions with a portion of the area in old growth conditions. Small and medium patches of the old growth longleaf pine community type can be found throughout the area. Old, flat-topped pine trees can be seen in the area. The pine communities are structurally simple [pine overstory and herbaceous/shrub understory] shaped primarily by the use of frequent fires (every 2-4 years - emphasis on growing season), with occasional gaps occurring from natural and or management events. Evidence of forest management activities (i.e., tree stumps, logging roads) may be seen. These are needed to convert off-site species to longleaf pine, to sustain a flow of pine habitats for the long-term, and provide optimal early successional habitat conditions. For the Conecuh and Oakmulgee, a maximum of 8.3 percent of the pine forest/woodland community should be in early successional grass/forb and shrub/seedling habitat conditions in patches greater than 10 acres in size. Elsewhere, it is desirable to have 10% to 17% of the total forested landscape in early successional forest (0 to 10 age class). Additional early successional habitat will

exist as grass/forb and shrub/seedling conditions under open tree canopies. Other deciduous forest community types may make up a smaller proportion of the area. Xeric oak communities, containing smaller trees, are found interspersed as a small proportion of the uplands. Primarily mid- and late- successional mesic hardwood communities, bottomland hardwood communities, swamp forests, and riparian habitats dissect the area. In addition, rare communities and associated species would continue to exist in the area, including disturbance dependent communities requiring active management.

Habitat associations being emphasized include: southern yellow pine associates, pine savanna and woodlands associates, mixed xeric habitat associates, fire dependent species, and early successional habitat associates. The conditions provided for wild turkey are suitable to optimal. Habitat conditions are suitable for the mid- to late-successional forest associates.

The landscape character will be natural appearing. These areas will provide a variety of motorized and non-motorized recreation opportunities. The sights and sounds of human activities, especially motorized uses along main travel corridors, will be evident in many parts of these areas. Visitors will frequently see other people in some parts of these areas. Motorized access will be available to many places. Non-motorized trails will also be available, and in some cases, motorized trails will be available. Outdoor skills are of moderate or low importance for visitors except where knowledge of specialized activities is critical. ROS class is roaded natural.

Standards:

9.D-01. ROS Setting: Roaded Natural.

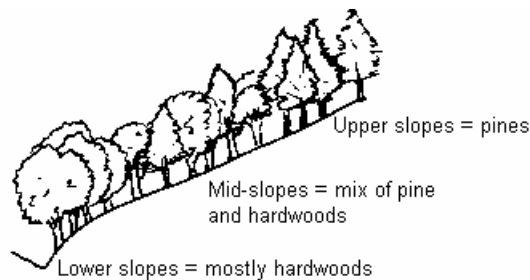
9.D-02. Scenery: Scenic integrity objectives range from high, moderate, and low.

9.D.1. SOUTHERN RIDGE AND VALLEY NATIVE ECOSYSTEM RESTORATION AND MAINTENANCE

Emphasis: Mountain longleaf pine and associated native forest communities will be restored and maintained. This community type occurs in the mountains of northeastern Alabama and adjacent areas in Georgia, and currently exists almost entirely on National Forest lands. Restoration and maintenance activities are accomplished through intensive silvicultural activities including prescribed burning; mechanical and chemical vegetation control; and even-aged, two-aged, and uneven-aged silvicultural methods (including commercial and non-commercial timber harvesting). The treatments will mimic disturbance regimes and vary by site conditions. This prescription will provide suitable to optimal habitats to support populations of the plant and animal species associated with this community. These areas are suitable for timber production.

Desired Condition: The mountain longleaf community contains a mix of open herbaceous understory conditions and shrub understory conditions. The canopy is dominated by longleaf pine, but may also contain shortleaf, Virginia, or loblolly pines, and oaks or other

hardwoods. North-facing slopes contain more xeric oak and oak-pine mixtures and mesic oak forest components. Shortleaf pine predominates the canopy of some sites, particularly on the Shoal Creek District. Generally, this forest community can be described as a continuum from stream bottom to ridge top, containing a mixture of pines and oaks as depicted in the picture below.



Old, flat-topped pine trees can be seen in the area. The pine communities are shaped primarily by frequent fires (every 2-4 years – mix of dormant and growing season), with openings and gaps created by management activities and natural events. Evidence may be seen of forest management activities, needed to restore native vegetation to these sites. These activities maintain a diversity of pine habitats for the long term, and provide young grass and forb habitat conditions. Deciduous forest community types may make up a smaller proportion of the area. Xeric oak communities, containing smaller trees, are found interspersed in the uplands. Primarily mid- and late-successional mesic hardwood communities, bottomland hardwood communities, and riparian habitats dissect the area. A portion of the area is in old growth conditions with small and medium patches of old growth found throughout the area.

A variety of habitat associations are emphasized including: southern yellow pine associates, pine woodlands associates, mixed xeric habitat associates, fire-dependent species, and early successional habitat associates. The conditions provided are suitable for game and non-game species, including wild turkey and white-tailed deer.

At least 40 percent of the total pine forest acreage should be in late-successional pine forest conditions. As a result of implementing activities to maintain/restore the longleaf pine communities, 4% to 10% of the forest landscape would be in early successional forest. Additional early successional habitat will exist as grass/forb and shrub/seedling conditions under open tree canopies.

The landscape character will be natural appearing. This area will provide a variety of non-motorized recreation opportunities. The sights and sounds of human activities, especially motorized uses along main travel corridors, will be evident in many parts of this area. Visitors will frequently see other people in some parts of this area. Motorized access will be available to many places.

Standards:

9.D.1-01. ROS Settings: Roaded Natural.

9.D.1-02. Scenery: Scenic integrity objectives range from high, moderate, and low.

9.F. RARE COMMUNITIES

Emphasis: Rare communities are assemblages of plants and animals that occupy a small portion of the landscape, but contribute significantly to plant and animal diversity. Rare communities, wherever they occur on the Forest, are managed under this prescription to ensure their contribution to meeting goals for community diversity, endangered and threatened species recovery, and species viability. These lands serve as core areas for conservation of the most significant elements of biological diversity identified to date on the Forest. The emphasis of designation and management of these areas are: (1) to perpetuate native communities that are rare (at the scale of their ecological Section or Subsection unit), and (2) to perpetuate or increase associated plant or animal species that are federally listed as threatened or endangered, or are of viability concern. These areas are generally unsuitable for timber production.

Desired Condition: Rare communities exhibit the composition, structure, and function necessary to support vigorous populations of species characteristic of the community, including relevant federally-listed threatened and endangered species, and species at risk of losing viability. Ecological disturbances are at the frequency and intensity needed to maintain desired composition, structure, and function. Generally, natural forces are sufficient to maintain these conditions; however, in some cases environmental factors have changed to the extent that natural processes are prevented or hindered from maintaining the community. In these cases, management activities used to restore or maintain desired conditions, such as prescribed burning or vegetation cutting, may be evident.

Beyond restoration and maintenance activities, human-caused alteration of rare communities is not evident. Recreational access may be limited by signs and barriers where necessary to protect community integrity. Interpretive signs or other information may be made available where it is likely to promote public knowledge of rare communities and improve community protection.

Rare communities covered by this prescription include:

A. Wetland Communities

1. Bogs, Fens, and Seeps [Southern Appalachians, Piedmont, Coastal Plain]
2. Limesink, Karst, and Depression Ponds [Southern Appalachians, Piedmont, Coastal Plain]
3. Open and Emergent Marshes [Southern Appalachians, Piedmont, Coastal Plain]
4. Riverine Vegetation [Southern Appalachians, Piedmont, Coastal Plain]
5. Atlantic White Cedar Swamp [Coastal Plain]

6. Coastal Plain Ponds and Pond Margins [Coastal Plain]
7. Coastal Plain Seepage Bogs [Coastal Plain]
8. Coastal Plain Baygalls and Bayheads [Coastal Plain]
9. Wet Pine Savannahs and Flatwoods [Coastal Plain]

B. Glades, Barrens, and Associated Woodlands

1. Calcareous Woodlands and Glades [Southern Appalachians, Coastal Plain]
2. Carbonate Glades and Barrens [Southern Appalachians]
3. Sandstone Glades and Barrens [Southern Appalachians]
4. Shale Glades and Barrens [Southern Appalachians, Piedmont]
5. Serpentine Woodlands [Southern Appalachians]
6. Mafic Glades and Barrens [Southern Appalachians, Piedmont]

C. Forest Communities

1. Basic Mesic Forests [Southern Appalachians, Piedmont, Coastal Plain]
2. Xeric Sandhills [Coastal Plain, Piedmont]
3. Mountain Longleaf Pine [Southern Appalachians, Piedmont]

D. Cliffs and Rock Outcrops

1. Talus Slopes [Southern Appalachians]
2. Forested Boulderfields [Southern Appalachians]
3. Acid Cliffs [Southern Appalachians]
4. Alkaline Cliffs [Southern Appalachians]
5. Spray Cliffs [Southern Appalachians]
6. Rock Houses [Southern Appalachians]
7. Granitic Flatrock [Southern Appalachians, Piedmont]

E. Other Communities

1. Patch Prairies and Grasslands [Southern Appalachians, Piedmont, Coastal Plain]
2. Canebrakes [Southern Appalachians, Piedmont, Coastal Plain]
3. Caves [Southern Appalachians, Piedmont, Coastal Plain]

Standards for all Rare Communities:

- 9.F-01. Rare communities are protected from any detrimental effects caused by management actions. Site-specific analysis of proposed management actions will identify any protective measures needed in addition to Forest Plan standards, including the width of

protective buffers where needed. Management activities occur within rare communities only where maintenance or restoration of rare community composition, structure, or function is expected.

- 9.F-02. Where recreational uses are negatively affecting rare communities, sites are modified to reduce or eliminate negative effects. New recreational developments are designed to avoid adverse effects to rare communities.
- 9.F-03. Invasive, non-native species are controlled with priority given to areas where they are causing negative effects to rare communities.
- 9.F-04. Permits for collection of flora or fauna from rare communities are not issued except for approved scientific purposes.
- 9.F-05. Removal of dead & down logs or other woody debris in rare communities is prohibited. Where needed to ensure public or employee safety, snags may be felled, but will be retained within the community as downed wood.
- 9.F-06. Rare communities containing TES species will receive the highest priority for restoration and protection. Restoration may include use of protection measures, prescribed burning, removal of encroaching vegetation, and reintroduction of key species. Management recommendations will make use of the best available information and most current research.
- 9.F-07. Prohibit surface occupancy or mineral exploration in or across rare communities.
- 9.F-08. Prohibit heavy equipment use and off-road vehicles (including bicycles) in rare communities, except in site-specific cases where these are to be used in restoration or maintenance of rare communities.

Wetland Communities

Bogs, Fens, Seeps, and Ponds (including Limesink, Karst and Depression Ponds)

These rare communities are characterized by 1) soils that are semi-permanently to permanently saturated as a result of groundwater seepage, perched water tables, rainfall, or beaver activity, but otherwise are generally non-alluvial, and 2) presence of wetland-associated species such as sphagnum, ferns, and sedges. Dominant vegetation may be herbs, shrubs, trees, or some complex of the three. Ponds in this group include limesink, karst, and depression ponds, which may hold areas of shallow open water for significant portions of the year. Also included are all impoundments and associated wetlands resulting from beaver activity. Artificial impoundments are not included, unless they support significant populations or associations of species at risk. These communities

may be found in both the Appalachian and Piedmont regions. Primary management needs are protection from non-target management disturbance and resource impacts, particularly to local hydrology. Periodic vegetation management may be necessary to maintain desired herbaceous and/or shrubby composition at some sites. These communities include Mafic and Calcareous Fens, Sphagnum and Shrub Bogs, Swamp Forest-Bog Complex, Mountain Ponds, Seasonally Dry Sinkhole Ponds, and Beaver Pond and Wetland Complex as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 458-15 Appalachian Highlands Wooded Depression Ponds
- 458-20 Appalachian and Interior Highlands Limesink and Karst Wooded Ponds
- 470-10 Appalachian Highlands Forested Bogs
- 470-20 Appalachian Highlands Forested Acid Seeps
- 470-50 Appalachian Highlands Forested Fens and Calcareous Seeps
- 475-10 Appalachian Highlands Acid Herbaceous Seeps
- 475-20 Appalachian Highlands Alkaline Herbaceous Fens and Seeps
- 475-30 Appalachian and Interior Highlands Herbaceous Depression Ponds and Pondshores

Standards for Wetland Communities:

- 9.F-09. Provide mitigation, such as silt fencing between activity and buffer zones for bogs and seasonal ponds. Do not use continuous silt fencing to allow for movement of amphibians in and out of the sites.
- 9.F-10. For springs associated with streams, follow riparian management direction.
- 9.F-11. Remove encroaching vegetation, if necessary, by limited mechanical or chemical means in consultation with forest botanist, or by hand removal.
- 9.F-12. Exclude grazing and livestock from wetland rare communities to protect sensitive and endemic plant population occurrences, and to limit introduction of exotic, invasive weed species.

Appalachian Highlands Riverine Vegetation

These rare communities are characterized by 1) sites adjacent to or within stream channels that are exposed to periodic flooding and scour, and 2) presence of significant populations or associations of species at risk. These communities may be found in both Appalachian and Piedmont regions. Primary management needs are protection from disturbance during development of road crossings, and maintenance of desirable in-stream flows. These communities include River Gravel-Cobble Bars as defined in the

Southern Appalachian Assessment (SAMAB 1996), and the rare Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 457-10 Appalachian Highlands Riverine Vegetation
- 457-30 Rocky Riverbeds
- 457-40 Appalachian Highlands Riverscour Vegetation

Atlantic White Cedar Swamp

This forest, or forested wetland community, occurs along streams or in basins in the East Gulf Coastal Plain of Alabama, Florida and Mississippi. Dominant and characteristic species are Atlantic white cedar (*Chamaecyparis thyoides*), slash pine (*Pinus elliottii*), swamp blackgum (*Nyssa biflora*), magnolia (*Magnolia grandiflora*), and Cliftonia (*Cliftonia monophylla*) in the overstory. The shrub layer is fairly open to very dense. Understory species include titi (*Cyrilla racemiflora*), Cliftonia (*Cliftonia monophylla*), fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), inkberry (*Ilex glabra*), and saw palmetto (*Serenoa repens*). Herbaceous density and composition varies with site hydrology, litter depth, and fire history. Herbaceous species found include, beak rush (*Rhynchospora* spp.), Southern long sedge (*Carex lonchocarpa*), netted chain-fern (*Woodwardia areolata*), sweet pitcherplant (*Sarracenia rubra*), sphagnum mosses (*Sphagnum* spp.), goldenclub (*Orontium aquaticum*), partridge berry (*Mitchella repens*), sundews (*Drosera* spp.), cinnamon fern (*Osmunda cinnamomea*), and royal fern (*Osmunda regalis*).

In the field, Atlantic white cedar swamp can be distinguished from drier surrounding sites by the presence of moist or saturated soils. This condition is obvious during the late winter and early spring when high rainfall levels and low evapotranspiration may allow ponding of water. The presence of Atlantic white cedar is adequate to denote the community. A range of understory conditions is possible. 1.) It can be found in saturated basins or hummocks in which a heavy peat or muck layer overlies the sandy subsoil. This condition leads to a sparse herbaceous layer and a community dominated by trees. 2.) Linear occurrences along streams in saturated, highly acid, coarse sandy situations lead to sparsely forested woodlands dominated by shrubs or herbaceous ground covers. 3.) Occurrences along blackwater streamsides and springheads of uneven-aged mixed forests with well-developed shrub and herbaceous strata. Occurrences are typically small in size ranging from five to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

360-20 - Southeastern Coastal Plain Streamhead Atlantic White Cedar Forests.

Atlantic White Cedar-Slash Pine/Swamp Blackgum-Carolina Red Maple/Saw Palmetto Forest - CEGLO07145

Steephead White Cedar Woodland - CEGLO03634

Gulf Coastal Plain Streamside White-cedar Swamp - CEGLO07151

Standards for Atlantic White Cedar Swamp Protection and Enhancement:

- 9.F-13. Prescribe burn on a 1-5 year cycle to maintain the structure and composition of the Atlantic White Cedar Swamp. Allow area to burn in a natural mosaic.
- 9.F-14. Provide a buffer from adjacent management activities around this community type, based on site-specific analysis of vegetation, soils, and topography.
- 9.F-15. Protection measures should at a minimum correspond to riparian prescription guidelines.
- 9.F-16. Restoration or maintenance measures may include a reduction of the understory or midstory to restore the natural function and structure of this community type.

Coastal Plain Ponds, Pond Margins and Open or Emergent Marshes

These wetland communities occur as imbedded features, usually found in pine flatwoods, in the East Gulf Coastal Plain. They are influenced by drainage changes affected by impermeable clay lenses, slight depressions, peat accumulations, or limestone karst weathering. Surrounding higher terrain is underlain by deep sand, causing these ponds to be fed almost entirely by groundwater. These drainage changes cause seasonal, periodic, or permanent inundation. When dry, or reduced in size due to seasonal drought, these communities are subject to fires spreading from adjacent uplands. Winter fires are unlikely to burn these communities, except during extreme drought cycles. Surrounding vegetation and hydrology vary widely depending on the depth of the impermeable clay lens and the size of the watershed influencing the pond. Vegetation conditions range from cypress and gum ponds, to shrub-dominated swamps or bays, to continuous herbaceous flats or depressions. In the field, these communities can be distinguished from surrounding forests and woodlands by a marked change in overstory composition or density, the presence of ponded water or saturated soils, and a decrease in elevation. Good examples of Coastal Plain Ponds and Pond Margins have a low incidence of exotics. Occurrences are typically small in size, ranging up to twenty acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 340-10 – Atlantic and Gulf Coastal Plain Upland Depression Forested Ponds
 - Rufous Mayhaw Forest – C EGL007783
 - Swamp Blackgum Depression Forest – C EGL007434
- 340-20 – Southeastern Coastal Plain Flatwoods – Wooded Ponds and Dome Swamps
 - Swamp Blackgum/Myrtle Dahoon/Southern Waxy Sedge – Softhead Pipewort Forest – C EGL004720

- Pond-cypress/(Swamp Blackgum)/Swamp Doghobble – Buttonbush – Wax-myrtle Depression Forest – CEGLO07420
- Pond-cypress/Myrtle Dahoon/(Peatland Sedge, Pinebarren Sedge) Stringer Forest – CEGLO07419
- Pond-cypress/Myrtle Dahoon Depression Forest – CEGLO07418
- 340-50 – Southeastern Coastal Plain Upland Depression Shrub Ponds Saturated Alder Thicket – CEGLO03912
- Pondshore Titi Thicket – CEGLO03844
- 345-05 – Southeastern Coastal Plain Open Ponds and Marshes East Gulf Coastal Plain Floatingheart Pond - CEGLO04621
- 345-10 – Southeastern Coastal Plain Open Limesinks and Emergent Vegetation Pineland St. John’s-wort/Yellow Hatpins – Willowleaf Meadow-beauty – (Kral’s Yellow-eyed-grass) Dwarf-shrubland – CEGLO04998
- Coastal Plain Vernal Pool Depression – CEGLO04100
- 345-30 – Southeastern Coastal Plain Emergent Ponds and Marshes East Gulf Coastal Plain Maidencane Pond – CEGLO07792

Standards for Coastal Plain Ponds and Pond Margins Protection and Enhancement:

- 9.F-17. Activities that result in sedimentation and other changes in water quality or the site’s hydrology are prohibited. Provide a minimum of 100-foot buffer around these areas.
- 9.F-18. Provide mitigation, such as silt fencing, between management activities and coastal plain ponds and pond margins. Do not use continuous silt fencing to allow for movement of amphibians in and out of the sites.
- 9.F-19. Do not introduce fish into seasonal or sinkhole ponds.
- 9.F-20. Do not permanently drain seasonal or sinkhole ponds, block or inhibit overflow channels from the ponds, or otherwise alter the hydrological regime.
- 9.F-21. Where livestock grazing occurs near a sinkhole pond, fence off and provide a buffer of sufficient size to prevent nutrient input from the livestock. Buffer size will be determined on a site-specific basis based on soils, topography and vegetation.

Coastal Plain Seepage Bogs

Coastal Plain seepage bogs occur in a pine flatwoods landscape, on very gently sloping to almost level topography, and often have a sparse canopy (typically 5%-10% cover) of stunted longleaf (*Pinus palustris*) and slash (*Pinus elliottii* var. *elliottii*) pines. Characteristic species include wiregrass (*Aristida beyrichiana*), feather bristle beaksedge (*Rhynchospora oligantha*), Florida dropseed (*Sporobolus floridana*) (rarely), crimson

pitcherplant (*Sarracenia leucophylla*), and parrot pitcherplant (*Sarracenia psittacina*). Patchy shrubs include woolly huckleberry (*Gaylussacia mosieri*), inkberry (*Ilex glabra*), wax myrtle (*Morella carolinensis* [= *Myrica heterophylla*]), fetterbush (*Lyonia lucida*), coastal sweetpepperbush (*Clethra alnifolia*), St. John's wort (*Hypericum* spp.), buckwheat tree (*Cliftonia monophylla*), and laurel greenbriar (*Smilax laurifolia*).

In the field, coastal plain seepage bogs can be distinguished from surrounding forests and woodlands by a drastic reduction in overstory density, the presence of wet or inundated soils, pitcherplants and other insectivorous plants, and stunted overstory trees. Good examples of coastal plain seepage bogs have a low incidence of non-native species and include wiregrass (*Aristida beyrichiana*) in the herbaceous layer. Occurrences are typically small in size, but may range up to twenty acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

347-10 – Southeastern Coastal Plain Herbaceous Seepage Bogs
East Gulf Coastal Plain Wet Flatwood Bog – CEGLO04154

Standards for Coastal Plain Seepage Bogs Protection and Enhancement:

- 9.F-22. Prescribe burn on a 1-4 year cycle to maintain coastal plain bogs. Monitor to determine if fire interval and season is adequate to maintain the desired condition (both structure and composition) for a particular site and adjust as needed.
- 9.F-23. Where livestock grazing occurs near a bog, provide a buffer of sufficient size to prevent nutrient input from the livestock. Buffer size will be determined on a site-specific basis based on soils, topography and vegetation.
- 9.F-24. Where possible, provide a minimum 100-foot buffer around bogs and associated rare communities. Activities that result in sedimentation or negative changes to site hydrology are prohibited.
- 9.F-25. Remove encroaching vegetation in bogs either by mechanical means (in consultation with forest botanist), use of prescribed fire, or by mechanical hand tools only.
- 9.F-26. Do not impound bogs to create ponds.

Coastal Plain Baygalls and Bayheads

These communities are dominated by sweetbay (*Magnolia virginiana*), redbay (*Persea borbonia*), and gallberry (*Ilex coriacea*). They may appear linearly along small stream

courses or in large depressions near the head of drains. Infrequent fires during dry periods prevent this type's succession to closed canopy streamside forest.

In the field, coastal plain baygalls and bayheads can be distinguished from surrounding forests and woodlands by a decrease in elevation, an increase in shrub density, a change in overstory composition to predominately bays, and the presence of water, inundated soils, and moist conditions even during dry periods. Good examples of coastal plain baygalls and bayheads have a low incidence of exotic species. Occurrences are typically small in size ranging up to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

360-10 – Southeastern Coastal Plain Baygalls and Bayheads

Black Titi/Shining Fetterbush – Blaspheme-vine Forest – CEGLO07042

Shrub Titi Swamp – CEGLO03847

Sweetbay – Swamp Blackgum – Southern Magnolia/Big Gallberry – Southern Wild Raisin/Bayhead Goldenrod Forest – CEGLO07473

Atlantic/East Gulf Coastal Plain Sweetbay – Blackgum Streamhead Forest – CEGLO04722

Atlantic/East Gulf Coastal Plain Sweetbay-Blackgum Seepage Forest – CEGLO08552

Upper East Gulf Coastal Plain Mountain Laurel Hillside Seepage Bog – CEGLO08548

Standards for Coastal Plain Baygalls and Bayheads Protection and Enhancement:

Refer to Riparian prescription and bog guidelines.

Pine Savannas and Woodlands

This open woodland community may have an overstory composed of slash (*Pinus elliottii*), pond (*Pinus serotina*) or longleaf (*Pinus palustris*) pine. Low tree density and a sparse shrub layer are characteristic of this shallowly inundated or wet community. Topography may be nearly flat seepage areas or slight depressions in deep sands or peat over a clay lens. The shrub stratum may be dense or sparse, and may consist of inkberry (*Ilex glabra*), titi (*Cyrilla racemiflora*), and saw palmetto (*Serenoa repens*). The rich and diverse herbaceous layer consists of wiregrass (*Aristida beyrichiana*, *A. stricta*), feather bristle beaksedge (*Rynchospora oligantha*), toothache grass (*Ctenium aromaticum*), Gulf chaffhead (*Carphephorus pseudoliatris*), and several pitcherplants including trumpet pitcherplant (*Sarracenia alata*). Only prime examples of these communities, as identified in the forest-wide rare community database, are managed under the Rare Community Prescription. Provisions of the Rare Community Prescription apply only to prime examples of this community that support significant populations or associations of species of viability concern.

In the field, pine savannas can be differentiated from surrounding upland habitats by a reduction in overstory density and elevation, wet or inundated ground conditions, scattered shrubs and a continuous herbaceous understory. Very slight topographic changes result in savannas and their sizes can range up to several hundred acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 330-10 – Southeastern Coastal Plain Longleaf Savannas and Flatwoods
 - East Gulf Coastal Plain Longleaf Pine Savanna – CEGLO03645
 - Longleaf Pine/Saw Palmetto – Little Gallberry Woodland – CEGLO03653
- 330-20(in part) – Southeastern Coastal Plain Wet Slash Pine Savannas and Flatwoods
 - Slash Pine-Pond Cypress Saturated Woodland - CEGLO04768
 - Slash Pine (Pond Pine)/Southern Wiregrass-Feather-Bristle Beaksedge- (Yellow Pitcherplant, Hooded Pitcherplant, Parrot Pitcherplant) Woodland - CEGLO03673*
 - Slash Pine Titi Swamp - CEGLO03638
 - Slash Pine/Saw Palmetto-Little Gallberry Woodland - CEGLO03643

Standards for Pine Savannas and Woodlands Protection and Enhancement:

- 9.F-27. Manage at least one third of the fire climax communities in the East Gulf Coastal Plain National Forests in Alabama as woodlands (40-60 average BA, or \approx 20% of fire climax communities) or savannas (\leq 40 average BA, \approx 10% of the fire climax communities).
- 9.F-28. Restore at least 500 acres/year of Pine Savannas and Woodlands with restored, native, warm-season, herbaceous ground covers.
- 9.F-29. Prescribe burn on a 1-5 year cycle to maintain the structure and composition of Pine Savannas and Woodlands.
- 9.F-30. Emphasize growing season fires in Pine Savannas and Woodlands. Alternate seasonality of burn to maximize vegetative diversity.
- 9.F-31. Reduce basal areas (generally 30- 60 average BA) in pine savannas and woodlands to allow the development and persistence of an herbaceous understory throughout the majority of the life of the stand.
- 9.F-32. Refer to longleaf restoration prescription for additional guidance.

Wet Pine Flatwoods

This woodland community occurs in the East Gulf Coastal Plain, on low, flat terrain. It is usually dominated by slash pine (*Pinus elliottii*). Wiregrass (*Aristida stricta* var. *beyrichiana*) is a frequent groundcover, with pitcher plant bogs imbedded sporadically throughout the community. Pools, ponds, and bogs occur in the depressions in this terrain. Only prime examples of these communities, as identified in the forest-wide rare community database, are managed under the Rare Community Prescription. Provisions of the Rare Community Prescription apply only to prime examples of this community that support significant populations or associations of species of viability concern.

In the field, wet pine flatwoods can be distinguished from surrounding forests and woodlands by a reduction in overstory density, the presence of seasonally wet or inundated soils, a transition into low, relatively flat, poorly drained terrain. Good examples of wet pine flatwoods have a low incidence of exotic species, and a high likelihood of imbedded bog communities and surface rutting or compaction has not affected drainage. Feral hog, cattle, and horse populations, if present, are managed to keep their effects to species composition and hydrology, minimal. Occurrences can range in size up to several hundred acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 330-20(in part) – Southeastern Coastal Plain Wet Slash Pine Savannas and Flatwoods
- Slash Pine/Saw Palmetto – Little Gallberry Woodland – CEGLO03653

Standards for Wet Pine Flatwoods Protection and Enhancement:

- 9.F-33. Prescribe burn on a 1-5 year cycle to restore and maintain occurrences of Wet Pine Flatwoods structure and composition.

Glades, Barrens, and Associated Woodlands

These communities are characterized by thin soils and exposed parent material that result in localized complexes of bare soil and rock, herbaceous and/or shrubby vegetation, and thin, often stunted woods. During wet periods they may include scattered shallow pools or areas of seepage. They vary widely in species composition depending on the type of underlying parent material. They differ from rock outcrop communities by exhibiting some level of soil and vegetation over the majority of the site. Field delineations should include the entire complex of characteristic vegetation composition and structure. These communities may be found in both Appalachian and Piedmont regions. Primary management needs are protection from nontarget management disturbance and recreational impacts. Periodic vegetation management, especially prescribed fire, may be necessary to maintain or restore desired herbaceous and/or shrubby composition. These communities include Calcareous Woodlands and Glades, Mafic Woodlands and Glades, Serpentine Woodlands and Glades, and Shale Barrens as defined in the Southern Appalachian Assessment (SAMAB 1996), and the rare Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 401-17 Appalachian Highlands Calcareous/Circumneutral Dry-Mesic Hardwood Forests and Woodlands
- 440-05 Appalachian Highlands Carbonate Glades and Barrens
- 440-10 Interior Highlands Carbonate Glades and Barrens
- 440-25 Appalachian Sandstone Glades and Barrens
- 440-40 Appalachian Shale Glades and Barrens
- 440-65 Appalachian Serpentine Woodlands
- 440-80 Appalachian Mafic Igneous/Metamorphic Glades and Barrens

Standards for Glades, Barrens, and Associated Woodlands Protection and Enhancement:

- 9.F-34. In certain instances, may have overlap with cliff/canyon prescriptions. See these for additional guidance.
- 9.F-35. Prescribe burn on a 1-8 year cycle to maintain or restore the structure, function, and species composition of glades/barrens.
- 9.F-36. Remove heavy amounts of large dead and down woody debris from glades and rock barrens to prevent long-duration/intense burning, which may sterilize the thin soils.
- 9.F-37. Remove encroaching or invasive non-desirable midstory and create canopy gaps to restore/maintain glades/rock barrens structure and composition.
- 9.F-38. Coordinate any use of herbicide and heavy equipment that may cause excessive soil disturbance in areas adjacent to these rare communities with Forest Botanist.

Forest Communities

Several Forest Communities that occur in higher and more northerly elevations (> 4500 ft) of the Southern Appalachians do not occur in the Southern Cumberland Plateau or Southern Ridge and Valley Physiographic Regions of Alabama. These communities include Carolina Hemlock Forests, Table Mountain Pine Forests and Woodlands, Spruce-Fir Forests, and Beech Gap Forests.

Basic Mesic Forests

These communities are characterized by complex multi-storied canopies of deciduous trees, and rich and diverse understories of calciphilic herbs, underlain by high-base geologic substrates. On moderate to high elevation sites, these communities are typically found in protected coves, and can be distinguished from more acidic mesic cove forests by the abundance of species such as white basswood (*Tilia americana*), yellow buckeye (*Aesculus flava*), black walnut (*Juglans nigra*), faded trillium (*Trillium discolor*), sweet white trillium (*Trillium simile*), black cohosh (*Cimicifuga racemosa*), blue cohosh

(*Caulophyllum thalictroides*), whorled horsebalm (*Collinsonia verticillata*), mock orange (*Philadelphus inodorus*), sweet shrub (*Calycanthus floridus*), sweet cicely (*Ozmorhiza* spp.), doll's eyes (*Actaea racemosa*), maidenhair fern (*Adiantum pedatum*), and plantain-leaved sedge (*Carex plantaginea*). Good examples of moderate and high elevation basic mesic forests have a low incidence of eastern hemlock (*Tsuga canadensis*), rhododendron (*Rhododendron* spp.), and Christmas fern (*Polystichum acrostichoides*). An oak-dominanted variant of moderate to high elevation basic mesic forest occurs over limestone on upper to mid slopes of the Interior Plateau of Tennessee, the Cumberland of Alabama, and the Ridge and Valley of Georgia. This basic mesic community is dominated or codominated by shumard oak (*Quercus shumardii*) or chinquapin oak (*Quercus muehlenbergii*) or of shagbark hickory (*Carya ovata*), in combination with various species of oaks and hickories and either sugar maple (*Acer saccharum*), chalk maple (*Acer leucoderme*), or southern sugar maple (*Acer barbatum*). Typical calciphilic understory species also are present. Coastal Plain Basic Mesic forests are often characterized by the presence of hickories (*Carya ovata*, *Carya alba*, *Carya carolinenseptentrionalis*), White Oak (*Quercus alba*) and Beech (*Fagus grandifolia*) Buckeyes (*Aesculus* spp), and Chalk Maple or Southern Chalk Maple (*Acer leucoderme*, *Acer barbatum*). On the fall line, these areas may be found in conjunction with dolomite ridge glades, with Butternut (*Juglans cinerea*), Eastern Red Cedar (*Juniperus virginiana*) and Redbud (*Cercis canadense*) present.

On lower elevation sites, these communities are more typically found on north or east slopes, where dominant and characteristic overstory species are American beech (*Fagus grandifolia*) and northern red oak (*Quercus rubra*), with tulip poplar (*Liriodendron tulipifera*), white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), or white ash (*Fraxinus americana*), with southern sugar maple, chalk maple, painted buckeye (*Aesculus sylvatica*), and pawpaw (*Asimina triloba*) in the midstory and shrub layers, and understories that include faded trillium, nodding trillium (*Trillium rugelii*), black cohosh, doll's eyes, foam flower (*Tiarella cordifolia* var. *collina*), bloodroot (*Sanguinaria canadensis*), bellworts (*Uvularia* spp.) and trout lilies (*Erythronium* spp.). Good examples of low elevation basic mesic forests have a low incidence of sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and exotics such as Japanese honeysuckle (*Lonicera japonica*) or Chinese privet (*Lingustrum vulgare*). Basic mesic forest communities are found in both the Appalachian and Piedmont regions as well as in the Coastal Plain. Only prime examples of these communities, as identified in the forest-wide rare community database, are managed under the Rare Community Prescription. Provisions of the Rare Community Prescription apply only to prime examples of this community that support significant populations or associations of species of viability concern. Primary management needs are protection from nontarget management disturbance. This community includes the following Associations defined by NatureServe (2001a, 2001b):

CEGL007711 Southern Appalachian Cove Forest (Rich Foothills Type)
CEGL008442 Shumard Oak-Chinquapin Oak Mesic Limestone Forest
CEGL008466 Basic Piedmont Mesic Mixed Hardwood Forest
CEGL008488 Southern Ridge and Valley Basic Mesic Hardwood Forest
CEGL004542 Piedmont Rocky Mesic Mafic Forest.

CEGL007225 Coastal Plain Calcareous Mesic Forest
CEGL004671 Interior Upland Calcareous Mesic Forest**Standards for Basic Mesic Forest Protection and Enhancement:**

- 9.F-39. Inventory and map the best examples of basic mesic forest for designation as special botanical areas. Designate limited areas of lesser quality basic mesic forest for protection in the rare community prescription. Include the ecotone between this community and drier forests in these designations.
- 9.F-40. Maintain late successional deciduous forest conditions on sites where the federally listed relict trillium and the Florida gooseberry occur.
- 9.F-41. Use backing fires in basic mesic forests. Prescribed fires should not be lit on lower slopes of these communities. Fire should be allowed to back into basic mesic forests from more xeric uplands. Monitor fire effects in basic mesic forests.
- 9.F-42. Conduct range-wide inventories for butternut to assess its distribution. Survey and monitor the incidence and severity of butternut canker. Explore opportunities to enhance existing basic mesic forests with disease-resistant varieties of American chestnut and butternut hickory.
- 9.F-43. Avoid new road construction or other soil disturbance in these communities.

Xeric Sandhills

This community occurs in the East Gulf Coastal Plain, where it is restricted to extremely deep sandy soils. It is distinctive for its lack of wiregrass due to the extreme edaphic conditions. This sandhill association is widespread on Lakeland soils. Longleaf pine dominates the canopy, with 10-30% coverage. The understory of scrub oaks, mainly turkey oak (*Quercus laevis*), but also bluejack oak (*Quercus incana*), sand live oak (*Quercus geminata*) and sand post oak (*Quercus boyntonii*), is highly variable, from shrubs to small trees (depending on interval, season, and pattern of fire), and from very sparse to very dense. Hawthorn (*Crataegus lacrimata*) and gopher apple (*Licania michauxii*) are typically present as low shrubs. Little bluestem (*Schizachyrium scoparium*), three-awn grasses (*Aristida* spp.), and goat's rue (*Tephrosia* spp.), may be contained in the herbaceous stratum.

In the field, xeric sandhills can be distinguished from surrounding forests and woodlands by an increase in elevation, extremely deep sandy soils, low overstory density, and the small, shrubby, growth form of oak species in the area. Good examples of xeric sandhills have a low incidence of sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*),

and exotics such as Japanese honeysuckle (*Lonicera japonica*) or Chinese privet (*Ligustrum sinense*). Occurrences are typically small in size, ranging up to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

320-10 – Southeastern Coastal Plain Xeric Longleaf Pine Sandhill/Pinelands
East Gulf Coastal Plain Xeric Longleaf Pine Sandhills – CEGLO03587
Longleaf Pine/Turkey Oak/Gopher-Apple/Southern Wiregrass – Sandhill Croton
Woodland – CEGLO03583

Standards for Xeric Sandhills for Protection and Enhancement:

- 9.F-44. Encourage TES species and selected occurrences of locally rare species located on open roadsides or utility corridors to spread away from these vulnerable corridors by thinning adjacent forest stands to a range of 60-80 BA followed by frequent burning in various seasons
- 9.F-45. Prescribe burn on a 1-8 year cycle to maximize soft mast production, and maintain xeric sandhill communities.

Cliffs and Rock Outcrops

Cliffs and Bluffs

Steep, rocky, sparsely vegetated slopes, usually above streams or rivers, characterize these communities. Cliff communities may be dry or wet, and include communities associated with waterfalls, such as spray cliffs and rock houses, talus slopes and forested boulderfields. These communities are found in the Appalachian region. In Alabama the talus slopes, cliffs and forested boulderfield communities are found in the Southern Appalachians encompassing the Talladega National Forest. In 2002, a new community of low elevational forested boulderfields was discovered, resulting in a type locality and new community description drafted for this section. A second description of low-elevational talus slopes are based on occurrences in mountains in Arkansas and Oklahoma. Cliffs and Bluffs are known to occur in the Southern Cumberland Plateau of the Bankhead National Forest. A special Habitat Prescription, the Canyon Corridors Prescription, was authored in Alabama to spatially represent the cliffs and bluffs on the Bankhead to ensure their protection. Primary management needs are protection from management disturbance and maintenance of hydrology near wet cliffs. This community includes Calcareous Cliffs, Mafic Cliffs, Sandstone Cliffs, and Spray Cliffs as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 430-40 Eastern Dry Acid Cliffs
- 430-45 Eastern Moist Acid Cliffs

- 430-50 Eastern Dry Alkaline Cliffs
- 430-55 Eastern Moist Alkaline Cliffs
- 430-60 Appalachian Highlands Northern White-Cedar Bluffs
- 430-65 Appalachian Highlands Rock Houses
- I.B.2.N.a Southern Appalachian Low-Elevation Boulderfield Forest
- CEGL004454 Appalachian Talus Slope

Standards for Cliff, Bluff and Boulderfield Protection and Enhancement:

- 9.F-46. Prohibit rock climbing at significant Threatened, Endangered, and Sensitive species locations, through coordination with recreation and PAO staff.
- 9.F-47. Mature forest cover is maintained within 100 feet slope distance from the top of cliffs and 200 feet slope distance from the base of cliffs to provide habitat for cliff-associated wildlife. Within this zone, activities are limited to those needed to ensure public safety or to maintain or improve habitat for federally listed species or other species whose viability is at risk.

Other Communities

Patch Prairies and Grasslands

These communities occur on dry upland sites and are characterized by dominance of grasses and herbs, though scattered trees may be present. These communities represent remnants of naturally occurring grasslands historically maintained by fire and other natural forces, as opposed to old fields. Provisions of the Rare Community Prescription apply to examples that support significant populations or associations of species at risk. Other natural grasslands will be restored and maintained within complexes of open woodlands. These communities are found in both the Appalachian and Piedmont regions. Additional communities may be found in the coastal plains, as remnant blackland prairie and residual tall-grass prairie. Primary management needs are maintenance and restoration using a variety of vegetation management methods including prescribed fire. These communities include all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 445-10 Interior Highlands Patch Prairies and Grasslands
 - CEGL004664 Schizachyrium Blackbelt Herbaceous Vegetation
 - CEGL004044 Andropogon virginicus var virginicus Herbaceous Vegetation
 - V.A.6.N.q101 Juniperus Virginiana/Schizachyrium scoparium Wooded Herbaceous

Standards for Patch Prairies, Grasslands Protection & Enhancement

- 9.F-48. Prescribe burn on a 1-3 year cycle to maintain or restore community composition, structure and function. Alternate

seasonality to maximize species diversity.

- 9.F-49. Emphasize growing season (summer and fall) fires to facilitate grass seeding and germination.
- 9.F-50. Restore or maintain proper community structure by removing encroaching undesirable shrubs, reducing basal area and midstory, and creating canopy openings.

Canebrakes

This community is characterized by almost monotypic stands of giant or switch cane (*Arundinaria gigantea*), usually with no or low densities of overstory tree canopy. It is typically found in bottomlands or stream terraces. This community is often within the riparian are, and therefore is also protected by Riparian Prescription Standards. Although cane is found commonly as an understory component on these sites, provisions of the Rare Community Prescription apply only to larger patches (generally greater than 0.25 acres) exhibiting high densities that result in nearly monotypic conditions, or to areas selected for restoration of such conditions. This community is found in the Appalachian, Piedmont, and Coastal Plain regions. Primary management needs are restoration and maintenance through overstory reduction and periodic prescribed fire. Although several Associations described by NatureServe (2001a, 2001b) include cane as a major component, this community most closely corresponds to:

CEGL003836 - Floodplain Canebrake

Standards for Canebrake Protection and Enhancement:

- 9.F-51. Prescribe burn on a 1-8 year cycle to maintain or restore natural canebrake function, structure and composition.
- 9.F-52. Introduce canopy gaps to restore or maintain natural canebrake structure and composition.
- 9.F-53. Coordinate herbicide and heavy equipment use that may cause excessive soil disturbance in these rare communities with Forest Botanist.
- 9.F-54. Refer to riparian prescription for additional guidance.

Caves and Abandoned Mines

This community is characterized by natural and human-made openings in the ground that extend beyond the zone of light, creating sites buffered in relation to the outside environment. Included are karst and sinkhole features that lead to such subterranean environments. Provisions of the Rare Community Prescription apply only to those sites

supporting cave-associated species. Primary management needs are protection from non-target management disturbance and recreational impacts, and maintaining quality of water flowing into underground streams.

Standards for Caves and Abandoned Mines Protection and Enhancement:

- 9.F-55. Develop site-specific management plans for each significant cave to meet the intent of the Federal Cave Resources Protection Act.
- 9.F-56. Until caves or abandoned mines have been surveyed for use by federally listed bats, these species are assumed to be present and habitat is maintained for them by applying standards for occupied caves and mines.
- 9.F-57. For all caves and abandoned mines suitable for supporting cave-associated species, a minimum buffer of 200 feet is maintained around portals and any associated sinkholes and cave collapse areas. Prohibited activities within this buffer include use of wheeled or tractor vehicles (except on existing roads), mechanical site preparation, vegetation cutting, recreation site construction, tractor-constructed firelines, livestock grazing, herbicide application, and construction of new roads (including temporary roads), skid trails, and log landings. Wider buffers are identified through site-specific analysis when necessary to protect cave and mines from subterranean and surface impacts, such as recreational disturbance, sedimentation and other adverse effects to water quality, and changes in air temperature and flow.
- 9.F-58. Use of caves for disposal sites or alteration of cave entrances is prohibited, except for construction of appropriate cave gates or closures. Where previously modified entrances are causing adverse impacts to cave fauna, entrance area restored to eliminate adverse effects.

9.G. MAINTENANCE AND RESTORATION OF UPLAND AND BOTTOMLAND HARDWOODS AND MIXED PINE-HARDWOOD FORESTS

Emphasis: Management will restore and maintain bottomland and upland hardwood and mixed pine-hardwood forest communities. This is accomplished through silvicultural activities including but not limited to prescribed burning, mechanical and chemical vegetation control, even-aged, two-aged, and uneven-aged silvicultural methods. This prescription will provide suitable to optimal habitats to support populations of the plant and animal species associated with these communities. These areas are suitable for timber production.

Desired Condition: The area contains predominately hardwoods and mixed pine-hardwood forest community types primarily in mid- and late-successional conditions with

a portion of the area in old growth conditions. Small and medium patches of old growth can be found throughout the area. The mix of forest communities will vary from upland hardwoods to bottomland hardwoods to pine-hardwoods, and possibly include wetlands, riparian habitats and swamp forests. Hardwood communities on xeric sites will contain smaller trees and less diverse structure than those on mesic sites. Evidence of forest management activities (i.e., tree stumps, logging roads, prescribe burning) may be seen. Between 10-17% of the area may be in early successional forest. These early successional conditions should be distributed across the community types and across the forest landscape. The area is classified as suitable for timber production. In addition, rare communities and associated species would continue to exist in the area, including disturbance dependent communities requiring active management

Habitat associations being emphasized include: mid- to late-successional deciduous forest associates and bottomland hardwood associates. These areas also provides habitat conditions suitable for early successional forest associates and suitable habitat for eastern wild turkey and white-tailed deer. Management and protection will be provided for rare communities and species associates, along with management and protection measures for population occurrences of PETS and locally rare species.

The landscape character will be natural appearing. These areas will provide a variety of motorized and nonmotorized recreation opportunities. The sights and sounds of human activities, especially motorized uses along main travel corridors, will be evident in many parts of this area. Visitors will frequently see other people in some parts of this area. Motorized access will be available to many places. Nonmotorized trails will also be available, and, in some cases, motorized trails will be available. Outdoor skills are of moderate or low importance for visitors, except where knowledge of specialized activities is critical.

Standards:

9.G-01. ROS Setting: Roaded Natural

9.G-02. Scenery: Scenic integrity objectives range from high, moderate and low.

10. FOREST PRODUCT EMPHASIS AREAS

10.D. Grazing and Forage Emphasis Areas

Emphasis: The objective is to provide range and forage within managed allotments. These areas are unsuitable for timber production.

Desired Condition: Desired condition of rangelands is to maintain soil productivity and optimum forage production.

Management and protection will be provided for rare communities and species associates, along with management and protection measures for population occurrences

of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

The landscape character will range from natural appearing to pastoral/agricultural. This area may provide a variety of recreation opportunities. Human activities may be evident in some places, and visitors will likely see other people in parts of this area.

Standards:

- 10.D-01. ROS Settings: Roaded Natural.
- 10.D-02. Scenery: Scenic integrity objectives range from high, moderate, and low.

11. RIPARIAN CORRIDORS

Riparian Areas are functionally defined as areas with three-dimensional ecotones of interaction that include both terrestrial and aquatic ecosystems. They extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain into the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width¹. (For an operational definition of a riparian area based on soils, vegetation, and hydrologic characteristics see Appendix “C”.) A Riparian Corridor is a management prescription area designed to include much of the Riparian Area. Within the riparian corridor management prescription area, management practices are specified to maintain riparian functions and values. As a management prescription area, this includes corridors along all defined perennial and intermittent stream channels that show signs of scour, and around natural ponds, lakeshores, wetlands, springs, and seeps. (See Appendix “C” for a graphical representation of a Riparian Corridor.)

Emphasis: Riparian Corridors will be managed to retain, restore and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within the corridor. Primarily, natural processes (floods, erosion, seasonal fluctuations, etc.) will modify most of the areas within the riparian corridor. However, management activities may be used to provide terrestrial or aquatic habitat improvement, favor recovery of native vegetation, control insect infestation and disease, comply with legal requirements (e.g. ESA, CWA), provide for public safety, and to meet other riparian functions and values. Silvicultural treatments including timber and vegetation removal may occur to restore and/or enhance riparian resources such as water, aquatic and riparian-associated wildlife species, and native communities. These areas are unsuitable for timber production.

Desired Condition: Riparian corridors reflect the physical structure, biological components, and ecological processes that sustain aquatic, riparian, and associated upland functions and values. The preferred management for riparian corridors is one that maintains, or moves toward, the restoration of processes that regulate the

¹ Ilhardt, B.L., E.S. Verry, and B.J. Palik. 2000. Defining riparian areas. Pages 23 – 42 in E.S. Verry, J.W. Hornbeck, and C.A. Dolloff (editors) Riparian management in forests in the continental eastern United States. Lewis Publishers, New York. 402pp.

environmental and ecological components of riparian areas. However, due to the high value that these areas have for many uses, evidence of human activity (developed recreation areas, roads and trails, dams and reservoirs, and pastoral areas) may be present.

The soils of riparian corridors have an organic layer (including litter, duff, and/or humus) of sufficient depth and composition to maintain the natural infiltration capacity, moisture regime, and productivity of the soil (recognizing that floods may periodically sweep some areas within the floodplain of soil and vegetation). Exposed mineral soil and soil compaction from human activity may be present but are dispersed and do not impair the productivity and fertility of the soil. Any human-caused disturbances or modifications that cause environmental degradation through concentrated runoff, soil erosion, or sediment transport to the channel or water body are promptly rehabilitated or mitigated to reduce or eliminate impacts.

Trees within the corridors are managed to provide sufficient amounts and sizes of woody debris to maintain habitat complexity and diversity for aquatic and riparian-associated wildlife species. Recruitment of woody debris typically occurs naturally; however, woody debris may be purposefully introduced to enhance aquatic and terrestrial habitat. Both in-stream and terrestrial woody debris are regarded as essential and generally left undisturbed.

The riparian corridor functions as a travel-way for aquatic and terrestrial organisms. The corridor serves as a connector of habitats and populations allowing gene flow to occur, thus keeping populations genetically viable. Stream structures – such as bridges, culverts, and aquatic habitat improvement structures – may be evident in some streams and water bodies. With the exception of some dams, most structures do not decrease in-stream connectivity.

Suitable habitat is provided in riparian areas, and where applicable in the associated uplands, for riparian-associated flora and fauna; especially threatened, endangered, sensitive (TES) and locally rare species. Vegetation (dead and alive) reflects the potential natural diversity of plant communities with appropriate horizontal and vertical structure needed to provide the shade, food, shelter, and microclimate characteristics for aquatic and terrestrial species. Rehabilitation of past and future impacts (both natural and human-caused) may be necessary to protect resource values and facilitate recovery of riparian structure and functions.

Vegetative communities within the riparian corridor are diverse and productive, providing for a rich variety of organisms and habitat types. Predominantly old growth forest will develop throughout the area. The riparian corridor provides an important linkage between large patches of old growth. The vegetative community within the riparian corridor is predominately forested; however, some native non-forested communities such as wet meadows and grass or shrub dominated plant communities may occur. The desired vegetative condition of non-forested communities is determined by site-specific analysis.

The forest contains multiple canopy layers, which provide diverse habitat structure, and thermal and protective cover for wildlife. Snags used by birds, bats, and other small animals are abundant. Dying and down trees are common, often in naturally occurring patches. Wet meadows, non-forest communities, and open forest canopies, created by flooding, wind damage, wildland fire, insects infestation, disease, restoration, and vegetation management may be seen.

Vegetation management activities may take place to maintain, restore, and/or enhance the diversity and complexity of native vegetation, rehabilitate both natural and human-caused disturbances, and provide habitat improvements for aquatic and riparian-associated wildlife species (including migratory birds), provide for visitor safety, or to accommodate appropriate recreational uses. Silvicultural treatments, including timber and vegetation removal, may occur within the riparian corridor, but the corridor will be classified as not suitable for timber production. Prescribed fire can be used within the corridor to create or maintain the composition and vitality of fire-dependent vegetative communities (e.g., canebrakes and longleaf pine-wiregrass).

The landscape character is “naturally evolving” or “natural appearing,” but occasional enclaves of a “rural” landscape character may occur with pastoral settings and recreation developments (such as a swim beach at a campground). Livestock grazing may occur, but it is managed to minimize impacts on stream banks, water quality, and other riparian resources.

Both dispersed and developed recreation opportunities may be present within these corridors. Although recreational areas and facilities may create long-term impacts on riparian corridors, allowances are made in this prescription since a majority of recreation within the national forests occurs in or near water bodies. Hiking, dispersed camping, hunting, and fishing are typical activities available within the corridor. Visitors may encounter developed camping areas, boat launches and fishing piers. Current recreation areas and facilities are managed to minimize impacts on stream banks, shorelines, and water quality. New recreation facilities will be developed in accordance with Executive Orders 11988 and 11990 to minimize impacts on the riparian resource. Environmental education and interpretation about the aquatic component and riparian corridor may be provided to increase awareness of the value of riparian dependent resources.

Desired Conditions for Aquatic Systems within the Riparian Corridor

Streams are in dynamic equilibrium; that is, stream systems normally function within natural ranges of flow, sediment movement, temperature, and other variables. The geomorphic condition of some channels may reflect the process of long-term adjustment from historic watershed disturbances (e.g., past intensive farming practices within the Piedmont). The combination of geomorphic and hydrologic processes creates a diverse physical environment, which, in turn, fosters biological diversity. The physical integrity of aquatic systems, stream banks and substrate, including shorelines and other components of habitat is intact and stable. Where channel shape is modified (e.g., road crossing), the modification preserves channel stability and function.

The range of in-stream flows is maintained to support channel function, aquatic biota and wildlife habitat, floodplain function, and aesthetic values. Water uses and other modifications of flow regimes are evaluated in accordance with the national Forest Service in-stream flow strategy and site-specific analysis.

Water quality remains within a range that ensures survival, growth, reproduction, and migration of aquatic and riparian-associated wildlife species; and contributes to the biological, physical, and chemical integrity of aquatic ecosystems. Water quality meets or exceeds State and Federal standards. Water quality (e.g.: water temperatures, reducing sediment, dissolved oxygen, and pH) will be improved where necessary to benefit aquatic communities.

Floodplains properly function as detention/retention storage areas for floodwaters, sources of organic matter to the water column, and habitat for aquatic and riparian-dependent species. Modification of the floodplain is infrequent but may be undertaken to protect human life and property or to meet other appropriate management goals (e.g.: restoration). There may be evidence of some roads, trails, and recreation developments. Some wetland habitats may show signs of restoration.

The biological integrity of aquatic communities is maintained, restored, or enhanced. Aquatic species distributions are maintained or are expanded into previously occupied habitat. The amount, distribution, and characteristics of aquatic habitats for all life stages are present to maintain populations of indigenous and desired nonnative species. Habitat conditions contribute to the recovery of species under the Endangered Species Act. Species composition, distribution, and relative abundance of organisms in managed habitats is comparable to reference streams of the same region. Some streams, however, may be stocked with non-native fish by the respective State natural resource agency.

Determination of Riparian Corridors:

Due to their spatial extent, riparian corridors are not identified on the Forest Plan map of prescription allocations. Estimated acreages of the Riparian Prescription allocations are based on the widths described in Tables 3-2 and 3-3. For project planning and implementation, the following process will be used to determine the extent of site-specific riparian corridors:

Riparian corridor widths are designed to encompass the riparian area defined on the basis of soils, vegetation and hydrology, as described in Appendix C, and the ecological functions and values associated with the riparian area. The widths in Tables 3-2 and 3-3 shall be used to define the Riparian Corridor if the corridor is not site-specifically determined as described below.

If a site-specific field investigation determines the need to increase the widths in Tables 3-2 and 3-3, that width shall become the project level Riparian Corridor. This corridor shall be determined by an interdisciplinary analysis using site-specific information to ensure that riparian values and functions are maintained.

The slope-dependent Riparian Corridor widths are measured in on-the-ground surface feet perpendicular from the edge of the channel or bank (stream, water body, etc.) and extend out from each side of a stream. For ponds, lakes, sloughs, and wetlands (including seeps or springs associated with wetlands) the measurement would start at the ordinary high water mark and go around the perimeter. For braided streams, the outermost braid will be used as the water's edge. An interrupted stream (a watercourse that goes underground and then reappears) will be treated as if the stream were above ground. (An acceptable level of error for on-the-ground measurements of these widths is $\pm 10\%$.) The Riparian Corridor includes human-created reservoirs, wildlife ponds, wetlands, and waterholes connected to or associated with natural water features. In addition, those areas not associated with natural water features, but support riparian-associated flora or fauna, will have a riparian corridor designation. The Riparian Corridor management direction does not apply to constructed ponds developed for recreation uses; or to human-made ditches, gullies, or other features that are maintained or in the process of restoration. For these areas, site-specific analysis will determine appropriate protective measures. (See also the forestwide standards.)

Table 3-2. Riparian Corridor Widths for Perennial Streams, Lakes, Ponds, or Wetlands*
(In feet, measured as described above)

Slope Class	Corridor Width
0-10%	100
11-45%	125
45% +	150

Table 3-3. Riparian Corridor Widths for Intermittent Streams

Slope Class	Corridor Width
0-15%	50
16% and above	Use formula: $30 + 1.5 \times \% \text{ slope}$

Relationship with Other Management Prescriptions:

The Riparian Corridors overlap with other management prescription allocations. In order to establish precedence, the following rules apply:

1. Where the Riparian Corridor management prescription area overlaps with lands that have been allocated to Management Prescriptions 0 – Custodial Management, 1A/1B – Wilderness and Recommended Wilderness, 2A/2B – Wild/Scenic/Recreational Rivers and Recommend Rivers, 3A – National Scenic Areas, 4A thru 4K – Special Areas, and 9F – Rare Communities; then whichever management direction is the most restrictive will apply.

2. For lands allocated to any of the other management prescriptions, where the riparian corridor overlaps with these allocations, the direction in the Riparian Corridor Management Prescription will take precedence.

Standards:

Fish and Wildlife Management

- 11-01. Large woody debris (pieces greater than 4 feet long and 4 inches in diameter on the small end) may be removed if it poses a risk to water quality, degrades habitat for aquatic and riparian-associated wildlife species, impedes water recreation (i.e., rafting) or poses a public safety risk for swimmers or when it poses a threat to private property or Forest Service infrastructures (i.e., bridges). The need for removal must be determined on a case-by-case basis.
- 11-02. Stocking of new nonnative species and stocking of previously unstocked areas is discouraged where it will adversely impact native aquatic species or communities. Prior to any stocking, national forests will coordinate with the appropriate State agencies to ensure that populations and habitats of native species are maintained.
- 11-03. Existing wildlife openings are allowed within the riparian corridor. However, wildlife openings identified as causing environmental degradation through concentrated runoff, soil erosion, sediment transport to the channel or water body will be mitigated or closed and restored. New wildlife openings within the riparian corridor are allowed where needed to provide habitat for riparian-associated wildlife species.

Range

- 11-04. Where grazing is currently allowed and under a grazing permit, it will be controlled to maintain the integrity of stream channels and banks. Reauthorizing grazing in riparian corridors within these existing allotments may occur if continued grazing would be compatible with riparian management desired conditions and objectives. New grazing allotments or new permits for inactive allotments will exclude the riparian corridor.
- 11-05. Where allowed under a grazing permit, livestock watering areas, stream crossings, and stream banks will be armored to maintain bank stability. Designated entry points, crossings, and watering points will be located, sized and maintained to minimize the impact to riparian vegetation and function.

- 11-06. Feeding troughs and salt and mineral blocks are not allowed inside the riparian corridor unless the entire pasture is within the riparian corridor, in which case they will be located as far away from streams as possible. Watering troughs will be appropriately located to protect the streams.

Recreation – Trails

- 11-07. New non-motorized trail construction is allowed to improve existing trail configuration and improve access to streams, lakes and the riparian corridor.
- 11-08. New motorized trails are prohibited within the riparian corridor except at designated crossings or where the trail location requires some encroachment; for example, to accommodate steep terrain.
- 11-09. Motorized and non-motorized trail reconstruction and relocation within the riparian corridor are allowed to reduce impacts to riparian and aquatic resources. Reconstruct and/or relocate motorized and non-motorized trails as needed to mitigate impacts to threatened and endangered aquatic species.
- 11-10. All new stream crossings will be constructed so that they do not adversely affect threatened and endangered species, limit the passage of aquatic organisms, or significantly alter the natural flow regime. Exceptions may be allowed to prevent the upstream migration of undesired species.

Recreation – Developed

- 11-11. Proposed or new facilities must be developed in accordance with Executive Orders 11988 (for 100-year floodplains) and 11990 (for wetlands).
- 11-12. Alternative locations must be considered for all new facilities. Where none exist, potential impacts must be minimized or mitigated to moderate the severity of those impacts.

Recreation - Dispersed

- 11-13. Where a riparian area is identified as vulnerable to environmental impacts, camping trailers and vehicles should not be allowed within 50 feet of perennial streams or lakes, except at designated areas.
- 11-14. Tethering or corralling of horses or other livestock is not allowed within 50 feet of stream courses or lakes. Existing corral sites will be maintained to limit impacts to water quality and riparian corridors.

Scenery Management

11-15. Scenic integrity within the riparian corridor ranges from high to moderate.

Federal Minerals

11-16. Leases will be issued with a No Surface Occupancy or a Controlled Surface Use stipulation.

11-17. Federal mineral material (36 CFR 228(c)) authorizations are allowed to restore riparian areas and aquatic habitat, control erosion and sedimentation, and repair flood damage.

11-18. Recreational mining is only allowed where it does not adversely affect stream channel stability, substrate, aquatic species, or their habitats.

Vegetation

Note: large woody debris is addressed in DFC section.

11-19. Revegetation activities will emphasize using native plants.

11-20. Commercial collection of botanical products will not be allowed in the riparian corridor if it would adversely affect the functions and values of the riparian area.

11-21. Lands in the riparian corridor are classified as not suitable for timber production.

11-22. Mechanical equipment is not allowed in any scoured stream channel except to cross and designated points.

11-23. All sources of mineral soil exposure will not exceed 10% within the SMZ except for hiking trails, fire lines, and designated crossings where mineral soil exposure will be kept to the minimum necessary to meet management objectives and maintain desired future conditions.

11-24. Temporary roads and skid trails are not permitted in a SMZ except at designated crossings.

11-25. Ruts that are greater than 15 feet or that connect to a stream bank where water can flow into a stream will be smoothed to restore hydrology when conditions exist that does not result in further rutting.

Insect and Disease Control and Salvage

- 11-26. Cut and leave will be the preferred method for control and suppression of insects and disease in the riparian corridor. Other control measures may be used when a condition poses a risk to stream stability, degrades water quality, adversely affects habitat for aquatic and riparian-associated wildlife species, poses a threat to public safety or facilities, or when “cut and leave” is not effective.
- 11-27. Alternative measures for insect and disease control will be determined on the basis of risk to adjacent resources, long-term sustainability, and appropriate needs for the function and condition of the riparian area.

Chemicals

- 11-28. Aerial or ground applied treatments of pesticides will not be allowed in the riparian corridor/SMZ. Cut surface treatments of pesticides are allowed. All chemical use will follow the standards specified in the Vegetation Management EIS.
- 11-29. Application of fertilizer is not allowed in the riparian corridor/SMZ except for aiding in the establishment of vegetation to control non-point sources (NPS) of pollution, or fisheries habitat improvements on lakes or ponds. Fertilization for fisheries habitat improvement must have prior approval of the Forest Hydrologist and Forest Biologists.
- 11-30. Within stream channels, lakes, and ponds use chemicals specifically labeled for target species and approved for use in aquatic environments.

Prescribed Fire

- 11-31. Construction of firelines with heavy mechanized equipment (e.g., bulldozers) in wetlands or riparian corridors is prohibited, except on the coastal plain where mechanical equipment must mimic hand line in amount of disturbance.
- 11-32. Hand lines are used to create firelines near streams to minimize soil disturbance. Water diversions are used to keep sediment out of streams. Firelines are not constructed in stream channels, but streams may be used as firelines.

Road Stream Crossings

- 11-33. Where risks of resource damage are high, each road segment will be constructed and stabilized prior to starting another segment. High-risk areas include landslide prone areas, steep slopes and highly erosive soils. High-risk streams include streams containing sensitive

aquatic species such as trout and mussels, or any threatened or endangered species.

- 11-34. To minimize the length of streamside disturbance, ensure that approach sections are aligned with the stream channel at as near a right angle as possible. Locate riparian corridor crossings to minimize the amount of fill material needed and minimize channel impacts.
- 11-35. If culverts are removed, stream banks and channels must be restored to a natural size and shape. All disturbed soil must be stabilized.
- 11-36. Temporary roads will cross streams only on bridges or low water fords. Fords may be used only when stable channel conditions exist and downstream beneficial uses are not jeopardized.
- 11-37. New constructed or significantly reconstructed roads and trails (except hiking trails and designated stream crossings) are prohibited within the riparian corridor/SMZ except when mitigations in Table 3-4 are met.

=====
 General Application of Table 3-4: A filter strip will be established between any newly constructed or significantly reconstructed road or trail (except hiking trails and designated stream crossings) and the water resource (any scoured natural channel, lakes, ponds, springs, seeps, sinkholes, and other forms of surficial water.

Table 3-4. Horizontal Width (Feet) of Filter Strip Between Newly Constructed or Significantly Reconstructed Roads and Trails

Erosion Hazard Of Adjacent Hill slope Soil*	Percent Slope						
	0	10	20	30	40	50	60
Slight	70	70	80	105	130	155	180
Moderate	70	75	100	140	170	200	235
Severe	70	90	130	170	210	250	290

*This is weighing of soil factors (texture, structure, organic matter, and permeability). Refer to published Soil Inventories. Use SEVERE if erosion hazard is unknown, or request determination from Forest watershed personnel.

Where breaks in grade (hilltop, bench, etc) occur closer to the water resource than the distance designated in the table, the filter strip width can

stop at the break, unless it occurs closer to the water than the minimum 70 feet. Situations that involve complex slopes and/or meandering stream courses will need a variable width filter to reflect conditions.

There are instances where road alignment dictates the need for approaching the water resource closer than designated in the table (i.e. approaches to stream crossings, on steep gradients). In these instances variance from the table will be permitted if additional mitigation measures are implemented and desired future conditions are maintained.

12. REMOTE BACKCOUNTRY AREAS

12.A. REMOTE BACKCOUNTRY RECREATION—FEW OPEN ROADS

Emphasis: These lands are managed to provide users with a degree of solitude and a semi-primitive experience in large remote areas that still allow the use of limited public motorized access on existing, open motorized roads. Areas will be 2,500 acres or greater in size unless adjacent to a prescription that also provides a semi-primitive experience (1.A., 1.B., 4.A., 6.A., 12.B., 12.C., etc.). These areas are unsuitable for timber production.

Desired Condition: These areas provide backcountry opportunities with a non-motorized emphasis that does allow some motorized access. Human activities may be evident in some places. Visitors will occasionally see other people, especially near the few open roads in these areas. A non-motorized trail system will provide the predominant means of access, and trails will be improved or constructed. Decommissioned and closed roads will be available for non-motorized uses. Outdoor skills will be important for visitors in the more remote portions of these areas. Hiking, horseback riding, mountain biking, backpacking, dispersed camping, hunting, and fishing are typical activities available in this area

The landscape will appear to be primarily shaped by ecological processes and the landscape character will be natural appearing. However, some active management activities are allowed. Prescribed fire, and associated hand tool or mechanized fire line construction, is permitted to reduce wildfire potential due to high fuel loadings, improve or maintain wildlife habitats, or to benefit certain fire dependent floral species. No new roads or trails for public motorized uses are allowed. Roads not open for public use and roads not needed for management activities will be decommissioned. Roads needed for management activities may be closed to public motorized use, but open for administrative use to facilitate a degree of land stewardship. Maintenance of existing wildlife openings is allowed.

The areas will be unsuitable for timber production. Occasionally, some vegetation manipulation and open forest canopies may be present due to TES habitat improvements, public safety, and threats to private lands.

Habitat associates emphasized within this allocation are area-sensitive, mid- to late-successional deciduous forest associates; mid- to late-successional deciduous forest

associates; bottomland hardwood associates; and basic and mixed mesic forest associates. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 12.A-01. Recreation: OHV trail development will not be allowed.
- 12.A-02. Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations would not be allowed.
- 12.A-03. Special Uses: require underground utilities on new permits
- 12.A-04. Facilities/Roads: no new permanent system roads
- 12.A-05. Forest Health: Vegetative manipulation will only be allowed for public safety, TES habitat improvement and private land protection.
- 12.A-06. Wildlife: no new wildlife openings, existing openings can be maintained.
- 12.A-07. ROS Settings: Semi-Primitive Motorized.
- 12.A-08. Scenery: Scenic integrity objective is high.

12.B. REMOTE BACKCOUNTRY RECREATION - NONMOTORIZED

Emphasis: Recreation opportunities are provided in large remote areas where users can obtain a degree of solitude and the environment can be maintained in a near-natural state. There will be little evidence of humans or human activities other than recreation use and non-motorized trails. These areas are generally 2,500 acres or greater in size (unless adjacent to a prescription that also provides a semi-primitive experience such as 1.A., 1.B., 4.A., 6.A., 12.C., etc.) and will be managed for semi-primitive non-motorized setting conditions. These areas are unsuitable for timber production.

Desired Condition: These areas will provide backcountry opportunities with a semi-primitive non-motorized emphasis. The landscape character will primarily be naturally appearing where human activities are subordinate to the landscape. Visitors will generally see little evidence of humans or human activities other than backcountry recreation use. Development of hiking trail systems will be emphasized; however, the first priority will be to repair existing trails causing resource protection. All roads are closed to public motorized use. Closed roads not needed for occasional administrative use will be decommissioned. Outdoor skills and self-reliance will be important for visitors because of the remoteness of these areas. Hiking, nature study, backpacking,

orienteeing, hunting, and fishing will be typical activities associated with this prescription.

The landscape will appear to be primarily shaped by natural ecological processes, rather than management activities. However, a minimal amount of active management is allowed, such as for utility maintenance, existing wildlife opening maintenance, prescribed burning, and access for wildland fire suppression. Prescribed fire, with a minimal amount of fire line construction, is permitted to reduce wildfire potential due to high fuel loadings, improve or maintain wildlife habitats, or to benefit certain fire dependent floral species. No new permanent road construction is allowed. No salvage harvesting is allowed. All areas would be classified as unsuitable for timber production. Disturbances would primarily be caused by natural processes (floods, windstorms, insects and diseases, and fires). Occasionally, some vegetation manipulation and open forest canopies may be present due to TES habitat improvements, public safety, and threats to private lands.

Habitat associates emphasized within this allocation are area-sensitive, mid- to late-successional deciduous forest associates mid- to late-successional deciduous forest associates; bottomland hardwood associates; and basic and mixed mesic forest associates. The protection of rare communities and species associates will be provided, along with protection measures for population occurrences of TES and locally rare species. This will provide a high likelihood that species within these associations will continue to persist on National Forest System lands.

Standards:

- 12.B-01.OHV: New trail construction is not allowed
- 12.B-02.Wildlife: no new wildlife openings
- 12.B-03.Federal Minerals: Leases will be issued with a No Surface Occupancy stipulation. Mineral material authorizations would not be allowed.
- 12.B-04.Special Uses: require underground utilities on new permits
- 12.B-05.Facilities/Roads: no open roads and no new permanent system roads
- 12.B-06.Forest Health: Vegetative manipulation will only be allowed for public safety, TES habitat improvement, and private land protection.
- 12.B-07.ROS Settings: Semi-Primitive Non-Motorized.
- 12.B-08.Scenery: Scenic integrity objective is very high.

CHAPTER 4

FORESTWIDE DESIRED FUTURE CONDITIONS

The condition of the National Forests in Alabama will change as this Forest Plan is implemented. This section summarizes the desired condition of the National Forests in Alabama after 10 years and after 50 years of Plan implementation. More detailed desired condition statements are found for each management area and each management prescription.

The Forest in the Short Term

At the end of the first decade, changes in the overall character of the landscape will be small. The Forest will appear very much as it does today. Changes to the landscape will have been made through restoration to native communities, prescribed burning, wildlife habitat improvement activities, other management activities, and natural disturbances.

The processes and structures necessary to maintain the biological diversity of the forest will be provided for across the landscape as a whole. Management of forest vegetation focuses on restoring and maintaining healthy forest ecosystems. Forest products are generally by-products of management activities to meet other resource objectives, such as restoration, wildlife habitat management, and forest health improvement activities.

Riparian structure, function, and character will be in good or improving condition.

The character and qualities of the National Forests in Alabama, which draw visitors, will remain in place. A broad spectrum of recreation opportunities, ranging from primitive to developed, will be available. Information about recreation opportunities, the natural setting, and environment will be easily obtained.

The road system continues to provide adequate access for public and administrative use. Most roads have native surfacing and are rough and irregular. Public access on some roads is restricted either seasonally or permanently. New road construction and road reconstruction will rarely occur.

The Forest in the Long Term

After five decades of plan implementation, several changes will be apparent across the landscape. A diversity of terrestrial, aquatic, and riparian communities are distributed across the landscape in spatial and temporal patterns and frequencies that would be expected within the natural range of variation for each physiographic area. Terrestrial and aquatic communities of special concern are sustained and well represented across the landscape, possibly in higher proportions than within the natural range of variation in each area. Regional, sub-regional, watershed, and habitat linkages are maintained so as to provide for the viability of native and desirable naturalized vertebrate, invertebrate,

and plant populations and species. Ecological forces in all represented physiographic provinces include disturbances such as fire, ice storms, windstorms, tornados, and flooding.

The vast majority of forested areas will be in mid to late successional habitats. Early successional habitats will be found scattered across the landscape. These areas will have developed primarily through vegetation management activities and natural disturbance processes (fire, insects, and disease). Biological diversity will continue to be maintained or improved across the forest. The majority of riparian areas will be in a good condition.

A mosaic of forest communities would be spread across the landscape, generally including a variety of upland pine and pine-hardwood communities with hardwood-pine or bottomland hardwoods within and adjacent to riparian areas. The community structure will show a wide age distribution with various sized openings in the canopy. Vegetation patterns reflect natural disturbances, as well as planned harvest activities to provide for restoration, forest health, old growth conditions, wildlife habitat improvement, and activities associated with other resource objectives. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, will be visible.

Fire plays an increased role in maintaining many upland forest ecosystems. There is evidence of frequent, low-intensity fires on most upland sites. Fire-dependent communities are burned frequently to mimic the natural role of fire in these ecosystems, using growing season burns when ever possible.

Insects and diseases play a role in Forest ecosystems by contributing to various ecological processes including nutrient cycling, plant succession, and forest dynamics. A higher level of tree mortality occurs because of older-aged stands with reduced vigor and increased susceptibility to insects and disease. Integrated Pest Management (IPM) will continue to be used to maintain losses from insects and diseases at acceptable levels.

Diverse communities of terrestrial and aquatic wildlife occur throughout the National Forests. The communities and individual animal species found in a particular area will depend mainly upon the vegetation structure, composition, age, and plant communities. Unique and diverse aquatic communities and certain aquatic species abound with their locations being largely determined by location and velocity of the water (still or running). Many mussels, crayfish, and fish are common in the streams whereas most of Alabama's game fishes (bass, blue gill, crappie) and certain aquatic invertebrates (excluding most of our mussels) are normally found in lakes and ponds. Terrestrial game species such as turkey, deer, and quail, as well as many neotropical migratory birds are found throughout the forest. Canopy dwellers, such as squirrels, pileated woodpeckers, and several species of vireos and warblers are also seen in areas containing mature forests.

A variety of water birds, amphibians, invertebrates, and mammals can be seen in riparian areas of lakes, ponds, and streams. Amphibians require these moist streamside zones and downed woody material for their adult life and water for the larval stages of their life cycle. Many of the terrestrial invertebrates seen have an aquatic stage and can be found

in waters during certain seasons of the year. Certain birds (egrets and herons) and mammals (beaver and otters) are seen feeding in or along the waters edge.

The Forest provides habitat for various species whose populations were previously threatened by dwindling numbers. Riparian areas support viable populations of many amphibians such as the flatwoods salamander and gopher frog. There is a recovering red-cockaded woodpecker (RCW) population. Populations of formerly sensitive bird species are also no longer at risk. Because of maintaining and enhancing various functioning ecosystems such as the longleaf pine ecosystem, plant species that were declining on National Forests lands are now thriving. American chaffseed is a common sight in the longleaf pine community. Populations of carnivorous plants are found in bog areas, and plant and animal species that were once considered sensitive, are thriving at viable levels.

The Forest continues to meet the public demand for a variety of developed recreation opportunities. Developed recreation is provided in three types of settings on the Forest: (1) highly developed areas to accommodate concentrated activities; (2) minimally developed areas designed with fewer developments and for smaller groups; and, (3) developments for specialized recreation activities such as rifle ranges. Depending on the specific site, facilities and amenities are provided for the comfort of the user. Developed recreation facilities are safe for visitors, and to the extent practical, accessible to visitors with disabilities. Maintenance and rehabilitation are prompt and thorough in developed sites. Interpretive facilities and programs are provided throughout the Forest. Interpretation emphasizes environmental education, cultural resources, and National Forest management. Depending upon the site and level of development, a wide variety of quality activities are available either in the developed area or immediately adjacent. These activities include hiking, picnicking, bicycling, swimming, camping, wildlife viewing, fishing, and learning about nature through interpretive activities and programs. Establishing and reinstating an image of quality with a visible National Forest design ethic is emphasized in all maintenance, construction, and rehabilitation.

Opportunities are provided to support demand for dispersed recreation activities. These activities include but are not limited to hiking, off road vehicle use, mountain biking, camping, hunting, and fishing. Dispersed recreation areas that receive heavy use are managed to protect and preserve the resources of the areas. Social interaction with individuals and groups is the normal situation, however, some areas will provide opportunities for solitude and challenge.

Wilderness areas are provided and their character and public values are protected and perpetuated. These include, but are not limited to opportunities for solitude, inspiration, education, physical and mental challenge, scientific study, and primitive recreation. The ecosystem structure and condition is the result of natural succession and natural processes. In some areas, natural succession eventually results in an older forest of predominantly shade tolerant vegetation. In other areas, natural disturbances have created varying vegetation conditions. Wildlife favoring mature vegetation or the late successional stages of vegetation is predominant in wilderness. Un-fragmented habitat is provided for area-sensitive species. Evidence of visitor use in the wilderness and interaction among users will be within the "Limits of Acceptable Change" as defined for

each wilderness area. Facilities of a primitive nature may be present to protect the resources and the safety of visitors. Minor evidence of primitive travelways exists. No motorized use (including bicycles) is permitted.

Water quality meets or exceeds state standards, and beneficial downstream uses are protected or enhanced. The width and depths of streams are in dynamic equilibrium with stream discharge, sediment load, and bank material. Most streams do not display signs of accelerated downcutting, lateral cutting or aggrading. Where the channel shape has been modified (i.e.: road crossing), the modification preserves the channel stability and function. Downstream beneficial uses are not adversely affected by the modification. The sediment transport capacity exhibits a stable channel balance and does not show signs of excessive deposition or scour. The channel pattern and longitudinal profile have not been adjusted by sediment from the natural state.

Ponds and lakes (natural or artificial) offer clean water, wildlife habitat, aquatic niches, and various recreational opportunities. Most shorelines present a natural appearance. Rehabilitation of impacts (both natural and human caused) to the water resource follows ecological principles. Emphasis is placed upon preserving, restoring and enhancing the water column, aquatic and amphibian niches, and the riparian vegetative community.

Air quality is high, especially in wilderness areas. Some temporary reduction in air quality may occur because of prescribed or wild fires.

Long-term soil productivity is apparent. Nutrient levels and nutrient cycling processes continue to function unimpaired. Woody debris, leaf litter, and other organic matter are detained on many areas to provide soil organic matter, plant nutrients, and energy for soil microorganisms. The soil retains a fragile status. Exposed mineral soil is in a dispersed nature. Some scattered areas, such as roads and some log landing areas, may have low soil productivity and experienced soil loss, or change in soil structure. Human activity is managed so that compaction does not impair productivity or fertility of the soil. The filtering capacity and structure of the soil are not impaired by ground disturbing activities. The imprint of firelines and old woods roads do not compromise the integrity of the soil.

The forests/districts are becoming more consolidated in ownership patterns. Key tracts containing unique plant and animal habitats, riparian areas, geologic features, cultural resources, wetlands, and recreational opportunities are acquired. All property boundaries are legally located, visible, and free of unauthorized encroachments.

Significant cultural/historical, botanical, scenic, and geological sites are protected, managed, and interpreted.

MANAGEMENT AREA AND WATERSHED DIRECTION

The National Forests in Alabama are separated into five distinct management areas. These management areas are the five major divisions of land that comprise the National Forests in Alabama; Bankhead National Forest, Conecuh National Forest, Oakmulgee Division of the Talladega National Forest, Talladega Division of the Talladega National

Forest, and the Tuskegee National Forest. The following section describes each of these management areas and the fifth level watersheds within each management area, and describes the desired future condition for each management area.

Management Area 1 – Bankhead National Forest

DESCRIPTIONS

MANAGEMENT AREA

The Bankhead National Forest is located in Winston, Lawrence, and Franklin Counties, in northwest Alabama. The Bankhead National Forest began as the “Alabama Purchase Unit” and was originally proclaimed the Alabama National Forest in 1918, then renamed the Black Warrior National Forest in 1936. In June 1942, legislation enacted by the Congress of the United States changed the name of the Black Warrior National Forest to the William B. Bankhead National Forest in honor of William B. Bankhead, one of Alabama’s native sons, a member of Congress from 1917-1940, and Speaker of the House from 1936 until his death in 1940. Generally, the area acquired was a mixed landscape of cleared and forested lands. The upland ridges contained cleared fields and the coves contained hardwood timber.

Based on ecological landscape mapping, the Bankhead National Forest is divided into 6 land type associations (LTAs): Black Warrior Hills, Sipsey Plateau, Moreland Plateau, Sandstone Hills, Tennessee Valley Plains, and Tennessee Valley Escarpment. The Black Warrior Hills LTA is located in the Shale Hills and Mountain Subsection, with the remaining five LTAs located within the Sandstone Mountain Subsection. Both subsections are located within the Southern Cumberland Plateau Section. Landscapes of the six LTAs can be described as moderately to strongly dissected plateaus with moderately low relief. Sandstone and layers of sandstone and shale are the dominant geologic content, with sandstone, shale, and limestone layers found on a relatively small portion of the Forest north of the Tennessee Valley Divide. Soils derive primarily from sandstone. Shale mixed with sandstone is also a component south of the Tennessee Valley Divide, while north of the Tennessee Valley Divide, soils are also derived from limestone. Soils tend to be moderately-deep to deep, well-drained, slow to moderately permeable with sandy loam surface textures and clay loam, silty clay loam or silty clay subsurface textures. Natural fertility and organic matter content tend to be low.

The network of streams is classified as riverine with a dendritic drainage pattern having moderate to low gradient that is well to moderately-confined. Many streams are deeply entrenched in high-walled gorges. Sharp waterfalls are common in the upper reaches. Stream substrate is sand and cobble controlled by bedrock and boulders. Most stream channels exhibit perennial flow most of the way up to their headwater regions, and support a robust aquatic community. This stream system is rainfall-driven with moderate to rapid basin response, resulting in frequent late winter/early spring flash flooding.

WATERSHEDS

The Bankhead National Forest lies within eighteen 5th level watersheds: Big Nance, Blackwater, Clear, Crowdabout, Lewis Smith, Lower Brushy, Lower Flint, Lower Rock,

Lower Sipsey, New River, Right Fork Clear, Splurge, Town, Upper Bear, Upper Brushy, Upper Rock, Upper Sipsey, and West Flint. Six of these watersheds are within the Tennessee River Basin (Big Nance, Crowabout, Lower Flint, Town, Upper Bear, and West Flint). The remaining twelve watersheds are within the Black Warrior River Basin. Four of these watersheds, Big Nance, Crowabout, Town, and Upper Bear, are in poor overall watershed condition. Primary factors affecting their condition are point source pollution, hydrologic modification, and watershed vulnerability. Big Nance, Crowabout and Town watersheds are on the Alabama State impaired list resulting from agricultural management, private forest management, and industrial use within each watershed. Big Nance, Blackwater, Clear, Crowabout, Lower Flint, Lower Rock, New River, Right Fork Clear, Splurge, Town, and Upper Bear watersheds have less than 5% public land ownership. Most of the public land ownership previously mentioned lies within the headwaters of these watersheds. Forest Service management within these watersheds will have minimum effect on the improvement of overall watershed condition.

Lower Brushy, Lower Sipsey Fork, Upper Brushy, and Upper Sipsey Fork watersheds contain the largest public land ownership, averaging 85% for Upper Brushy and Sipsey Fork watersheds, and 33% for Lower Brushy and Lower Sipsey Fork watersheds. Excluding Lower Brushy watershed, overall watershed condition is good and watershed vulnerability is low. Lower Brushy has a good overall watershed condition, but has a moderate to high watershed vulnerability, resulting largely from recreational pressure and urbanization with agriculture, and forest management to a lesser extent. The aquatic condition is the primary vulnerable resource, containing a high diversity of native, endemic, threatened and endangered species. The potential for future increased vulnerability resulting from increases in recreation and urbanization is present within Lower Sipsey Fork watershed. Upper Brushy and Upper Sipsey Fork also have a potential for increased vulnerability from increases in recreational activities.

Major influences on watershed condition are located downstream and off public lands for most of the watersheds involving the Bankhead National Forest. Four watersheds of the eighteen listed have sufficient public land ownership where land management can have an effect on improving watershed condition. Table 4-1 below provides a synopsis of the eighteen watersheds containing public land ownership and influences, rated as high only, that are presently having an effect on the water resource. Additional information can be found in "A Watershed Analysis For The National Forests in Alabama", 1999.

Table 4-1: Bankhead Watershed Effects Synopsis

Watershed Name	% Public Land Ownership	Point Source Pollution	Hydrologic Modification	Erodible Soils	Recreation Use	Riparian Health	AL State Impaired List	Overall Watershed Condition	Overall Watershed Vulnerability
Big Nance	0.3%	X					X		X
Blackwater, New River, and Splurge	Less than 0.1%		X						
Clear and Right Fork Clear	4%				X				
Crowdabout	1.5%		X				X		X
Lewis Smith	9.0%				X				
Lower Brushy	35%	X							X
Lower Flint	Less than 0.5%								
Lower Rock	1.5%								
Lower Sipsey Fork	32.0%		X		X				
Town	2.0%		X	X			X	X	X
Upper Bear	2.0%	X	X		X			X	X
Upper Brushy	82%				X				
Upper Rock	6.0%	X							X
Upper Sipsey Fork	87.0%				X				
West Flint	16%						X	X	X

Note: X = High

DESIRED CONDITIONS

The upland areas consist of pine, oak-pine, and mixed hardwood types. Loblolly is the most prevalent pine species with lesser amounts of longleaf, shortleaf, and Virginia pines. Most upland stands are pine or mixed pine-hardwood with significant components of hardwood, primarily oaks (such as white, northern red, southern red, scarlet, chestnut) and hickories. The predominantly pine stands have an open park-like appearance due to frequent low intensity fires. A small oak component is present in most pines stands, mainly in scattered clumps. Some upper slopes are mostly mixed hardwood with scattered pine.

Bottomland or cove hardwoods are found on lower slopes along rivers and creeks, and upland hardwood or mixed stands are often found on north facing slopes. Bottomland and cove sites appear as a closed canopy forest of tall, straight trees, mostly mixed oaks, hickories, beech, yellow poplar, and maple. The sparse midstory contains species such as blackgum, red maple, sweetgum, and other hardwoods. Evidence of fire is generally not present due to moist sites and the minimal use of prescribed fire on these sites. The community structure indicates a wide age distribution with a number of various sized openings in the canopy. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, are visible. Vegetation patterns reflect natural disturbances, as well as planned harvest activities, to provide for forest health, old growth conditions, ecosystem restoration, wildlife habitat management, and other resource objectives

There is evidence of frequent fires, mostly on upland sites. Fire-dependent ecosystems are burned frequently during the growing season to mimic the natural role of fire in these ecosystems. Occasionally fires may enter bottomland or coves. Vegetation patterns are primarily the result of fire (including prescribed fire), hydrology, and vegetation management activities.

The quality of soil, water, and air will be acceptable. Wetlands show no evidence of being drained. The aquatic community will be adequate to robust. Water quality meets or exceeds state standards, providing biodiversity and beneficial downstream uses.

Wildlife found within the forest includes species that prefer both mature pine and hardwood forests, as well as early successional habitats resulting from forest management activities. Birds include wild turkey, quail, vireos, warblers, owls, and various other species. Mammals found here include white-tailed deer, gray foxes, gray squirrels, bobcats, raccoons, and others. The wetlands and streams attract numerous species that like water, such as a variety of salamanders, frogs, snakes, and birds.

In most places, visitors may encounter other people and activities of various sorts. The feeling of isolation will be rare except in the Sipsey Wilderness, although a feeling of freedom and independence will be common. Recreational facilities, such as swimming areas, fishing access sites, trails, and viewing areas are occasionally found. Some areas have signs, interpretive displays, and other facilities for the comfort and safety of the user. Modification of the landscape through human intervention is a common sight in developed recreation areas.

Within the Sipsey Wilderness, the enduring resource of wilderness is maintained and perpetuated as one of the multiple uses of National Forest System land. Wilderness character and public values are protected and perpetuated.

The area is generally continuous, although some private land is interspersed within the forest. The road system continues to provide adequate access for public and administrative use. Most roads have native surfacing and are rough and irregular. These roads may not be stable during bad weather conditions. Public access on some roads is restricted either seasonally or permanently. Remnants of temporary roads leading from permanent roads to small openings can be seen. New road construction is minimal, and road reconstruction is decreased.

Management Area 2 – Conecuh National Forest

DESCRIPTIONS

MANAGEMENT AREA

Based on ecological landscape mapping, the Conecuh National Forest is divided into five land type associations (LTAs); Conecuh & Yellow River Floodplains, Pine Hills, Bays, Dougherty Plain, and the Wet Pine Flatwoods. All LTAs are located in the Southern Loam Hills Subsection, Coastal Plain and Flatwoods, Lower Section. Landscape of the Conecuh and Yellow River Floodplains LTA can be described as level to slightly undulating, having low to very low relief, with evidence of past and present flooding. The landscape of the Bay LTA level to slightly concave, having very low to no relief, with ponding of water common throughout the year. The Wet Pine Flatwoods LTA is located on broad level uplands with very low relief. The remaining two LTAs form uplands having low relief. Geology consists of layered coastal marine sediment deposits but distribution, content, and thickness varies considerably between each LTA. The Bay LTA contains recent acid-organic deposits over marine sediment deposits. The Wet Pine Flatwoods and the Dougherty Plain LTAs formed from sand and clay sediments originating primarily from limestone. The Pine Hills LTA formed from deposits of sand and clay. The floodplain LTAs formed from recent fluvial deposits. The diverse geologic deposits in turn developed diverse soils. All the soils are considered deep, acid to very acid, low in natural fertility and organic matter content except the Bay LTA that is rich in fertility and organic matter content. Drainage is very poor to the opposite end, well drained with permeability quite variable also, from slow to rapid. Hydric (wetland) soils are very common within the Bay LTA and are common in the Wet Pine Flatwoods LTA.

The Pine Hills, the Dougherty Plain, the Conecuh and Yellow River Floodplains and the Wet Pine Flatwoods stream networks are classified as riverine with a dendritic drainage pattern, having a minor to significant palustrine components, characterized by low gradient that is poorly to moderately confined, often with braided channels with some entrenched channels; sand dominated substrate with a significant organic fraction. The Bays LTA is a palustrine system with a minor riverine component, characterized by a seemingly disconnected system of channels; very low gradient; poorly confined, most with braided channels; sand dominated substrate with a significant organic fraction. Both systems exhibit perennial flow driven by rainfall and artesian or surficial ground water flow and support an adequate to robust aquatic community.

WATERSHEDS

The Conecuh National Forest lies within nine 5th level watersheds: Upper Conecuh, Five Runs, Yellow River, Lower Conecuh, Blackwater, Yellow North – Watkins, Lower Yellow – Givens, Sweetwater, and Big Horse. The Lower and Upper Conecuh watersheds are located in the Alabama River Basin. The remaining seven watersheds are located within the Escambia River Basin. Only one watershed is considered in poor overall watershed condition, Yellow River. The combination of hydrologic modification; urban, commercial, industrial, and agricultural land use; and fair riparian health contribute to the poor overall watershed condition. Watershed vulnerability is moderate. None of the watersheds is listed on the Alabama State impaired list. Public ownership varies considerably, with Big

Horse, Conecuh and Yellow River watersheds containing less than 3%. Yellow River North and Lower Yellow River watersheds and Sweetwater watershed have less than 15% public ownership. Five Runs watershed contains approximately 21% public lands and has a moderate overall watershed condition and vulnerability. Five Mile watershed is experiencing increases in urbanization, coupled with agricultural use and hydrologic modification, contributing to declining conditions. There are known existing native, endemic, threatened and endangered aquatic species within Five Mile watershed. The watershed with the largest public land ownership is Blackwater at 49%. Blackwater is in good overall watershed condition. Recreation pressure and hydrologic modification along with the presence of native, endemic threatened and endangered aquatic species lends to the moderate watershed vulnerability for Blackwater watershed.

Major influences on watershed condition are located above, adjacent, and below public lands. Only one watershed has significant public land ownership, Blackwater, where land management can have an effect on improving watershed condition. Five Mile watershed can have limited improving watershed conditions considering this has 21% public land ownership. Table 4-2 below provides a synopsis of the nine watersheds containing public land ownership and influences, rated as high only, which are presently having an effect on the water resource. Additional information can be found in “A Watershed Analysis For the National Forests in Alabama”, 1999.

Table 4-2: Conecuh Watershed Effects Synopsis

Watershed Name	% Public Land Ownership	Point Source Pollution	Hydrologic Modification	Erodible Soils	Recreation Use	Riparian Health	AL State Impaired List	Overall Watershed Condition	Overall Watershed Vulnerability
Upper Conecuh	2.7%								
Five Runs	21.4%								
Yellow River	2.3%		X		X	X		X	Moderate to High
Lower Conecuh	3.5%								
Blackwater	49%								
Yellow North Watkins	14%	X							
Lower Yellow Givens	11.6%								
Sweetwater	12.4%		X						
Big Horse	<1%								

Note: X = High

DESIRED CONDITIONS

A mosaic of forest stands is spread across most of the landscape. The community structure will show a wide age distribution with various sized openings in the canopy.

Vegetation patterns reflect natural disturbances, as well as planned harvest activities to provide for forest health, old growth conditions, Longleaf pine restoration, wildlife habitat improvement, and other resource objectives. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, will be visible. Management of forest vegetation focuses on maintaining and restoring forest health, including species and age diversity. The forests continue to produce timber products but at reduced levels compared to previous decades. Forest products are generally byproducts of management to meet other resource objectives (wildlife, old growth, forest health). All harvest methods are available and are selected based on site-specific analysis and management objectives.

The upland areas consist of longleaf pine-wiregrass communities on the dry sites and wet pine flatwoods (grass/sedge flatwoods with sparse longleaf and slash pines) on the poorly drained sites. Bottomland hardwoods are found within the wide floodplains along rivers, and numerous bays are found on slowly drained wetland sites. The community structure indicates a wide age distribution with a number of various sized openings in the canopy. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, is visible.

The upland pine communities are dominated by large longleaf pine with wiregrass and other herbs in the understory. The midstory is sparse in places due to frequent low intensity growing season fires. A small oak component is present, mainly in the understory and in small, scattered clumps. Seepage bogs containing sensitive species (such as bogbutton, panhandle lily, bog spicebush, panicum, pitcher plants, yellow-eyed grass) are found throughout. Grasses and sedges with sparse longleaf and slash pines dominate the wet pine flatwoods.

The bottomland ecosystem is found within the wide floodplains of rivers and is covered by a closed canopy forest of tall, straight trees. These include several oak species (willow oak, cherrybark oak, water oak, swamp laurel oak, and swamp chestnut oak), spruce pine, green ash, sweetgum, water hickory, American elm, and sugarberry. The midstory contains species such as blackgum, red maple, sweetgum, and other hardwoods. Vines such as poison ivy, muscadine, Virginia creeper, and crossvine are frequently encountered. Rushes, sedges, ferns, and spring-flowering ephemerals, including many sensitive species, dominate the herbaceous layer. The different plant communities are not separated by sharp boundaries, but gradually merge in response to fluctuations in water levels and fire history.

There is evidence of frequent, low-intensity fires. Fire-dependent ecosystems are burned frequently during the growing season to mimic the natural role of fire in these ecosystems. Occasionally fires may enter wetlands. Vegetation patterns are primarily the result of fire (including prescribed fire), hydrology, and timber harvest activities. Tree trunks are blackened. Smoke from prescribed fires may be present. Evidence of firelines is rarely seen. The imprint of a narrow access road covered in grass may be common.

The quality of soil, water, and air will be acceptable. Wetlands show no evidence of being drained. The aquatic community will be adequate to robust. Water quality meets or exceeds state standards, providing biodiversity and beneficial downstream uses.

Because of maintaining and enhancing various functioning ecosystems such as the longleaf pine ecosystem, plant species, which were declining dangerously, are now thriving. American chaffseed is a common sight in the longleaf pine community, as are populations of carnivorous plants found in bog areas.

Wildlife found within the forest includes species that prefer mature longleaf and slash pine forests. Birds include red-cockaded woodpeckers, wild turkey, quail, vireos, warblers, owls, and various other species. Mammals found here include white-tailed deer, gray foxes, gray squirrels, bobcats, raccoons, and others. Gopher tortoises are found here, along with many other species that share their burrows. Eastern Indigo snakes, alligator snapping turtles, alligators, rattlesnakes, and copperheads are typical reptiles. The wetlands and streams attract numerous species that like water, such as a variety of salamanders, frogs (including dusky gopher frogs), snakes, and birds.

In most places, visitors may encounter other people and activities of various sorts. The feeling of isolation will be rare, although a feeling of freedom and independence will be common. Recreational facilities, such as swimming areas, fishing access sites, trails, and viewing areas are occasionally found. Some areas have signs, interpretive displays, and other facilities for the comfort and safety of the user. Modification of the landscape through human intervention is a common sight in developed recreation areas.

The area is generally continuous, although some private land is interspersed within the forest. The road system continues to provide adequate access for public and administrative use. Traffic is frequently encountered. Most roads have native surfacing and are rough and irregular. These roads may not be stable during bad weather conditions. Public access on some roads is restricted either seasonally or permanently. Remnants of temporary roads leading from permanent roads to small openings can be seen. New road construction is minimal, and road reconstruction is decreased.

Management Area 3 – Oakmulgee Division, Talladega National Forest

DESCRIPTION

MANAGEMENT AREA

Based on ecological landscape mapping, the Oakmulgee Division of the Talladega National Forest is divided into 6 land type associations (LTAs); Cahaba and Big Sandy Floodplains, Coker Formation (Low Relief), Coker Formation (Moderate Relief), Eutaw Formation, Gordo Formation, Oakmulgee and Elliott's Creek Floodplain. Both the Coker Formations are located in the Upper Loam Hills Subsection with the remaining four LTAs located in the Upper Clay Hills Subsection. Both subsections are located within the Coastal Plain, Middle Section. The two floodplain landscapes can be described as recent fluvial and low terrace deposit floodplains with very low relief. The Gordo and Eutaw Formation landscapes are described as moderately dissected uplands with moderate relief. The Coker Formations have similar landscapes, both having moderately dissected uplands, with relief ranging from low to moderate. Soils on uplands developed from marine sediments consisting of primarily layers of micaceous sand, sand and clay of various depths. These soils are deep, well drained, slowly to moderately permeable with

sandy loam surface textures and sandy loam, clay loam and clay subsurface textures. Natural fertility and organic matter content tend to be low. Floodplain soils, derived from recent fluvial deposits of sand, silt, and clay, are deep to very deep, somewhat poorly drained to moderately well drained on large floodplains like the Cahaba River and very poorly drained to somewhat poorly drained on small floodplains like Oakmulgee Creek. Natural fertility and organic matter content tends to be high in floodplains and moderate on terraces.

The network of streams is classified as riverine on uplands and riverine-palustrine in floodplains. Uplands have a dendritic drainage pattern with low to moderate gradient; poorly to moderately confined; often with braided channels; some channels entrenched; moderate sinuosity; sand dominated substrate with significant organic fraction. Most channels exhibit perennial flow all the way up to their headwater regions and support an adequate aquatic community. This fluvial system is driven primarily by rainfall with minor artesian flow contribution.

WATERSHEDS

The Oakmulgee Division, Talladega National Forest, lies within twelve 5th level watersheds: Affonee, Big Brush, Cahaba, Elliots, Fivemile, Gully, Little Oakmulgee, Lower Mulberry, Phipps, Sandy, Sixmile, and Valley. Five of these watersheds (Big Brush, Elliots, Fivemile, Phipps, and Sandy) are located within the Black Warrior River Basin. Lower Mulberry and Valley watershed drains directly into the Alabama River Basin. The remaining five watersheds (Affonee, Cahaba, Gully, Little Oakmulgee, and Sixmile) are located within the Cahaba River Basin. There are no watersheds listed on the Alabama State impaired list, nor are any of the watersheds in overall poor condition. Overall watershed condition is good. Overall watershed vulnerability is low for all but three watersheds. Cahaba, Gully, and Sandy watersheds have a moderate overall watershed vulnerability. This rating is based primarily on a high diversity of native, endemic, threatened and endangered species. Big Brush has a high rating for hydrologic modification. The Oakmulgee has a good land ownership base in most of the watersheds. Six watersheds (Elliots, Gully, Little Oakmulgee, Sandy, Affonee, and Fivemile) have a range in public land ownership between approximately 24% to 40%. This allows Forest Service management to have an effect in improving watershed condition. The Cahaba watershed contains 11% public land ownership, which would result in minor opportunities for watershed condition improvement. The other five watersheds have public land ownership ranging from less than 2% to as high as 8%.

Major influences on watershed condition are located above, adjacent, and below public lands. Six watersheds have significant public land ownership where management may be able to improve watershed conditions. Table 4-3 below provides a synopsis of the twelve watersheds containing public land ownership and influences, rated as high only, which are presently having an effect on the water resource. Additional information can be found in "A Watershed Analysis For the National Forest s in Alabama", 1999.

Table 4-3: Oakmulgee Watershed Effects Synopsis

Watershed Name	% Public Land Ownership	Point Source Pollution	Hydrologic Modification	Erodible Soils	Recreation Use	Riparian Health	AL State Impaired List	Overall Watershed Condition	Overall Watershed Vulnerability
Sixmile	<1%								
Gully	26%								
Elliotts	37%								
Phipps	<1%								
Little Oakmulgee	28%								
Big Brush	2%		X						
Cahaba	13%								
Lower Mulberry	10%								
Valley	<1%								
Sandy	27%								
Affonee	31%								
Fivemile	30%								

Note: X = High

DESIRED CONDITIONS

A mosaic of forest stands is spread across most of the landscape. The community structure will show a wide age distribution with various sized openings in the canopy. Vegetation patterns reflect natural disturbances, as well as planned harvest activities to provide for forest health, longleaf restoration, old growth conditions, wildlife habitat improvement, and other resource objectives. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, will be visible. Management of forest vegetation focuses on maintaining and restoring forest health, including species and age diversity. The forests continue to produce timber products but at reduced levels compared to previous decades. Forest products are generally byproducts of management to meet other resource objectives (restoration, wildlife, old growth, forest health). All harvest methods are available and are selected based on site-specific analysis and management objectives.

The upland areas consist of pine, oak-pine, and mixed hardwood types. Longleaf, slash, loblolly, and shortleaf are the most prevalent pine species. Most upland stands are pine or mixed pine-hardwood with significant components of hardwood. Bottomland hardwoods are found on lower slopes and floodplains along rivers and creeks. The

community structure indicates a wide age distribution with a number of various sized openings in the canopy. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, is visible.

The upland communities are dominated by large pine (primarily longleaf) and various hardwood species, primarily oaks (such as white, black, northern red, southern red, scarlet, chestnut) and hickories. Longleaf and hardwood species (chestnut oak, black oak, post oak, scarlet oak, pignut hickory) suited to dry sites are frequently encountered on dry ridges. Pine stands have an open park-like appearance due to frequent low intensity fires. A small oak component is present in most pines stands, mainly in scattered clumps. Some upper slopes are mostly mixed hardwood with scattered pine.

The bottomland sites appear as a closed canopy forest of tall, straight trees mostly mixed oaks (willow oak, water oak, cherrybark oak, swamp chestnut oak, overcup oak), beech, sweetgum, and spruce pine. Loblolly pine may also be frequent within the overstory. The midstory contains species such as southern magnolia, dogwood, red maple, sweetgum, and other hardwoods. Evidence of fire is generally not present due to moist sites and the minimal use of prescribed fire on these sites.

There is evidence of frequent fires, mostly on upland sites. Fire-dependent ecosystems are burned frequently to mimic the natural role of fire in these ecosystems. Occasionally fires may enter bottomland or wetland sites. Vegetation patterns are primarily the result of fire, hydrology, and timber harvest activities. Tree trunks are blackened. Smoke from prescribed fires may be present. The imprint of a narrow access road covered in grass may be common.

The quality of soil, water, and air will be acceptable. Wetlands show no evidence of being drained. The aquatic community will be adequate to robust. Water quality meets or exceeds state standards, providing biodiversity and beneficial downstream uses.

Wildlife found within the forest includes species that prefer both mature pine and hardwood forests, as well as early successional habitats resulting from forest management activities. Birds include wild turkey, quail, vireos, warblers, owls, and various other species. Mammals found here include white-tailed deer, gray foxes, gray squirrels, bobcats, raccoons, and others. The wetlands and streams attract numerous species that like water, such as a variety of salamanders, frogs, snakes, and birds.

In most places, visitors may encounter other people and activities of various sorts. The feeling of isolation will be rare, although a feeling of freedom and independence will be common. Recreational facilities, such as swimming areas, fishing access sites, trails, and viewing areas are available. Some areas have signs, interpretive displays, and other facilities for the comfort and safety of the user. Modification of the landscape through human intervention is a common sight in developed recreation areas.

The area is generally continuous, although some private land is interspersed within the forest. The road system continues to provide adequate access for public and administrative use. Traffic is frequently encountered. Most roads have native surfacing and are rough and irregular. These roads may not be stable during bad weather

conditions. Public access on some roads is restricted either seasonally or permanently. Remnants of temporary roads leading from permanent roads to small openings can be seen. New road construction is minimal, and road reconstruction is decreased.

Management Area 4 – Talladega Division, Talladega National Forest

DESCRIPTION

MANAGEMENT AREA

Based on ecological landscape mapping, the Talladega Division of the Talladega National Forest is divided into 7 land type associations (LTAs); Cheaha Mountain, Dugger Mountain, Hollins East, Horseblock Mountain, Nances Creek, Piedmont, Talladega Hills. The Piedmont LTA is located in the Schist Plains Subsection, Southern Appalachian Piedmont Section. The Dugger Mountain and Nances Creek LTAs are located within the Sandstone, Shale, and Chert Ridge Subsection. The remaining four LTAs are located within the Quartzite and Talladega Slate Ridge Subsection. Both Subsections are located within the Southern Ridge and Valley Section. The Piedmont LTA can be described as upland hills with moderately low relief. Schist is the major geologic component from which soils were derived from. Soils are shallow to moderately-deep, well drained, moderately rapid to moderately permeable with loamy subsoils. Dugger Mountain LTA can be described as low mountains with moderate relief. Shale and sandstone are the major geologic component from which soils were derived from. Soils are shallow to deep, moderately permeable with loamy subsoils. Nances Creek LTA is a broad valley plain with very low relief. Geology is primarily limestone and shale. Soils are moderately deep to very deep, moderately well drained to well drained, slowly to moderately permeable, with clay, clay loam, silty clay loam, and silty clay subsoils. Talladega Hills and Horseblock Mountain can be described as upland hills of moderately low to moderate relief. Hollins East LTA can be described as an upland plateau with moderately low relief. All three of these LTAs have slate and phyllite as their dominant geologic components from which soils were derived. Soils found within these three LTAs are shallow to moderately-deep, well drained, moderately permeable with silty clay to loamy subsoils. Cheaha Mountain LTA is a low mountain of moderate relief. Geology consists primarily of sandstone with some shale. Soils are moderately deep to deep, well drained, and moderately permeable with loamy subsoils.

The network of streams is classified as riverine with dendritic drainage patterns on slate and phyllite or schist geology and trellis on shale and sandstone geology. Streams exhibit different characteristics based on geology and relief. The Piedmont LTA has streams with moderate to low gradient, moderately confined with gravel/sand-dominated substrate on small streams and boulder/bedrock-dominated substrate on large streams. Nances Creek LTA has streams that are broad with low gradient, moderately confined and entrenched in some areas with gravel/sand dominated substrate. The remaining LTAs have streams with moderate to low gradient, well to moderately confined streams with cobble/gravel dominated substrate containing bedrock in higher elevations and sand in lower elevations. In all the LTAs, most channels exhibit perennial flow all the way up to their headwater regions and support a robust to adequate aquatic community. The fluvial system is primarily rainfall driven with a moderately rapid basin response.

WATERSHEDS

The Talladega Division of the Talladega National Forest lies within eighteen 5th level watersheds: Cahulga, Cane, Chulafinee, Cheaha, Crooked, Enitachopco, Hurricane, Ketchepedrakee, Mad Indian, Middle Choccolocco, Muscadine, Talladega, Tallasseehatchee, Upper Choccolocco, Upper Hatchet, Upper Terrapin, Walnut, and Weogufka. Ten of these watersheds are within the Coosa River Basin (Cheaha, Hurricane, Middle Choccolocco, Talladega, Tallasseehatchie, Upper Choccolocco, Upper Hatchet, Upper Terrapin, Walnut, and Weogufka) and eight are located in the Tallapoosa River Basin (Cahulga, Cane, Chulafinee, Crooked, Enitachopco, Ketchepedrakee, Mad Indian, and Muscadine). Four of these watersheds, Cheaha, Middle Choccolocco, Talladega, and Tallasseehatchie, are in poor overall condition. Primary factors affecting their condition are; recreational pressure (except for Talladega and Tallasseehatchie), point sources of pollution (except for Cheaha), hydrologic modification, and overall watershed vulnerability. Middle Choccolocco is listed on the Alabama State impaired list because of PCBs. Eight watersheds, Crooked, Enitachopco, Mad Indian, Muscadine, Tallasseehatchie, Upper Choccolocco, Walnut, Weogufka, have less than 1% public land ownership. Most of the public land ownership, previously mentioned, lies within headwaters of these watersheds. Forest Service management within these watersheds will have minimum effect on the improvement of overall watershed condition. One watershed, Upper Hatchet, has 11% public land ownership. Six watersheds, Cane, Chulafinee, Middle Choccolocco, Talladega, Tallasseehatchie, and Upper Terrapin, have public land ownership ranging from a low of 19% to a high of 26%. Hydrologic modification is the primary effect within these watersheds. Cane Creek watershed has a fair to poor riparian rating. Only three watersheds, Cahulga, Cheaha, and Ketchepedrakee, have public land ownership exceeding 30%, with Cheaha having the largest ownership at 36%. Cahulga and Ketchepedrakee watersheds are in good overall watershed condition. Overall watershed vulnerability is rated moderate for the Cahulga, Upper Hatchet, and Upper Choccolocco watersheds. Overall watershed vulnerability in the remaining watersheds, a total of fifteen, is rated as high. Municipal water supply and impaired waters (Middle Choccolocco watershed) account for part of the high ratings. The high number of endemic aquatic species (the greatest of all National Forests in Alabama) and the presence of sensitive, threatened and endangered aquatic species accounts for the high overall watershed vulnerability rating.

Major influences on watershed condition are located downstream and off public lands for most of the watersheds involving the Talladega Division of the Talladega National Forest. Three watersheds of the eighteen listed have sufficient public land ownership where land management can have an effect on improving watershed condition. Table 4-4 below provides a synopsis of the eighteen watersheds containing public land ownership and influences, rated as high only, which are presently having an effect on the water resource. Additional information can be found in "A Watershed Analysis For The National Forests in Alabama", 1999.

Table 4-4: Talladega Watershed Effects Synopsis

Watershed Name	% Public Land Ownership	Point Source Pollution	Hydrologic Modification	Erodible Soils	Recreation Use	Riparian Health	AL State Impaired List	Overall Watershed Condition	Overall Watershed Vulnerability
Middle Choccolocco	25%	X	X		X		X	X	X
Cheaha	35%		X		X			X	X
Ketchepedrakee	33%								X
Talladega	24%	X	X					X	X
Tallaseehatchee	23%	X	X					X	X
Crooked Creek	<1%								X
Enitachopco Creek	<1%								X
Upper Hatchet	14%								
Walnut Creek	<1%								X
Weogufka Creek	<1%								X
Hurricane Creek	8%			X					X
Upper Terrapine	29%		X	X					X
Upper Choccolocco	39%		X		X				
Muscadine Creek	<1%								X
Cane Creek	20%					X			X
Cahulga Creek	36%		X						
Chulafinnee	21%		X						X
Mad Indian Creek	<1%								X

Note: X = High

DESIRED CONDITIONS

A mosaic of forest stands is spread across most of the landscape. The community structure will show a wide age distribution with various sized openings in the canopy. Vegetation patterns reflect natural disturbances, as well as planned harvest activities to provide for forest health, old growth conditions, wildlife habitat improvement, and other resource objectives. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, will be visible. Management of forest vegetation focuses on maintaining and restoring forest health, including species and age diversity. The forests continue to produce timber products but at reduced levels compared to previous decades. Forest products are generally byproducts of management to meet other resource objectives (wildlife, old growth, forest health). All harvest methods are available and are selected based on site-specific analysis and management objectives.

The upland areas consist of pine, oak-pine, and mixed hardwood types. Loblolly, shortleaf, and longleaf are the most prevalent pine species. Most upland stands are pine or mixed pine-hardwood with significant components of hardwood. Bottomland or cove hardwoods are found on lower slopes along rivers and creeks, and upland hardwood or mixed stands are often found on north facing slopes. The community structure indicates a wide age distribution with a number of various sized openings in the canopy. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, is visible.

The upland communities are dominated by large pine and various hardwood species, primarily oaks (such as white, black, northern red, southern red, scarlet, chestnut) and hickories. Mountain longleaf and hardwood species (chestnut oak, black oak, post oak, scarlet oak, pignut hickory) suited to dry sites are frequently encountered on dry ridges. The predominantly pine stands have an open park-like appearance due to frequent low intensity fires. A small oak component is present in most pines stands, mainly in scattered clumps. Some upper slopes are mostly mixed hardwood with scattered pine.

The bottomland and cove sites appear as a closed canopy forest of tall, straight trees, mostly mixed oaks, hickories, beech, yellow poplar, and maple. The sparse midstory contains species such as blackgum, red maple, sweetgum, and other hardwoods. Evidence of fire is generally not present due to moist sites and the minimal use of prescribed fire on these sites.

There is evidence of frequent, low-intensity fires, mostly on upland sites. Fire-dependent ecosystems are burned frequently to mimic the natural role of fire in these ecosystems. Occasionally fires may enter bottomland or coves. Vegetation patterns are primarily the result of fire (including prescribed fire), hydrology, and timber harvest activities. Tree trunks are blackened. Smoke from prescribed fires may be present. The imprint of a narrow access road covered in grass may be common.

The quality of soil, water, and air will be acceptable. Wetlands show no evidence of being drained. The aquatic community will be adequate to robust. Water quality meets or exceeds state standards, providing biodiversity and beneficial downstream uses.

Wildlife found within the forest includes species that prefer both mature pine and hardwood forests, as well as early successional habitats resulting from forest management activities. Birds include wild turkey, quail, vireos, warblers, owls, and various other species. Mammals found here include white-tailed deer, gray foxes, gray squirrels, bobcats, raccoons, and others. The wetlands and streams attract numerous species that like water, such as a variety of salamanders, frogs, snakes, and birds.

In most places, visitors may encounter other people and activities of various sorts. The feeling of isolation will be rare, although a feeling of freedom and independence will be common. Recreational facilities, such as swimming areas, fishing access sites, trails, and viewing areas are available. Some areas have signs, interpretive displays, and other facilities for the comfort and safety of the user. Modification of the landscape through human intervention is a common sight in developed recreation areas.

Within the Cheaha Wilderness, the enduring resource of wilderness is maintained and perpetuated as one of the multiple uses of National Forest System land. The ecosystem is the result of natural succession and natural processes. In some areas, natural succession eventually results in an older forest of predominantly shade tolerant vegetation. Wildlife favoring mature vegetation or the late successional stages of vegetation is predominant in wilderness. Unfragmented habitat is provided for area-sensitive species. There is little evidence of visitor use in the wilderness, and there is low interaction among users. Facilities of a primitive nature may be present to protect the resources and the safety of visitors. Minor evidence of primitive travelways exists.

The area is generally continuous, although some private land is interspersed within the forest. The road system continues to provide adequate access for public and administrative use. Traffic is frequently encountered. Most roads have native surfacing and are rough and irregular. These roads may not be stable during bad weather conditions. Public access on some roads is restricted either seasonally or permanently. Remnants of temporary roads leading from permanent roads to small openings can be seen. New road construction is minimal, and road reconstruction is decreased.

Management Area 5 – Tuskegee National Forest

DESCRIPTION

MANAGEMENT AREA

Based on ecological landscape mapping, the Tuskegee National Forest is divided into two land type associations (LTAs); Tuskegee Hills and Uphapee Creek. Both of these LTAs are located within the Middle Coastal Plain – Upper Loam Hills Subsection, Coastal Plains, Middle Section. The Tuskegee Hills LTA can be described as upland ridges of low relief with deep, well drained, moderately slow to moderately permeable soils with sandy clay loam subsoils. While the Uphapee Creek LTA can be described as floodplains of low relief subject to flooding with deep, poorly to moderately well drained, slowly to moderately permeable soils with sandy loam, sandy clay loam, and clay subsoils.

The network of streams are classified as riverine with a dendritic drainage pattern, having a significant palustrine component, characterized by low gradient that is poorly to moderately confined, often with braided channels with some entrenched channels. Stream substrate dominated by sand with a significant organic fraction. Floodplains and palustrine areas serve as an important source of aquatic foods released during flood events. Most channels exhibit perennial flow all the way up their headwater regions and support an adequate aquatic community. The stream system is rainfall driven with slow to moderate basin response.

WATERSHEDS

The Tuskegee National Forest lies within four 5th level watersheds: Chewacla, Uphapee, Opintlocco, and Calebee. Public ownership of these watersheds is minimal, the largest public ownership being in the Uphapee with about 10%. The remaining three watersheds have public ownership less than 1%. All four watersheds are located in the Tallapoosa River Basin. Overall watershed condition is rated as poor. Primary factors affecting there

condition are; point source pollution, hydrologic modification, agricultural and industrial use, urbanization, and to some degree recreational use. Overall watershed vulnerability is moderate resulting from the presence of a high diversity of native, endemic, threatened and endangered species and municipal water supply. Riparain condition is ranked as fair resulting from extensive agricultural land use where forest conditions are limited. Forest Service management within these watersheds will have minimum effect on the improvement of overall watershed health because of the minimal amount of ownership. Table 4-5 below provides a synopsis of the four watersheds containing public land ownership and influences, rated as high only, which are presently having an effect on the water resource. Additional information can be found in “A Watershed Analysis For The National Forests in Alabama”, 1999.

Table 4-5: Tuskegee Watershed Effects Synopsis

Watershed Name	% Public Land Ownership	Point Source Pollution	Hydrologic Modification	Erodible Soils	Recreation Use	Riparian Health	AL State Impaired List	Overall Watershed Condition	Overall Watershed Vulnerability
Chewacla	<1%	X	X		X			X	X
Uphapee	10%	X	X					X	X
Opintlocco	<1%	X	X					X	X
Calebee	<1%	X	X					X	X

Note: X = High

DESIRED CONDITIONS

The area will be made up of upland pine and pine-hardwood communities, and bottomland hardwoods. The community structure will show a wide age distribution with a number of various sized openings in the canopy. Vegetation patterns reflect natural disturbances, as well as planned harvest activities, to provide for forest health, old growth conditions, ecosystem restoration, wildlife habitat management, and other resource objectives. Evidence of natural disturbances, such as insects, disease, wind, and wildfire, will be visible.

The upland pine community will be dominated by longleaf pine with loblolly and shortleaf pine occasionally interspersed. The midstory may be sparse in patches because of frequent low intensity growing season fires. Several kinds of oaks (southern red, post, blackjack, black), hickories (sand, mockernut, pignut) and red maple will be among the shrubs, some grown large enough to reach the overhead canopy and form hardwood patches within the pine forest. Blueberry patches are common. The herbaceous understory layer will contain bluestem, and other grasses such as oatgrass and Panicum spp., legumes, Aster spp., and golden rods. Bracken fern may be frequent, but the emphasis of growing season burning over dormant season burning is beginning to reduce its dominance. Pockets of sandhill vegetation comprised of longleaf pine, turkey oak, bluejack oak, wafer ash, bluestem, asters, and *Asclepias humistrata* occur as rare

inclusions. Along the toeslopes between the uplands and the bottomlands, loblolly pine and hardwoods become more prevalent.

The bottomland ecosystem typically borders a river. A closed canopy forest of tall, straight trees will cover the bottoms and terraces. These include several oak species (willow oak, cherrybark oak, water oak, overcup oak, and swamp chestnut oak), beech, sweetgum, and spruce pine. Loblolly pine may be frequent within the overstory. The midstory will contain species such as southern magnolia, beech, redmaple, dogwood, and sweetgum. Vines such as poison ivy, muscadine, Virginia creeper, and crossvine are frequently encountered. Rushes, sedges, ferns, and spring-flowering ephemerals will dominate the herbaceous layer. Patches of moss are frequent. River birch, sycamore, and black willow are commonly encountered on sandy river banks. The different plant communities are not separated by sharp boundaries, but gradually merge in response to fluctuations in water levels and fire history.

The National Forest lands within the Chewacla and Uphapee watersheds are healthy condition and providing the necessary protection and filtering to protect the water quality and aquatic habitats. Management in the Chewacla watershed is addressing the issues related to the increasing population trend. Road density is stable or decreasing and recreation pressure remains moderate to high, but do not impact

There may be evidence of frequent, low-intensity fires. Tree trunks will be blackened. Smoke from prescribed fires may be present. The evidence of firelines will be rarely seen. The imprint of a narrow access road covered in grass would be common. The attributes of soil productivity, water quality, and air quality will be acceptable. Signs of soil terracing and eroding in the past would still be present. An organic layer will be present. Wetlands show no evidence of being drained. Stream channels appear to be entrenched, and many will be braided. Beaver activity will be very common, and the aquatic community will be adequate to robust.

Wildlife includes a wide range of species that inhabit the upland and bottomland areas. Mammals found here include white-tailed deer, wild turkey, bobwhite quail, eastern squirrel, coyote, bobcat, skunk, and opossum. Box turtles, eastern garter snake, king snake, cottonmouth, timber rattlesnake and copperhead would be typical reptiles. The wetlands and streams attract species that like water, such as salamanders, frogs, skinks, and sliders. Songbirds include vireos, warblers, and catbirds.

In most places visitors may encounter other people and activities of various sorts. The feeling of isolation will be rare, although a feeling of freedom and independence will be common. Recreational opportunities, such as fishing, hiking, mountain bike riding, horseback riding, and scenery viewing are available. Some areas will have signs, interpretive displays, and other facilities for the comfort and safety of the user. Modification of the landscape through human intervention will be a common sight.

Most roads will have native surfacing and be rough and irregular. Traffic will be frequently encountered. These roads may not be stable during bad weather conditions. Public access on some roads will be restricted either seasonally or permanently.

Remnants of temporary roads leading from permanent roads to small openings can be seen.

CHAPTER 5

MONITORING PLAN

Introduction

Monitoring and evaluation provide information to determine whether programs and projects are meeting Forest Plan direction. Monitoring and evaluation is required by NFMA implementing regulations (36 CFR 219.12(k)) to determine whether requirements of the regulations and Forest Plan are being met.

This Chapter establishes Monitoring Questions that are to be answered over the course of Forest Plan implementation. Monitoring questions address whether the desired conditions, goals and objectives of the Forest Plan are being met and whether Forest Plan standards are effective. Monitoring Questions are part of the Forest Plan and are stated in terms that will direct *what* will be monitored, but are not so specific as to address *how* monitoring will be accomplished.

The concept of adaptive management is foundational for planning and Forest Plan implementation in a dynamic environment. Regulations require that Forest Plans be revised periodically (36 CFR 219.10(g)). However, Forest Plans may need to be more dynamic to account for changed resource conditions (such as large storms or insect outbreaks), new information or findings of science, or new regulations or policies. An effective monitoring and evaluation program is essential for determining when these needs may exist and leading to quick resolution of a need for change.

The Monitoring Questions were developed to address three types of monitoring:

- Implementation monitoring – addressing whether the Forest Plan is being carried out
- Effectiveness monitoring – dealing with whether desired conditions are resulting
- Validation monitoring – to determine if information used in developing the Forest Plan has changed

Monitoring and evaluation provide information that can be used to keep Forest Plans current. Key results and findings will be used to determine if changes are needed in goals, objectives, standards, the monitoring questions themselves or research needs.

Monitoring and evaluation are distinct activities. The monitoring phase generally includes the collection of data and information, either by observation, direct measurement or compiling data from appropriate sources. Evaluation is the analysis of this data and information, and is used to assess if the Forest Plan is being implemented correctly and whether it needs to be changed. Forest Plan Monitoring and Evaluations will be reported annually in the Forest Monitoring and Evaluation Report.

Monitoring and evaluation may lead to adjustments of programs, projects or activities, changes or amendment to the Forest Plan itself or used to recommend changes in laws, regulations, and policies that affect both the Forest Plan and project implementation (FSM 1922.7).

Forest Plan amendments and revisions should be responsive to changes that affect the Forest Plan, and may be needed at any time if a Forest Plan becomes out of date in some way. Within an adaptive management framework, the need to amend or revise the Forest Plan may result from:

- Recommendations of an interdisciplinary team, based on evaluation and monitoring results
- Changes in agency policy and regulations
- Planning errors found during Forest Plan implementation
- Changes in physical, biological, social, or economic conditions

The evaluation of findings under the following Monitoring Questions will lead forest managers to these determinations.

MONITORING QUESTIONS

1. Are rare ecological communities being protected, maintained, and restored?

A Forest Plan goal, along with related objectives and standards, are designed to maintain and restore rare communities. To monitor accomplishment of these provisions and the effects that overall Forest Plan implementation will have on rare communities, trends in number of occurrences, locations, and conditions, and effects of maintenance and restoration activities will be tracked.

2. Are landscape- and stand-level composition, structure, and function of major forest communities within desirable ranges of variability?

Success in maintaining and restoring composition, structure, and function of forest ecosystems within desired ranges of variability is reflected by both changes in forest condition and by levels of management and other effects that are shaping these communities. Monitoring will include tracking the abundance of major forest cover/community types and levels of management activities conducted to maintain and restore desired conditions. Population trends and habitats of Management Indicator Species will be monitored to help indicate effects of national forest management within selected communities.

Management Indicator Species	
	Reasons for Selection
Hooded warbler	Changes in presence and abundance of hooded warblers in mature mesic deciduous forests will be used to help indicate the effectiveness of management at providing dense understory and midstory structure within these forest communities.
Red-cockaded woodpecker	Trends in populations of this species will be used to help indicate the effectiveness of management at maintaining mature pine forests in open, fire-maintained conditions. (See also Monitoring Question 7.)
Brown-headed nuthatch	Trends in presence and abundance of these species in mature pine forest will be used to help indicate effectiveness of management at maintaining these communities in open fire-maintained conditions.
Scarlet tanager	Trends in presence and abundance of this species in mature upland oak and oak pine forest types will be used to help indicate effectiveness of management at maintaining these communities.

3. Are key successional stage habitats being provided?

Forest goals, objectives, and standards have been established for maintaining a balance between the early, mid-, and late-successional habitat conditions. Some wildlife species depend on early- successional forests, while others depend on late-successional forests. Trends in successional conditions and abundance of key successional habitats, such as high-elevation early-successional habitat, mature forest interiors, old growth, and permanent wildlife openings, will be monitored. Population trends of Management Indicator Species selected to help indicate effects of management on successional habitats will be monitored.

Management Indicator Species	
	Reasons for Selection
Prairie warbler	Trends in presence and abundance of this species in early-successional forests will be used to help indicate the effectiveness of management in achieving desired conditions within these habitats.
Swainson’s warbler	Trends in presence and abundance of this species in early successional riparian forests will be used to help indicate the effectiveness of management achieving desired conditions.
Acadian flycatcher	Trends in presence and abundance of this species in mature riparian forests will be used to help indicate the effectiveness of management in achieving desired conditions within these habitats.
Wood Thrush	Trends in presence and abundance of this species in mature deciduous forests will be used to help indicate the effectiveness of management in maintaining desired condition relative to forest interior habitats.

4. How well are key terrestrial habitat attributes being provided?

Special habitat attributes such as hard and soft mast, den trees, snags, and downed wood are necessary elements for certain species. A variety of Forest Plan goals, objectives, and standards provide for the protection, restoration, and maintenance of these elements. Trends in the abundance and condition of key terrestrial habitat attributes and associated Management Indicator Species will be monitored.

Management Indicator Species	Reasons for Selection
Pileated woodpecker	Trends in presence and abundance of this species across the forest will be used to help indicate the effectiveness of management in maintaining desired condition relative to abundance of snags.

5. What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?

The Forest Plan provides for protection and restoration of riparian ecosystems, wetlands, and aquatic systems and for assuring that aquatic habitat conditions are suitable to maintain native aquatic communities. Water quantity and quality, atmospheric deposition, in-stream large woody debris, and aquatic species passage will be monitored. A community-based monitoring approach will be used to assess aquatic habitats, in lieu of designating individual MIS. The species composition of aquatic insects, fish, and mussels will be monitored in representative stream reaches of the National Forests. These approaches will look at community composition as an indication of the overall integrity of aquatic communities. Comparisons of reference and managed reaches will be used to indicate the effects of management activities on aquatic habitat and communities.

6. What are status and trends of forest health threats on the forest?

Measures designed to control or mitigate negative effects of insects, disease, non-native invasive species, air pollution, and high fuel levels are important aspects of this Forest Plan. Trends in occurrence and effects of air pollutants, wildland fire, insects and diseases, and non-native invasive species will be monitored.

7. What are the status and trends of federally listed species and species with viability concerns on the forest?

Contribution to conservation and recovery of federally listed threatened and endangered species is an important goal of this Forest Plan. Trends in occurrence or abundance of these species will be monitored along with levels of management activities implemented for the purpose of achieving recovery. Some threatened and endangered species have been selected as Management Indicator Species because of their critical dependence on national forest management for recovery.

Management Indicator Species	
	Reasons for Selection
Red-cockaded woodpecker	Trends in populations of this species will be used to indicate effectiveness of management activities designed specifically to meet recovery objectives for this species. (See also Monitoring Question 2.)

Maintaining habitat capable of supporting viable populations of native and desired non-native species is also an important goal of the Forest Plan. Many objectives and standards are designed to meet this goal. Monitoring will focus on trends for populations and/or habitats of species of viability concern. Where feasible, species monitoring will often be accomplished by monitoring communities of species (e.g., fish, bats, birds). Individual Management Indicator Species have been selected because their viability is critically dependent on national forest management.

8. What are the trends for demand species and their use?

The National Forests in Alabama provides large public ownership with opportunities for hunting, fishing, wildlife viewing, and collection of special forest products. Monitoring of some game species populations and/or harvest levels will be done in coordination with the Alabama Wildlife and Freshwater Fisheries. Some of these species are selected as Management Indicator Species where effects of national forest management are important to meeting public demand, and monitoring assistance from Alabama Wildlife and Freshwater Fisheries is available. Some species that are collected as special forest products will be monitored through management of the permitting process.

Management Indicator Species	
	Reason for Selection
White-tailed deer	Trends in harvest levels and hunting demand will be used to help indicate effectiveness of management in meeting public demand for this species.
Eastern wild turkey	Trends in harvest levels and hunting demand will be used to help indicate effectiveness of management in meeting public demand for this species.
Northern bobwhite quail	Trends in harvest levels and hunting demand will be used to help indicate effectiveness of management in meeting public demand for this species.

9. Are high quality, nature-based recreation experiences being provided and what are the trends?

The National Forests in Alabama offers a unique combination of nature based dispersed recreation, including undeveloped settings, built environments reinforcing natural character, and wildland settings that complement enjoyment of special places. This Forest Plan aims to provide for safe, natural, well designed, accessible, and well-maintained recreational opportunities for all visitors. Monitoring visitor experiences and the condition of facilities will help gage the effectiveness in meeting this commitment.

10. What are the status and trends of recreation use impacts on the environment?

This Forest Plan is committed to providing recreational opportunities that are compatible with stewardship of forest resources. Impacts of motorized uses, site occupancy, and large volumes of users on riparian, stream and aquatic resources, vegetation, and soils will be monitored.

11. What is the status and trend of wilderness character?

Wilderness character is comprised of both human and biophysical elements. Monitoring the human elements requires monitoring trends in the human experiences, i.e. solitude, crowding, etc., as well as trends in the use patterns and visitor impacts. User monitoring and surveys will allow for tracking trends among visitors to wilderness, while trailhead use and identification of sites with impacts will allow us to track movement and activities within wilderness and relationships to biophysical effects. Monitoring biophysical elements can be used for tracking changes to the natural systems due to natural and human influences within and outside the wilderness. Although there are many components to the biophysical element, air quality and fire are considered important. Air quality, viewed as a basic indicator of wilderness health and changes that are occurring in wilderness due to the fire regime, especially in fire dependent communities, will be monitored.

12. What are the status and trend of Wild and Scenic River conditions?

The two main elements in determining the eligibility and suitability of a river for inclusion in the National Wild and Scenic Rivers System are a free-flowing condition and the presence of Outstandingly Remarkable Values. Rivers determined to be eligible, or eligible and suitable, that have not yet been designated by Congress, must have those elements protected until a further designation is assigned. Monitoring changes to these elements will help us evaluate our management of these rivers on our forests.

13. Are the scenery and recreation settings changing and why?

Scenery and recreational settings are managed by establishing Scenic Integrity Objectives (SIO) and Recreation Opportunity Spectrum (ROS) class management direction. Management of scenery and settings are essential in the management of recreational experiences and the quality of the environment. Changes in scenic quality of the forest and the recreation settings will be monitored.

14. Are heritage sites being protected?

Compliance with the National Historic Preservation Act is essential during implementation of this Forest Plan. The requirement that sites eligible for the National Register of Historic Places be identified and protected prior to occurrence of ground disturbing activities must be met. Monitoring will be done to assess how well sites are being

identified for protection and whether site protection measures is effective in preventing site loss.

15. Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?

This Forest Plan provides for management of watersheds to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial water uses. Numerous best management practices are established as standards for practices to be carrying out during implementation of the Forest Plan. Watershed condition, improvement needs, water quality, soil and water standards, and implementation of best management practices will be monitored.

16. What are the conditions and trends of riparian area, wetland and floodplain functions and values?

Riparian ecosystems restoration and management is important to maintain aquatic resources and values. Desired conditions, including the composition and structure of vegetation, equipment limitations, maintaining ground cover and stable stream-banks are established in the Forest Plan. Floodplains and wetlands are to be protected. Riparian management practices and standards, ground cover, stream-bank stability, wetland and floodplain status will be monitored.

17. How do actual outputs and services compare with projected? [36 CFR 219.12(k)1]

The 1982 NFMA implementing regulations require that outputs and services will be monitored and compared to those projected in the Forest Plan. Trends in forest product, mineral leasing and surface rights, access and road conditions, and Forest Plan implementation costs will be tracked and compared to projections made at the time the Forest Plan was developed.

18. Are silvicultural requirements of the Forest Plan being met?

The 1982 NFMA implementing regulations also require monitoring of specific silvicultural requirements. Silvicultural practices, harvest methods, harvest unit size, regeneration establishment, and land suitability for timber productions will be monitored and evaluated to determine if and when changes may be needed.

19. Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?

Periodic review of objectives and standards established in the Forest Plan is called for to assure that desired condition are being achieved and that these requirements will stay current given Forest Plan modifications, changed conditions and new information that

accumulate over time. Implementation and effectiveness of best management practices and other standards will be tracked and periodically evaluated.

RESEARCH NEEDS

A key element of adaptive management is monitoring. Another element is that of research. Ongoing monitoring will identify needs for further research as the plan is implemented. At its inception, however, the Plan can identify areas of concern that can be the subject of “research needs”.

Research and monitoring are related activities that help to meet information needs for adaptive management of national forests. Research involves rigorous study under controlled conditions, following the scientific method. Research activities include study planning, design, quality control, peer review, and relatively rigid publication standards. Monitoring is generally conducted under less controlled conditions and results are often more general in contrast with research.

Research needs for management of the National Forests are to be identified during planning and periodically reviewed during monitoring and evaluation of implemented Forest Plans (36 CFR 219.28). See Appendix H, Research Needs.

The Forest Service Research Branch is the largest forestry research organization in the world and a national and international leader in forest conservation. Agency research contributes to the advancement of science and the conservation of many of our Nation's most valuable natural resources, both on private lands and on the National Forests. Research needs identified during planning, monitoring and evaluation are to be included in formulating overall research programs and plans for Forest Service Research to support or improve management of the National Forests.

There is a need for more information on the appropriate buffer corridor for a physiographic area or zone given the goals and objectives of managing riparian areas. We need to know more about how we can best determine the effectiveness of riparian corridor buffers to meet the intent of management. Research is extant relative to sediment and nutrient loading/temperature but other functions and values in the riparian area are not as well studied. Recreation impacts on water quality and riparian areas, specifically OHVs and equestrian use, are topics for which more information is needed.

Forest management actions have also been studied for years and will be the subject of monitoring and evaluation under this Plan. Specifically; however, the effects of tree cutting and the use of prescribed burning on some Threatened and Endangered species habitat use and their distribution and abundance could bear further research. Effects of prescribed burning, particularly growing season burns, on invertebrate diversity and abundance should be researched.

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APPENDIX A

Relevant Statutes, Regulations, Policies and Agreements

This Appendix contains a listing of relevant statutes, regulations, policies and agreements applicable to the Forest Service. This section has been updated for the Proposed Revised Forest Plan to include brief summaries of the statutes, regulations and Executive Orders. Web site locations where the text of the documents can be obtained are also provided where available.

Forest Service Directives

<http://www.fs.fed.us/im/directives/>

The following is a partial listing of national and regional Forest Service policies relevant to this Land and Resource Management Plan. A complete listing can be found in Forest Service Manuals and Forest Service Handbooks. Together, these are known as the Forest Service Directives System.

The Directives System is the primary basis for the management and control of all internal programs and serves as the primary source of administrative direction for Forest Service employees. The system sets forth legal authorities, management objectives, policies, responsibilities, delegations, standards, procedures, and other instructions.

The Forest Service Manual (FSM) contains legal authorities, goals, objectives, policies, responsibilities, instructions, and the necessary guidance to plan and execute assigned programs and activities.

Forest Service Handbooks (FSH) are directives that provide instructions and guidance on how to proceed with a specialized phase of a program or activity. Handbooks either are based on a part of the Manual or they incorporate external directives.

Here follows a listing of the Forest Service Manual system and referenced Handbooks:

Forest Service Manuals

1010 Laws, Regulations, and Orders

http://www.fs.fed.us/im/directives/dughtml/fsm_1000.html

1020 Forest Service Mission

http://www.fs.fed.us/im/directives/dughtml/fsm_1000.html

1500 External Relations

http://www.fs.fed.us/im/directives/dughtml/fsm_1000.html

1600 Information Resources

http://www.fs.fed.us/im/directives/dughtml/fsm_1000.html

- 1900 Planning**
http://www.fs.fed.us/im/directives/dughtml/fsm_1000.html
- 2060 Eco-system Classification, Interpretation, and Application**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2070 Biological Diversity (Reserved)**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2200 Range Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2300 Recreation, Wilderness, and Related Resource Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2400 Timber Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2500 Watershed and Air Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2600 Wildlife, Fish, and Sensitive Plant Habitat Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2700 Special Uses Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 2800 Minerals and Geology**
http://www.fs.fed.us/im/directives/dughtml/fsm_2000.html
- 3400 Forest Pest Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_3000.html
- 5100 Fire Management**
http://www.fs.fed.us/im/directives/dughtml/fsm_5000.html
- 5400 Land Ownership**
http://www.fs.fed.us/im/directives/dughtml/fsm_5000.html
- 7400 Public Health and Pollution Control Facilities**
http://www.fs.fed.us/im/directives/dughtml/fsm_7000.html
- 7500 Water Storage and Transportation**
http://www.fs.fed.us/im/directives/dughtml/fsm_7000.html
- 7700 Transportation System**
http://www.fs.fed.us/im/directives/dughtml/fsm_7000.html
- Forest Service Handbooks**
- 2509.22 Soil and Water Conservation Handbook**
http://www.fs.fed.us/cgi-bin/directives/get_dirs/fsh?2509.22!r10_all

Federal Statutes

American Indian Religious Freedom Act of August 11, 1978

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=42&sec=199

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Protects and preserves for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects and the freedom to worship through ceremonial and traditional rites.

Americans with Disabilities Act of 1990

<http://www.usdoj.gov/crt/ada/statute.html>

Provides a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities; for clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities; to ensure that the federal government plays a central role in enforcing the standards established in this Act on behalf of individuals with disabilities; and to invoke the sweep of congressional authority, including the power to enforce the fourteenth amendment and to regulate commerce, in order to address the major areas of discrimination faced by people with disabilities.

Anderson-Mansfield Reforestation and Revegetation Act of October 11, 1949

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=581j

Provides for the reforestation and revegetation of National Forest lands and other lands under the administration or control of the Forest Service.

Antiquities Act of June 8, 1906

<http://www.cr.nps.gov/local-law/anti1906.htm>

Prevents the appropriation, excavation, injury, or destruction of any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the United States without the permission of the Secretary of the Interior having jurisdiction over the lands on which said antiquities are situated; and authorizes the President to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon lands owned or controlled by the United States to be national monuments, and to reserve as a part thereof parcels of land needed for the proper care and management of the objects to be protected.

Archaeological Resources Protection Act of October 31, 1979, as amended 1988

<http://www2.cr.nps.gov/laws/archprotect.htm>

Enacted to secure the protection of archaeological resources and sites on public and Indian lands and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community and private individuals having access to and information related to these resources.

Architectural Barriers Act of 1968

<http://www4.law.cornell.edu/uscode/42/4151.html>

Ensures that standards for the design, construction, and alteration of buildings owned, leased, or funded by the United States are prescribed to insure, wherever possible, that physically handicapped people have ready access to and use of such buildings.

Bankhead-Jones Farm Tenant Act of July 22, 1937

<http://laws.fws.gov/lawsdigest/bankjon.html>

Directed the Secretary of Agriculture to develop a program of land conservation and utilization in order to correct maladjustments in land use and thus assist in such things as control of soil erosion, reforestation, preservation of natural resources, and protection of fish and wildlife.

Clarke-McNary Act of June 7, 1924

<http://www.senate.gov/~agriculture/Legislation/Agricultural%20Law/Forests/cma.pdf>

Authorizes and directs the Secretary of Agriculture, in cooperation with land grant colleges and universities or with other suitable state agencies, to aid farmers through advice, education, demonstrations, or other similar means in establishing, renewing, protecting, and managing wood lots, shelter belts, windbreakers, and other valuable forest growth, and in harvesting, utilizing, and marketing the products thereof. The Act also authorizes the Secretary to accept, on behalf of the United States, title to any land donated by private land owners to assure future timber supplies or for other national forest purposes.

Clean Air Act of August 7, 1977, as amended (1977 and 1990)

<http://www4.law.cornell.edu/uscode/unframed/42/ch85.html>

Enacted to protect and enhance the quality of the Nation's air resources; to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; to provide technical and financial assistance to state and local governments in connection with the development and execution of their air pollution prevention and control programs; and, to encourage and assist the development and operation of regional air pollution prevention and control programs.

Color of Title Act of December 22, 1928

<http://www4.law.cornell.edu/uscode/43/ch25A.html>

Granted the Secretary of the Interior the authority to issue patents up to 160 acres to claimants that had held a tract of public land in good faith and in peaceful, adverse possession and had made valuable improvements on the land or reduced it to cultivation. The Act reserved the rights to coal and all other minerals contained therein to the United States.

Common Varieties of Mineral Materials Act of July 31, 1947

<http://www4.law.cornell.edu/uscode/30/601.html>

Authorizes the Secretaries of the Interior and Agriculture, under such rules and regulations as they may prescribe, to dispose of mineral materials (including but not

limited to common varieties sand, stone, gravel, pumice, pumicite, cinders, and clay) and vegetative materials (including but not limited to yucca, manzanita, mesquite, cactus, and timber or other forest products) on public lands of the United States, if the disposal of such materials is not otherwise expressly authorized by law, is not expressly prohibited by laws of the United States, and would not be detrimental to the public interest.

Cooperative Forestry Assistance Act of July 1, 1978

<http://www4.law.cornell.edu/uscode/16/2101.html>

Authorizes the Secretary of Agriculture to assist in the establishment of a coordinated and cooperative federal, state, and local forest stewardship program for the management of non-federal forest lands and forest lands in foreign countries.

Disaster Relief Act of May 22, 1974

<http://www4.law.cornell.edu/uscode/42/ch68.html>

Provides an orderly and continuing means of assistance by the federal government to state and local governments in developing, coordinating, and carrying out their disaster relief programs, and provides federal assistance programs for both public and private losses sustained in disasters.

Eastern Wilderness Act of January 3, 1975

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=113

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Established Wilderness areas in the eastern United States, proposed several more for Wilderness Study, and authorized the Secretary of Agriculture to acquire, through purchase, by gift, exchange, condemnation, or otherwise such lands, waters, or interests therein as determined necessary or desirable for the purposes of the Act.

Economy Act of June 30, 1932

<http://www4.law.cornell.edu/uscode/31/1535.html>

Authorizes the head of a federal agency or major organizational unit within an agency to obtain goods or services from a major organizational unit within the same agency or another agency if amounts are available; if it is determined to be in the best interest of the United States government; the agency or unit is able to provide or get by contract the ordered goods or services; and the head of the agency decides ordered goods or services cannot be provided as conveniently or cheaply by a commercial enterprise.

Emergency Flood Prevention (Agricultural Credit Act) Act of August 4, 1978

<http://www4.law.cornell.edu/uscode/16/2201.html>

Authorizes the Secretary of Agriculture to undertake emergency measures for runoff retardation and soil-erosion prevention, in cooperation with land owners and users, as the Secretary deems necessary to safeguard lives and property from floods, drought, and the products of erosion on any watershed whenever fire, flood, or other natural occurrence is causing or has caused a sudden impairment of that watershed.

Endangered Species Act of December 28, 1973

<http://laws.fws.gov/lawsdigest/esact.html>

<http://www4.law.cornell.edu/uscode/16/ch35.html>

Authorizes the determination and listing of species as endangered and threatened; prohibits unauthorized taking, possession, sale, and transport of endangered species; provides authority to acquire land for the conservation of listed species, using Land and Water Conservation Funds; authorizes establishment of cooperative agreements and grants-in-aid to states that establish and maintain programs for endangered and threatened wildlife and plants; authorizes the assessment of civil and criminal penalties for violating the Act or regulations; and, authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the Act or any regulation issued there under. Section 7 of the Act requires federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

Energy Security Act of June 30, 1980

[http://thomas.loc.gov/cgi-](http://thomas.loc.gov/cgi-bin/bdquery/z?d096:SN00932:@@L|TOM:/bss/d096query.html)

[bin/bdquery/z?d096:SN00932:@@L|TOM:/bss/d096query.html](http://thomas.loc.gov/cgi-bin/bdquery/z?d096:SN00932:@@L|TOM:/bss/d096query.html)

Authorizes the Secretary of Agriculture to make available timber resources of the National Forest System, in accordance with appropriate timber appraisal and sale procedures, for use by biomass energy projects.

Federal Advisory Committee Act of October 6, 1972

<http://www.nara.gov/fedreg/legal/index.html#faca>

Sets standards and uniform procedures to govern the establishment, operation, administration, and duration of advisory committees.

Federal Cave Resources Protection Act of November 18, 1988

<http://laws.fws.gov/lawsdigest/caveres.html>

Established requirements for the management and protection of caves and their resources on federal lands, including allowing land managing agencies to withhold the location of caves from the public, and requiring permits for any removal or collecting activities in caves on federal lands.

Federal Coal Leasing Amendments Act of August 4, 1976

[http://thomas.loc.gov/cgi-](http://thomas.loc.gov/cgi-bin/bdquery/z?d094:SN00391:@@L|TOM:/bss/d094query.html)

[bin/bdquery/z?d094:SN00391:@@L|TOM:/bss/d094query.html](http://thomas.loc.gov/cgi-bin/bdquery/z?d094:SN00391:@@L|TOM:/bss/d094query.html)

Authorizes the Secretary of the Interior to divide lands, subject to the Mineral Lands Leasing Act, which have been classified for coal leasing into tracts of such size as he finds appropriate and in the public interest and which can be economically extracted, and, in his discretion, upon the request of any qualified applicant or on his own motion, from time to time offer such lands for leasing by competitive bid.

Federal Insecticide, Rodenticide, and Fungicide Act of October 21, 1972

<http://www4.law.cornell.edu/uscode/unframed/7/ch6.html>

Requires the Administrator of the Environmental Protection Agency to prescribe standards for the certification of individuals authorized to use or supervise the use of any pesticide that is classified for restricted use; regulates the sale of restricted use pesticides; and provides penalties for the unauthorized use or sale of restricted use pesticides.

Federal Land Policy and Management Act of October 21, 1976

<http://www4.law.cornell.edu/uscode/unframed/43/ch35.html>

Requires that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use. Also states that the United States shall receive fair market value of the use of the public lands and their resources unless otherwise provided for by law.

Federal Noxious Weed Act of January 3, 1975

<http://laws.fws.gov/lawsdigest/fednox.html>

Authorizes the Secretary of Agriculture to designate plants as noxious weeds by regulation; to prohibit the movement of all such weeds in interstate or foreign commerce except under permit; to inspect, seize and destroy products, and to quarantine areas, if necessary to prevent the spread of such weeds; and to cooperate with other federal, state and local agencies, farmers associations, and private individuals in measures to control, eradicate, prevent, or retard the spread of such weeds.

Federal Power Act of June 10, 1920

<http://laws.fws.gov/lawsdigest/fedpowr.html>

Provides for cooperation between the Federal Energy Regulatory Commission and other federal agencies, including resource agencies, in licensing and relicensing power projects.

Federal-State Cooperation for Soil Conservation Act of December 22, 1944

<http://www4.law.cornell.edu/uscode/33/701-1.html>

Authorized the adoption of eleven watershed improvement programs in various states for the improvement of water runoff, water flow retardation, and soil erosion prevention.

Federal Water Pollution Control Act and Amendments of 1972 (Clean Water Act)

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=33&sec=125

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Enacted to restore and maintain the chemical, physical, and ecological integrity of the Nation's waters. Provides for measures to prevent, reduce, and eliminate water pollution; recognizes, preserves, and protects the responsibilities and rights of states to prevent, reduce, and eliminate pollution, and to plan the development and use (including restoration, preservation, and enhancement) of land and water resources; and provides for federal support and aid of research relating to the prevention,

reduction, and elimination of pollution, and federal technical services and financial aid to state and interstate agencies and municipalities for the prevention, reduction, and elimination of pollution.

Established goals for the elimination of water pollution; required all municipal and industrial wastewater to be treated before being discharged into waterways; increased federal assistance for municipal treatment plant construction; strengthened and streamlined enforcement policies; and expanded the federal role while retaining the responsibility of states for day-to-day implementation of the law.

Federal Water Project Recreation Act of July 9, 1965

<http://laws.fws.gov/lawsdigest/fwatrre.html>

<http://www4.law.cornell.edu/uscode/unframed/16/460I-12.html>

Requires that recreation and fish and wildlife enhancement opportunities be considered in the planning and development of federal water development.

Fish and Wildlife Conservation Act of September 15, 1960

<http://www4.law.cornell.edu/uscode/unframed/16/670a.html>

Requires the Secretaries of the Interior and Agriculture, in cooperation with state agencies, to plan, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game on public lands under their jurisdiction.

Fish and Wildlife Coordination Act of March 10, 1934

<http://laws.fws.gov/lawsdigest/fwcoord.html>

Authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with other federal and state agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The Act also authorizes the preparation of plans to protect wildlife resources, the completion of wildlife surveys on public lands, and the acceptance by federal agencies of funds or lands for related purposes provided that land donations receive the consent of the state in which they are located.

Forest Highways Act of August 27, 1958

<http://www4.law.cornell.edu/uscode/unframed/23/205.html>

Requires that funds available for forest development roads and trails be used by the Secretary of Agriculture to pay for the costs of construction and maintenance thereof, including roads and trails on experimental and other areas under Forest Service administration, or for adjacent vehicular parking areas and sanitary, water, and fire control facilities. Authorizes the Secretary of Agriculture to enter into contracts with a state or civil subdivision thereof, and issue such regulations as he deems desirable.

Forest and Rangeland Renewable Resources Planning Act of August 17, 1974

<http://www4.law.cornell.edu/uscode/16/ch36.html>

Directs the Secretary of Agriculture to prepare a Renewable Resource Assessment every ten years; to transmit a recommended Renewable Resources Program to the President every five years; to develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System; and to ensure

that the development and administration of the resources of the National Forest System are in full accord with the concepts of multiple use and sustained yield.

Freedom of Information Act of November 21, 1974

<http://www4.law.cornell.edu/uscode/unframed/5/ch5.html>

Governs which government records are released to the public either automatically or upon request.

Geothermal Steam Act of December 24, 1970

<http://www4.law.cornell.edu/uscode/30/1001.html>

Authorizes the Secretary of the Interior to issue leases for the development and utilization of geothermal steam and associated geothermal resources in any lands administered by him or by the Department of Agriculture, and to prescribe such rules and regulations as he deems appropriate to carry out the provisions of the Act.

Granger-Thye Act of April 24, 1950

<http://www4.law.cornell.edu/uscode/16/581i-1.html>

Authorizes the Forest Service to spend appropriated funds on buildings, lookout towers, and other structures on lands owned by states, counties, municipalities, or other political subdivisions, corporations, or individuals; to procure and operate aerial facilities and services for the protection of National Forests; to cooperate with and assist public and private agencies, organizations, institutions, and individuals in performing work on non-Forest land for the administration, protection, improvement, reforestation, and other kinds of work as the Forest Service is authorized to do on Forest land; to deposit sums from timber purchases to cover the costs of disposing of brush and debris; to permit the use of structures under its control; to sell nursery stock; and other purposes.

Historic Sites Act of 1935

<http://www4.law.cornell.edu/uscode/16/461.html>

Establishes a policy to preserve for public use historic sites, buildings, and objects of national significance for the benefit of the people.

Historic Preservation Act of October 15, 1966

<http://www.cr.nps.gov/local-law/nhpa1966.htm>

Establishes a program for the preservation of additional historic properties throughout the nation, and for other purposes.

Joint Surveys of Watershed Areas Act of September 5, 1962

<http://www4.law.cornell.edu/uscode/16/1009.html>

Authorizes and directs the Secretaries of the Army and Agriculture to make joint investigations and surveys of watershed areas in the United States, Puerto Rico, and the Virgin Islands, and to prepare joint reports setting forth their recommendations for improvements needed for flood prevention, for the conservation, development, utilization, and disposal of water, and for flood control.

Knutson-Vandenberg Act of June 9, 1930

<http://www4.law.cornell.edu/uscode/16/576.html>

Authorizes the Secretary of Agriculture to establish forest tree nurseries; to deposit monies from timber sale purchasers to cover the costs of planting young trees, sowing seed, removing undesirable trees or other growth, and protecting and improving the future productivity of the land; and to furnish seedlings and/or young trees for the replanting of burned-over areas in any National Park.

Land Acquisition Act of March 3, 1925

<http://www.wildrockies.org/appeals/68-575.htm>

<http://www4.law.cornell.edu/uscode/16/ch3.html>

Authorizes the Secretary of Agriculture to purchase land for National Forest headquarters, Ranger Stations, dwellings, or other sites required for the effective performance of the authorized activities of the Forest Service.

Land Acquisition-Declaration of Taking Act of February 26, 1931

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=40&sec=258a

Provides for the immediate transfer of land to the United States and for just compensation for such lands.

Land Acquisition – Title Adjustment Act of July 8, 1943

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=7&sec=2253

Authorizes the Secretary of Agriculture to execute and deliver title adjustments if, after the acquisition of the land, the title thereto is legally insufficient for the purposes for which the land was acquired or if the land was acquired through mistake, misunderstanding, error, or inadvertence.

Land and Water Conservation Fund Act of September 3, 1964

<http://www4.law.cornell.edu/uscode/16/460l-4.html>

<http://classweb.gmu.edu/jkozlows/lwcfregs.htm>

Authorizes the appropriation of funds for federal assistance to states in planning, acquisition, and development of needed land and water areas and facilities and for the federal acquisition and development of certain lands and other areas for the purposes of preserving, developing, and assuring accessibility to outdoor recreation resources.

Law Enforcement Authority Act of March 3, 1905

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sce=559

Authorizes all Forest Service employees to make arrests for the violation of the laws and regulations relating to the national forests.

Leases Around Reservoirs Act of March 3, 1962

<http://www4.law.cornell.edu/uscode/16/460d-2.html>

Authorizes the Secretary of Agriculture to amend any lease with respect to lands under the jurisdiction of the Forest Service providing for the construction, maintenance, and operation of commercial recreational facilities at a federal reservoir project so as to provide for the adjustment of the amount of rental or other consideration payable to the United States under such lease.

Mineral Leasing Act of February 25, 1920

<http://ipl.unm.edu/cwl/fedbook/minerall.html>

Provides that the deposits of certain minerals on land owned by the United States shall be subject to lease to citizens of the United States, provided royalties on such deposits are paid to the United States.

Mineral Leasing Act for Acquired Lands Act of August 7, 1947

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=30&sec=351

Extended the provisions of the “mineral leasing laws” to those lands previously acquired by the United States for which they had not been extended, and lands thereafter acquired by the United States.

Mineral Resources on Weeks Law Lands Act of March 4, 1917

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=520

Authorizes the Secretary of Agriculture to permit the prospecting, development, and utilization of the mineral resources of the lands acquired under the Weeks Law.

Mineral Springs Leasing Act of February 28, 1899

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=495

Authorizes the Secretary of Agriculture to rent or lease to responsible persons suitable spaces and portions of ground near, or adjacent to, mineral, medicinal, or other springs within any National Forest where the public is accustomed to or desires to frequent for health or pleasure.

Mining Claims Rights Restoration Act of August 11, 1955

<http://www4.law.cornell.edu/uscode/30/621.html>

States that all public lands belonging to the United States which have been withdrawn or reserved for power development or power sites shall be open to entry for location and patent of mining claims and mineral development, subject to certain conditions.

Mining and Minerals Policy Act of December 31, 1970

<http://www4.law.cornell.edu/uscode/30/21a.html>

States that it is the policy of the federal government to foster and encourage the development of economically sound and stable domestic mining, minerals, metal, and mineral reclamation industries; the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security, and environmental needs; mining, mineral, and metallurgical research to promote the wise and efficient use of our natural and reclaimable mineral resources; and the study and development of methods for the disposal, control, and reclamation of mineral waste products and the reclamation of mined land.

Multiple-Use Sustained-Yield Act of June 12, 1960

<http://ipl.unm.edu/cwl/fedbook/multiu.html>

States that it is the policy of Congress that the National Forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife

and fish purposes, and authorizes and directs the Secretary of Agriculture to develop and administer the renewable surface resources of the national forests for the multiple use and sustained yield of the products and services obtained therefrom.

National Environmental Education Act of November 16, 1970

<http://ipl.unm.edu/cwl/fedbook/natened.html>

Enacted to establish and support a program of environmental education for students and personnel working with students in schools, institutions of higher education, and related educational facilities, and to encourage postsecondary students to pursue careers related to the environment.

National Environmental Policy Act of January 1, 1970

<http://es.epa.gov/oeca/ofa/nepa.html>

Directs all federal agencies to consider and report the potential environmental impacts of proposed federal actions, and established the Council on Environmental Quality.

National 1990 Farm Bill (title XII – Forest Stewardship Act) Act of November 28, 1990

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=582

[a](#)

Directs the Secretary of Agriculture to establish a competitive forestry, natural resources, and environmental grants program, and provides for other research programs.

National Forest Management Act of October 22, 1976

<http://ipl.unm.edu/cwl/fedbook/nfma.html>

The National Forest Management Act reorganized, expanded and otherwise amended the Forest and Rangeland Renewable Resources Planning Act of 1974, which called for the management of renewable resources on National Forest lands. The National Forest Management Act requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-use, sustained-yield principles, and implement a resource management plan for each unit of the National Forest System. It is the primary statute governing the administration of National Forests.

National Forest Roads and Trails Act of October 13, 1964

http://www.house.gov/resources/105cong/reports/105_a/roads_.pdf

Authorizes the Secretary of Agriculture to provide for the acquisition, construction, and maintenance of forest development roads within and near the National Forests through the use of appropriated funds, deposits from timber sale purchasers, cooperative financing with other public agencies, or a combination of these methods. The Act also authorizes the Secretary to grant rights-of-way and easements over national forest lands.

National Historic Preservation Act of December 12, 1980 as amended (1980 and 1992)

<http://www4.law.cornell.edu/uscode/16/470.html>

Authorized the federal government to accelerate its historic preservation programs and activities; to give maximum encouragement to agencies and individuals undertaking preservation by private means; and to assist state and local governments and the National Trust for Historic Preservation in the United States to expand and accelerate their historic preservation programs and activities.

National Trails System Act of October 2, 1968

<http://ipl.unm.edu/cwl/fedbook/nattrail.html>

Established a national system of recreation, scenic, and historic trails by designating the initial components of the system and prescribing the methods and standards through which additional components may be added.

Native American Graves Protection and Repatriation Act of November 16, 1990

<http://www4.law.cornell.edu/uscode/25/3001.html>

Directs that the ownership and control of Native American human remains and objects shall be given to the ancestors of the Native American or to the appropriate Native American tribe.

Occupancy Permits Act of March 4, 1915

[http://www.wy.blm.gov/Information/fai/wynf.0001\(99\).pdf](http://www.wy.blm.gov/Information/fai/wynf.0001(99).pdf)

<http://www.wildrockies.org/appeals/63-293.htm>

Authorizes the Secretary of Agriculture to permit, under such regulations as he may prescribe, the use and occupancy of suitable areas of land within the National Forests for the purpose of constructing or maintaining hotels, resorts, or other structures necessary or desirable for recreation, public convenience, or safety; to permit the use and occupancy of suitable land for the purpose of constructing or maintaining summer homes; to permit the use and occupancy of suitable land for the purpose of constructing or maintaining buildings, structures, and facilities for industrial or commercial purposes when such use is consistent with other uses of the National Forest; and to permit any state or political subdivision thereof to use or occupy suitable land for the purpose of constructing or maintaining buildings, structures, or facilities necessary or desirable for education or for any other public use or in connection with any other public activity.

Oil and Gas Leasing Reform Act of 1987

<http://thomas.loc.gov/cgi-bin/bdquery/z?d100:HR03545:@@D|TOM:/bss/d100query.html>

Amended the Mineral Lands Leasing Act of 1920 regarding competitive leasing of oil and gas for onshore federal lands. Sets forth guidelines for the promulgation of regulations regarding lease sales, and prohibits the issuance of oil or gas leases upon certain lands allocated or designated as Wilderness areas.

Organic Administration Act of June 4, 1897

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=473

Authorizes the President to modify or revoke any instrument creating a National Forest; states that no National Forest may be established except to improve and protect the forest within its boundaries, for the purpose of securing favorable

conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States. Authorizes the Secretary of Agriculture to promulgate rules and regulations to regulate the use and occupancy of the National Forests.

Petrified Wood Act of September 28, 1962

Document Attached – Post on Chugach Web and link

Authorizes the Secretary of Agriculture to promulgate regulations under which limited quantities of petrified wood may be removed from the National Forests.

Pipelines Act of February 25, 1920

<http://www4.law.cornell.edu/uscode/30/185.html>

Authorizes the Secretary of the Interior or appropriate agency head to grant rights-of-way through any federal lands for pipeline purposes for the transportation of oil, natural gas, synthetic liquid or gaseous fuels, or any refined product produced there from to any applicant possessing the qualifications provided in the Act. .

Preservation of Historical and Archaeological Data Act of May 24, 1974

<http://www2.cr.nps.gov/laws/archpreserv.htm>

Authorizes the Secretary of the Interior to undertake the recovery, protection, and preservation of significant scientific, prehistorical, historical, or archeological data whenever any federal agency finds or is notified that activities in connection with any federal construction project or federally licensed project, activity, or program may cause irreparable loss or destruction of such data.

Public Buildings Cooperative Use Act of 1976

http://caselaw.lp.findlaw.com/casecode/uscodes/40/chapters/12/sections/section_601a.html

Authorizes the federal government to acquire and utilize space in suitable buildings of historic, architectural, or cultural significance, unless use of such space would not prove feasible and prudent compared with available alternatives; to encourage the location of commercial, cultural, educational, and recreational facilities and activities within public buildings; to provide and maintain space, facilities, and activities, to the extent practicable, which encourages public access to and stimulates public pedestrian traffic around, into, and through public buildings, permitting cooperative improvements to and uses of the area between the building and the street, so that such activities complement and supplement commercial, cultural, educational, and recreational resources in the neighborhood of public buildings; and to encourage the public use of public buildings for cultural, educational, and recreational activities.

Public Land Surveys Act of March 3, 1899

<http://www4.law.cornell.edu/uscode/16/488.text.html>

<http://www.lib.duke.edu/forest/usfscoll/092-097.htm>

Provides that all standard, meander, township, and section lines of the public land surveys shall be established under the direction and supervision of the Commissioner of the General Land Office, whether the lands to be surveyed are within or without reservations, except that where the exterior boundaries of public

forest reservations are required to be coincident with standard, township, or section lines, such boundaries may, if not previously established in the ordinary course of the public land surveys, be established and marked under the supervision of the Director of the United States Geological survey. This act made the surveying of forest-reserve lands identical, in all but the establishment of boundaries, with that of the public domain.

Public Rangelands Improvement Act of October 25, 1978

http://caselaw.lp.findlaw.com/casecode/uscodes/43/chapters/37/sections/section_1901.html

Establishes and reaffirms the national policy and commitment to inventory and identify current public rangeland conditions and trends; manage, maintain and improve the condition of public rangelands so that they become as productive as feasible for all rangeland values in accordance with management objectives and the land use planning process; charge a fee for public grazing use which is equitable; continue the policy of protecting wild free-roaming horses and burros from capture, branding, harassment, or death, while at the same time facilitating the removal and disposal of excess wild free-roaming horses and burros which pose a threat to themselves and their habitat and to other rangeland values.

Rehabilitation Act of 1973, as amended

http://caselaw.lp.findlaw.com/casecode/uscodes/29/chapters/16/miscs/0/sections/section_701.html

States that it is national policy that the federal government plays a leadership role in promoting the employment of individuals with disabilities, and in assisting states and providers of services in fulfilling the aspirations of such individuals with disabilities for meaningful and gainful employment and independent living.

Renewable Resources Extension Act of June 30, 1978

http://caselaw.lp.findlaw.com/casecode/uscodes/16/chapters/36/subchapters/iii/sections/section_1671.html

Authorizes and directs the Secretary of Agriculture, in cooperation with the state Directors of the Cooperative Extension Service programs, to provide educational programs relating to forest and rangeland renewable resources.

Reorganization Plan Numbered 3 of 1946

http://www.access.gpo.gov/uscode/title5a/5a_4_8_1.html

Creates the Environmental Protection Agency (EPA), abolishes the Federal Water Quality Administration under the Department of the Interior, and transfers those functions to the EPA.

Research Grants Act of September 6, 1958

<http://laws.fws.gov/lawsdigest/research.html>

Authorizes the Secretary of the Interior to enter into contracts with educational institutions, public or private agencies or organizations, or persons to conduct scientific or technological research.

Right of Eminent Domain Act of August 1, 1888

http://caselaw.lp.finlaw.com/scripts/ts_search.pl?title=40&sec=257

Grants the Secretary of the Treasury or any other officer of the government who has been authorized to procure real estate for the erection of a building or for other public uses the authority to acquire such real estate by condemnation, provided such acquisition is otherwise authorized by statute.

Rural Development Act of August 30, 1972

<http://www.reeusda.gov/1700/legis/ruraldev.htm>

Enacted to provide multi-state regional agencies, states, counties, cities, multi-county planning and development districts, businesses, industries, Indian tribes on federal and state reservations or other federally recognized Indian tribal groups and others involved with public services and investments in rural areas or that provide or may provide employment in these areas the best available scientific, technical, economic, organizational, environmental, and management information and knowledge useful to them, and to assist and encourage them in the interpretation and application of this information to practical problems and needs in rural development.

Safe Drinking Water Amendments of November 18, 1977

<http://thomas.loc.gov/cgi-bin/bdquery/z?d095:SN01528:|TOM:/bss/d095query.html>

Amended the Safe Drinking Water Act to authorize appropriations for research conducted by the Environmental Protection Agency relating to safe drinking water; federal grants to states for public water system supervision programs and underground water source protection programs; and grants to assist special studies relating to the provision of a safe supply of drinking water.

Secure Rural Schools and Community Self-Determination Act of 2000

<http://www.fs.fed.us/r10/payments/>

Through this law the Forest Service gives rural communities the means to build and improve schools, provide road maintenance, emergency services, and conservation programs for their citizens. Thus, communities are no longer dependent on federal timber sales from national forests to improve local schools and roads.

Sikes Act of October 18, 1974

<http://laws.fws.gov/lawsdigest/sikes.html>

<http://www4.law.cornell.edu/uscode/16/670a.html>

Provides for cooperation between the Secretary of Defense and the Secretary of the Interior to provide for conservation and rehabilitation of natural resources on military installations.

Small Tracts Act of January 22, 1983

<http://www4.law.cornell.edu/uscode/16/521e.html>

Authorizes the Secretary of Agriculture to sell, exchange, or interchange by quitclaim deed all right, title and interest, including the mineral estate, of the United States in and to certain lands within the National Forest when he determines it to be in the public interest.

Smokey Bear Act of May 23, 1952

http://caselaw.lp.findlaw.com/casecode/uscodes/18/parts/i/chapters/33/sections/section_711.html

Prohibits the unauthorized use of the “Smokey Bear” character or name.

Soil and Water Resources Conservation Act of November 18, 1977

<http://ipl.unm.edu/cwl/fedbook/soilwate.html>

Provides for a continuing appraisal of the United State’s soil, water and related resources, including fish and wildlife habitats, and a soil and water conservation program to assist landowners and land users in furthering soil and water conservation.

Solid Waste Disposal (Resource Conservation & Recovery Act) Act of October 21, 1976

<http://www4.law.cornell.edu/uscode/42/6901.html>

Promotes the protection of health and the environment and the conservation of valuable material and energy resources by providing technical and financial assistance to state and local governments and interstate agencies for the improvement of solid waste management techniques.

Supplemental National Forest Reforestation Fund Act of September 18, 1972

<http://www4.law.cornell.edu/uscode/16/576c.html>

Directs the Secretary of Agriculture to establish a supplemental national reforestation fund, and states that money transferred to this fund shall be available to the Secretary for the purpose of supplementing programs of tree planting and seeding on National Forest lands determined by the Secretary to be in need of reforestation.

Surface Mining Control and Reclamation Act of August 3, 1977

http://caselaw.lp.findlaw.com/casecode/uscodes/30/chapters/25/subchapters/i/sections/section_1201.html

Authorizes the Secretary of Agriculture to enter into agreements with landowners, providing for land stabilization, erosion, and sediment control, and reclamation through conservation treatment, including measures for the conservation and development of soil, water, woodland, wildlife, and recreation resources, and agricultural productivity of such lands.

Sustained Yield Forest Management Act of March 29, 1944

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=583

Authorizes the Secretaries of Agriculture and the Interior to establish by formal declaration cooperative sustained-yield units which shall consist of federally owned or administered forest land under their jurisdiction and, in addition thereto, land which reasonably may be expected to be made the subject of one or more of the cooperative agreements with private landowners authorized by section 2 of the Act in order to promote the stability of forest industries, of employment, of communities, and of taxable forest wealth through continuous supplies of timber and forest products; and in order to secure the benefits of forests in the maintenance of water

supply, regulation of stream flow, prevention of soil erosion, amelioration of climate, and preservation of wildlife.

Wilderness Act of 1975 (Public Law 93-622); xxxxxx xx, 1975

Established the first 12,726 acres of the Sipsey Wilderness on the Bankhead National Forest.

Sipsey Wild and Scenic River and Alabama Addition Act (Public Law 100-547, October, 1988)

Established the Sipsey Wild and Scenic River, and the addition to the Sipsey Wilderness to a total of 25,986 acres, on the Bankhead National Forest.

Public Law 100-547, January 3, 1983

Established the Cheaha Wilderness on the Talladega National Forest.

Dugger Mountain Wilderness Act of 1999 (H.R. 2632)

Established the Dugger Mountain Wilderness on the Talladega National Forest.

Timber Export Act of March 4, 1917

http://www.fs.fed.us/r10/chugach/revision/pdfs/timber_export_act.pdf

Permits the Secretary of Agriculture to allow timber or other forest products to be cut or removed from a national forest and exported from the state or territory in which that national forest is situated.

Timber Exportation Act of April 12, 1926

<http://www4.law.cornell.edu/uscode/16/617.html>

Authorizes the exportation of lawfully cut timber from the state or territory where grown if the supply of timber for local use will not be endangered, and authorizes the Secretary to issue rules and regulations to carry out the provisions of the Act.

Title Adjustment Act of April 28, 1930

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=43&sec=872

Authorizes the Secretaries of the Interior and Agriculture to execute a quitclaim deed where an application for a conveyance of land has been withdrawn or rejected.

Toxic Substances Control Act of October 11, 1976

http://caselaw.lp.findlaw.com/cascode/uscodes/15/chapters/53/su_bchapters/i/sections/section_2601.html

Grants the Administrator of the Environmental Protection Agency the authority to regulate chemical substances and mixtures, which present an unreasonable risk of injury to the public health or the environment, and to take action with respect to chemical substances and mixtures, which are imminent hazards.

Transfer Act of February 1, 1905

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=472

Transferred the management and control of the Forest Reserves from the General Land Office (GLO) in the Department of the Interior to the Bureau of Forestry in the Department of Agriculture.

Twenty-Five Percent Fund Act of May 23, 1908

<http://www.wildrockies.org/appeals/60-136.htm>

Provides that twenty-five percent of all monies received from the sale of timber or other forest products shall be paid to the state in which such forest is located to be expended as the state may prescribe for the benefit of public schools and roads.

Uniform Federal Accessibility Standards U.S. Criminal Code (Title 18 USC Chapter 91 – Public Lands) Act of June 25, 1948

<http://www.wildrockies.org/appeals/80-772.htm>

<http://caselaw.lp.findlaw.com/casecode/uscodes/18/parts/i/chapters/91/toc.html>

Defines the crimes and criminal procedure for crimes committed against public lands.

U.S. Mining Laws (Public Domain Lands) Act of May 10, 1872

<http://www4.law.cornell.edu/uscode/30/22.html>

Provides that all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are free and open to exploration and purchase, and the lands in which they are found to occupation and purchase by citizens of the United States and those who have declared their intention to become such, under regulations prescribed by law, and according to the local customs or rules of miners, so far as the same are applicable and not inconsistent with the laws of the United States. There are a number of Acts which modify the mining laws as applied to local areas by prohibiting entry altogether or by limiting or restricting the use which may be made of the surface and the right, title, or interest which may pass through patent.

Volunteers in the National Forests Act of May 18, 1972

<http://www4.law.cornell.edu/uscode/16/558a.html>

Authorizes the Secretary of Agriculture to recruit, train, and accept without regard to the civil service classification laws, rules, or regulations the services of individuals without compensation as volunteers for or in aid of interpretive functions, visitor services, conservation measures and development, or other activities in and related to areas administered by the Secretary through the Forest Service.

Water Quality Improvement Act of April 3, 1970

<http://laws.fws.gov/lawsdigest/fwatrpo.html>

Amends the prohibitions of oil discharges, authorizes the President to determine quantities of oil which would be harmful to the public health or welfare of the United States; to publish a National Contingency Plan to provide for coordinated action to minimize damage from oil discharges. Requires performance standards for marine sanitation device and authorizes demonstration projects to control acid or other mine

pollution, and to control water pollution within the watersheds of the Great Lakes. Requires that applicants for federal permits for activities involving discharges into navigable waters provide state certification that they will not violate applicable water quality standards

Water Resources Planning Act of July 22, 1965

<http://www4.law.cornell.edu/uscode/42/1962.html>

Encourages the conservation, development, and utilization of water and related land resources of the United States on a comprehensive and coordinated basis by the federal government, states, localities, and private enterprises.

Watershed Protection and Flood Prevention Act of August 4, 1954

<http://www4.law.cornell.edu/uscode/16/1001.html>

Establishes policy that the federal government should cooperate with states and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies for the purposes of preventing erosion, floodwater, and sediment damages in the watersheds of the rivers and streams of the United States; furthering the conservation, development, utilization, and disposal of water, and the conservation and utilization of land; and thereby preserving, protecting, and improving the Nation's land and water resources and the quality of the environment.

Weeks Act Status for Certain Lands Act of September 2, 1958

<http://www4.law.cornell.edu/uscode/16/521a.html>

Subjects all lands of the United States within the exterior boundaries of national forests which were or hereafter are acquired for or in connection with the national forests or transferred to the Forest Service for administration and protection substantially in accordance with national forest regulations, policies, and procedures, excepting (a) lands reserved from the public domain or acquired pursuant to laws authorizing the exchange of land or timber reserved from or part of the public domain, and (b) lands within the official limits of towns or cities, notwithstanding the provisions of any other Act, to the provisions of the Weeks Act of March 1, 1911 (36 Stat. 961), as amended, and to all laws, rules, and regulations applicable to national forest lands acquired thereunder.

Weeks Act of March 1, 1911

http://www.house.gov/resources/105cong/reports/105_a/weeks_pdf

Authorizes the Secretary of Agriculture to purchase lands within the watersheds of navigable streams in order to promote regulation of the flow of navigable streams or for the production of timber, provided the legislature of the state in which the lands are located consents to the acquisition. This law is the primary land acquisition authority for the Forest Service.

Wild Horse Protection Act of September 8, 1959

<http://www4.law.cornell.edu/uscode/18/47.html>

Established the use of a motor vehicle to hunt, for the purpose of capturing or killing, any wild horse, mare, colt, or burro running at large on the public lands. Also

prohibits the pollution of watering holes on public lands for the purposes of trapping, killing, wounding, or maiming any of these animals.

Wild Horses and Burros Act of December 15, 1971

<http://www4.law.cornell.edu/uscode/16/1331.html>

Protects wild free-roaming horses and burros from capture, branding, harassment, or death; and states they are to be considered in the area where presently found an integral part of the natural system of the public lands.

Wild and Scenic Rivers Act of October 2, 1968

<http://www4.law.cornell.edu/uscode/16/1271.html>

Instituted a National Wild and Scenic Rivers System by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

Wilderness Act of September 3, 1964

<http://www4.law.cornell.edu/uscode/16/1131.html>

Established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as "wilderness areas" and administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as Wilderness. Provides for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. States that no federal lands shall be designated as "wilderness areas" except as provided for in the Act or by a subsequent Act.

Wilderness Act of 1975 (Public Law 93-622; 93rd Congress, S 3433), January 3, 1975

Designated several Wilderness areas nation-wide, including Joyce Kilmer-Slickrock Wilderness (15,000 acres) in Nantahala and Cherokee National Forests and Gee Creek Wilderness (2,570 acres) in Cherokee National Forest; designated several wilderness study areas nation-wide, including Big Frog Wilderness Study Area (4,500 acres) and Citico Creek Area (14,000 acres) of the Joyce Kilmer-Slickrock Wilderness; provided direction for management of wilderness study areas.

Wildlife Game Refuges Act of August 11, 1916

http://caselaw.lp.findlaw.com/scripts/ts_search.pl?title=16&sec=683

Authorizes the President of the United States to set aside lands for the protection of game animals, birds, or fish; and prohibits the hunting, catching, trapping, willful disturbance, or killing of any kind of game animal, game or non-game bird, or fish, or the taking of eggs of any such bird on any lands so set aside or in or on the waters thereof.

Wood Residue Utilization Act December 19, 1980

http://caselaw.lp.findlaw.com/casecode/uscodes/16/chapters/36/su_bchapters/iv/toc.html

Enacted to develop, demonstrate, and make available information on feasible methods that have the potential for commercial application to increase and improve utilization in residential, commercial, and industrial or power plant applications of wood residues resulting from timber harvesting and forest protection and management activities occurring on public and private forest lands, and from the manufacture of forest products, including wood pulp.

Woodsy Owl/Smokey Bear Act of June 22, 1974

http://caselaw.lp.findlaw.com/cascode/uscodes/18/parts/i/chapters/33/sections/section_711a.html

Prohibits the unauthorized manufacture, reproduction, or use of the character "Woodsy Owl," the name "Woodsy Owl," or the associated slogan "Give a Hoot, Don't Pollute." Also prohibits the unauthorized manufacture, reproduction, or use of the character "Smokey Bear" or the name "Smokey Bear", or a facsimile or simulation of such character or name.

Youth Conservation Corps Act of August 13, 1970

<http://www4.law.cornell.edu/uscode/16/1701.html>

Establishes a Youth Conservation Corps whom the Secretaries of the Interior or Agriculture may employ without regard to the civil service or classification laws, rules, or regulations for the purpose of developing, preserving, or maintaining the lands and waters of the United States.

Regulations

33 CFR 323 Permits for Discharges of Dredged or Fill Material into Waters of the United States

<http://www4.law.cornell.edu/cfr/33p323.htm#33p323s>

This regulation prescribes those special policies, practices and procedures to be followed by the Corps of Engineers in connection with the review of applications for permits to authorize the discharge of dredged or fill material into waters of the United States.

36 CFR 60 National Register of Historic Places

<http://www4.law.cornell.edu/cfr/36p60.htm#start>

Sets forth the procedural requirements for listing properties on the National Register.

36 CFR 63 Determinations of Eligibility for Inclusion in the National Register of Historic Places

<http://www4.law.cornell.edu/cfr/36p63.htm#start>

Developed to assist agencies in identifying and evaluating the eligibility of properties for inclusion in the National Register, and to explain how to request determinations of eligibility.

36 CFR 65 National Historic Landmarks Program

<http://www4.law.cornell.edu/cfr/36p65.htm#start>

Sets forth the criteria for establishing national significance and the procedures used by the Department of the Interior for conducting the National Historic Landmarks Program.

36 CFR 68 The Secretary of the Interior's Standards for Historic Preservation Projects

<http://www4.law.cornell.edu/cfr/36p68.htm#start>

Sets forth standards for the treatment of historic properties containing standards for preservation, rehabilitation, restoration, and reconstruction. These standards apply to all proposed grant-in-aid development projects assisted through the National Historic Preservation Fund.

36 CFR 212 Forest Development Transportation System

<http://www4.law.cornell.edu/cfr/36p212.htm#start>

Sets forth the requirements for the development and administration of the forest development transportation system.

36 CFR 213 Administration Under Bank-Jones Act

<http://www4.law.cornell.edu/cfr/36p213.htm#start>

Sets forth the requirements relating to the designation, administration, and development of National Grasslands.

36 CFR 219 Planning

<http://www4.law.cornell.edu/cfr/36p219.htm#start>

Sets forth a process for developing, adopting, and revising land and resource management plans for the National Forest System.

36 CFR 221 Timber Management Planning

<http://www4.law.cornell.edu/cfr/36p221.htm#start>

Sets forth the requirements for management plans for National Forest timber resources.

36 CFR 222 Range Management

<http://www4.law.cornell.edu/cfr/36p222.htm#start>

Sets forth the requirements for range management on the National Forests, and for the administration of wild and free-roaming horses and burros and their environment.

36 CFR 223 Sale and Disposal of National Forest System Timber

<http://www4.law.cornell.edu/cfr/36p223.htm#start>

Sets forth the requirements relating to the sale and disposal of National Forest System timber.

36 CFR 228 Minerals

<http://www4.law.cornell.edu/cfr/36p228.htm#start>

Sets forth the rules and procedures through which use of the surface of National Forest System lands, in connection with mining and mineral operations, shall be conducted so as to minimize adverse environmental impacts on National Forest System surface resources.

36 CFR 241 Fish and Wildlife

<http://www4.law.cornell.edu/cfr/36p241.htm#start>

Sets forth the rules and procedures relating to the management, conservation, and protection of fish and wildlife resources on National Forest System lands.

36 CFR 251 Land Uses

<http://www4.law.cornell.edu/cfr/36p251.htm#start>

Sets forth the rules and procedures relating to the use and occupancy of National Forest System lands.

36 CFR 254 Landownership Adjustments

<http://www4.law.cornell.edu/cfr/36p254.htm#start>

Sets forth the rules and procedures relating to exchange and conveyance of National Forest System lands.

36 CFR 261 Prohibitions

<http://www4.law.cornell.edu/cfr/36p261.htm#start>

Sets forth the general prohibitions relating to the use and occupancy of National Forest System lands.

36 CFR 291 Occupancy and Use of Developed Sites and Areas of Concentrated Public Use

<http://www4.law.cornell.edu/cfr/36p291.htm#start>

Provides for fees charged for the occupancy and use of developed sites and areas of concentrated public use.

36 CFR 292 National Recreation Areas

<http://www4.law.cornell.edu/cfr/36p292.htm#start>

Sets forth the requirements for the administration of National Recreation Areas.

36 CFR 293 Wilderness-Primitive Areas

<http://www4.law.cornell.edu/cfr/36p293.htm#start>

Sets forth the requirements for the administration of Wilderness and primitive areas.

36 CFR 294 Special Areas

<http://www4.law.cornell.edu/cfr/36p294.htm#start>

Sets forth the requirements for designation of special recreation areas.

36 CFR 295 Use of Motor Vehicles Off Forest Development Road

<http://www4.law.cornell.edu/cfr/36p295.htm#start>

Sets forth the rules and procedures relating to the administrative designation and location of specific areas and trails of National Forest System lands on which the use of motor vehicles traveling off of National Forest development roads is allowed.

36 CFR 296 Protection of Archaeological Resources

<http://www4.law.cornell.edu/cfr/36p296.htm#start>

Implements the provisions of the Archaeological Resources Protection Act.

36 CFR 297 Wild and Scenic Rivers

<http://www4.law.cornell.edu/cfr/36p297.htm#start>

Sets forth the rules and procedures relating to federal assistance in the construction of water resources projects affecting Wild and Scenic Rivers or study rivers on lands administered by the Secretary of Agriculture.

36 CFR 800 Protection of Historic Properties

<http://www4.law.cornell.edu/cfr/36p800.htm#start>

Sets forth the provisions for the administration of the National Historic Preservation Act.

40 CFR 121-135 Water Programs

<http://www4.law.cornell.edu/cfr/40p121.htm#40p121s>

Sets forth the provisions for the administration of water programs including: State certification of activities requiring a federal license or permit; EPA administered permit programs; State program requirements; procedures for decision making; criteria and standards for the National Pollutant Discharge Elimination System; toxic pollutant effluent standards; water quality planning and management; water quality standards; water quality guidance for the Great Lakes System; secondary treatment regulation; and, prior notice of citizen suits. Title 40 (Protection of Environment), Chapter 1 (Environmental Protection Agency), subchapter D (Water Programs).

40 CFR 1500 Council on Environmental Quality

<http://www4.law.cornell.edu/cfr/40p1500.htm#start>

Council on Environmental Quality regulations implementing the National Environmental Policy Act.

43 CFR 10 Native American Graves Protection and Repatriation Act Regulations

<http://www4.law.cornell.edu/cfr/43p10.htm#43p10s>

Implements the provisions of the Native American Graves Protection and Repatriation Act of 1990.

Executive Orders

EO 12898 Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

<http://www.fs.fed.us/land/envjust.html>

Addresses Environmental Justice in minority and low-income populations and is designed to focus Federal attention on the environmental and human health conditions in minority communities and low-income communities with the goal of achieving environmental justice. The order is also intended to promote non-discrimination in Federal programs substantially affecting human health and the environment, and to provide minority communities and low-income communities access to public information on, and an opportunity for public participation in, matters relating to human health or the environment.

EO 11593 Protection and Enhancement of Cultural Environment

<http://archnet.asu.edu/archnet/topical/crm/usdocs/execord.htm>

APPENDIX B

Glossary

Acronyms

AA - analysis area	DEIS - Draft Environmental Impact Statement
ACP – Agriculture Conservation Program	DFC - desired future condition
AD - Administratively Determined	EA – Environmental Assessment
ADA - Americans with Disabilities Act	ECOMAP - Ecological Classification and Mapping Task Team
AMS - Analysis of the Management Situation	ECS - Ecological Classification System
APHIS - Animal and Plant Health Inspection Service	EIS - Environmental Impact Statement
ASQ - allowable sale quantity	EMU - ecological management unit
AT - Appalachian Trail	EPA - Environmental Protection Agency
ATV – all-terrain vehicle	ESA - Endangered Species Act
AUM - animal unit month	EWPP- Emergency Watershed Protection Plan
BA - basal area	FDR - forest development road
BF - board foot	FRP - Forest Road Program
BMP - best management practice	FEIS - Final Environmental Impact Statement
BIO – biological oxygen demand	FH - Forest Highway
BSS - base sale schedule	FIA - Forest Inventory and Analysis
CAA - Clean Air Act	FMAP - Fire Management Action Plan
CCF - hundred cubic feet	FR - Forest Road
CEQ - Council on Environmental Quality	FSH - Forest Service Handbook
CF - cubic foot	FSM - Forest Service Manual
CFL - commercial forest land	FTE - full-time employee
CFR - Code of Federal Regulations	FY - fiscal year
CFS - cubic feet per second	GAO - Government Accounting Office
CIP - Capital Investment Program	GFA – General Forest Area
CISC - Continuous Inventory of Stand Conditions	GIS - Geographic Information System
CMAI - culmination of mean annual increment	GDP - gross domestic product
CompPATS - Computerized Project Analysis of Timber Sales	HRP - Human Resource Program
CVHW - cove hardwood.	HUC – Hydrologic Unit Code
CWA - Clean Water Act	IDT - Interdisciplinary Team
CWD – coarse woody debris	IPM - integrated pest management
DBH - diameter at breast height	
DBRU - Drainage Basin Response Unit	

IS - Interpretive Services	NPL – National Priorities List
LAR - Land Area Report	NPS – National Parks Service
LE - law enforcement	NRCS - Natural Resources Conservation Service
LOAP - Landownership Adjustment Plan	NRI – Natural Resource Inventory
LTA - landtype association	NTMB - neotropical migratory birds
LTP - landtype phase	NVUM – National Visitor Use Monitoring
LTSYC - long-term sustained-yield capacity	NWPS - National Wilderness Preservation System
LUG - land-use group	OHV - off-highway vehicle
L&WCF - Land and Water Conservation Fund	OMP - operation maintenance and protection
LWD – large woody debris	ORV - off-road vehicle
M - thousand	PAOT - persons-at-one-time
M\$ - thousands of dollars	PETS - proposed, endangered, threatened, or sensitive
MA - management area	PL - public law
MAR - Management Attainment Report	PM - particulate matter
MAUM - thousand animal unit month	PNV - present net value
MBF - thousand board feet	PNW - present net worth
MCF - thousand cubic feet	PRODCL - productivity class
MIL - management intensity level	PSD - prevention of significant deterioration
MIS - management indicator species	PSI - pounds per square inch
MM - million	RAP – Roads Analysis Process or Procedure
MM\$ - millions of dollars	RARE - Roadless Area Review and Evaluation
MMBF - million board feet	RARE II - the second Roadless Area Review and Evaluation
MMCF - million cubic feet	RBP – Rapid Bioassessment Protocol
MMR - minimum management requirement	RCW - red-cockaded woodpecker
MMRVD - million recreation visitor-day	RCW EIS - Final Environmental Impact Statement for the management of the Red-cockaded Woodpecker and its habitat on National Forests in the Southern Region
MOU - memorandum of understanding	RD - Ranger District
MRVD - thousand recreation visitor-day	RMO – Road Management Objectives
MWFUD - thousand wildlife and fish user-day	RNA - research natural area
NAAQS - National Ambient Air Quality Standards	RNAT - roaded natural
NAPAP – National Acid Precipitation Assessment Program	ROD - record of decision
NEPA - National Environmental Policy Act	ROS - Recreation Opportunity Spectrum
NF - National Forest	ROW - right-of-way
NFMA - National Forest Management Act	RPA - Resources Planning Act
NFRS – National Forest Recreation Survey	
NFS – National Forest System	
NFSR – National Forest System Road	
NLFCA – National Listing of Fish Consumption Advisories	

RVD - recreation visitor-day

SAA - Southern Appalachian Assessment

SCORP - State Comprehensive Outdoor
Recreation Plan

S&G - standard and guideline

SH - state highway

SIO – Scenic Integrity Objective

SIP - State Implementation Plan

SMS – Scenery Management System

SPB - southern pine beetle

SPMO - semiprimitive motorized

SPNM - semiprimitive non-motorized

SMZ – Streamside Management Zone

T&E - threatened and endangered

TNC - The Nature Conservancy

TSI - timber stand improvement

TSPIRS - Timber Sale Program Information
Reporting System

TVA - Tennessee Valley Authority

UPLD - upland hardwood/mixed

USC - United States Code

USDA - U.S. Department of Agriculture

USDI - U.S. Department of Interior

USFWS - U.S. Fish and Wildlife Service

USGS - U.S. Geological Survey

VIS - Visitor Information Services

VMS – Visual Management System

VQO - visual quality objective

WFUD - wildlife and fish user-day

WHI - wildlife habitat improvement

WIN - Watershed Improvement Inventory

WO - Washington Office

WPIN - white pine

WRD - Wildlife Resources Division

WRP – Wetlands Reserve Program

WSA - wilderness study area

WURR – Water Use Rights and
Requirements

YPIN - yellow pine

Definitions

Definitions were taken from the following sources:

Code of Federal Regulations (CFR) Title 36, *Parks, Forests, and Public Property*, Chapter II, Forest Service, Department of Agriculture; Part 219, Planning, Section A—National Forest System Land and Resource Management Planning; Section 219.3, Definitions and Terminology, Revised July 1, 1998. (Referred to as 36 CFR 219.3)

Forest IDT is the Interdisciplinary Team on the National Forests in Alabama. (Referred to as Forest IDT)

Society of American Foresters. 1998. *The Dictionary of Forestry*. Edited by John A. Helms. 210 p. (Referred to as SAF)

Forest Service Handbook (FSH) 2090.11, *Ecological Classification and Inventory Handbook*, WO Amendment 2090.11-91-1, Effective 4/26/91, 05 - Definitions. (Referred to as FSH 2090.11-05)

FSH 2409.13, *Timber Resource Planning Handbook*, WO Amendment 2409.13-92-1, Effective 8/3/92, 05 - Definitions. (Referred to as FSH 2409.13-05)

FSH 2409.15, *Timber Sale Administration Handbook*, Amendment No. 2409.15-96-2, Effective Sept. 19, 1996, 05 - Definitions. (Referred to as FSH 2409.15-05)

FSH 2409.17, *Silvicultural Practices Handbook*, 1/85 WO, Chapter 9 - Timber Stocking Guides and Growth Predictions, 9.05 - Definitions. (Referred to as FSH 2409.17-9.05)

FSH 2609.13, *Wildlife and Fisheries Program Management Handbook*, WO Amendment 2609.13-92-1, Effective 8/3/92, Chapter 70 - Analysis of Economic Efficiency of Wildlife and Fisheries Projects, 70.5 - Definitions. (Referred to as FSH 2609.70.5)

FSH 2709.12, *Road Rights-of-Way Grants Handbook*, 9/85 WO, Zero Code, 05 - Definitions. (Referred to as FSH 2709.12-05)

Forest Service Manual (FSM) 1900 - Planning, Amendment No. 1900-91-3, Effective March 15, 1991, 1905 - Definitions. (FSM 1905)

FSM 2163, *Hazardous Waste Management*, Chapter 2163.05, Definitions. (Referred to as FSM 2163)

FSM 2200, *Range Management*, WO Amendment 2200-91-1 Effective 3/1/91, Chapter 2230, Grazing and Livestock Use Permit System, 2230.5 - Definitions. (Referred to as FSM 2230)

FSM 2300, *Recreation, Wilderness, and Related Resource Management*, Amendment No. 2300-91-3 Effective March 12, 1991. Chapter 2355, Off-Road Vehicle Use Management, Executive Order 116-44, as amended by Executive Order 11989, Use of

Off-Road Vehicles on the Public Lands 37 FR 2877 (Feb. 9, 1972), 42 FR 26959 (May 25, 1977). (Referred to as FSM 2355)

FSM 2300, *Recreation, Wilderness, and Related Resource Management*, WO AFSM 2300 - Recreation, Wilderness, and Related Resource Management, WO Amendment 2300-90-1, Effective 6/1/90, Chapter 2310 - Planning and Data Management - 2312 - Recreation Information Management (RIM). (Referred to as (FSM 2312)

FSM 2400, Timber Management, WO Amendment 2400-96-6 Effective 9/24/96. Chapter 2435 - Salvage Sales. 2435.05, Definitions. (FSM 2435)

FSM 2500, *Watershed and Air Management*, Amendment No. 2500-94-4, Effective Dec. 20, 1994. Chapter 2520, Watershed Protection and Management. 2521 - Watershed Condition Assessment. 2521.05 - Definitions. (Referred to as FSM 2521)

FSM 2500, *Watershed and Air Management*, Amendment No. 2500-94-4, Effective Dec. 20, 1994. Chapter 2520, Watershed Protection and Management. FSM 2526 - Riparian Area Management. 2526.05 - Definitions. (Referred to as FSM 2526)

FSM 2600, *Wildlife, Fish, and Sensitive Plant Habitat Management*, Amendment No. 2600-91-8 Effective Oct. 22, 1991, Chapter 2605, Definitions. (Referred to as FSM 2605)

FSM 2600, *Wildlife, Fish, and Sensitive Plant Habitat Management*, WO Amendment 2600-95-7, Effective 6/23/95, Chapter 2670, Threatened, Endangered, and Sensitive Plants and Animals, 2670.5 - Definitions. (Referred to as FSM 2670)

A User's Guide to Forest Information Retrieval (FIR), Southeastern Forest Experiment Station, Forest Inventory and Analysis Unit, Asheville, NC, 1988. (Referred to as FIR)

Interim Resource Inventory Glossary, File 1900, Washington, DC, 96 p., June 14, 1989. (Referred to IRIG)

A

accessibility – The relative ease or difficulty of getting from or to someplace, especially the ability of a site, facility or opportunity to be used by persons of varying physical and mental abilities.

accessible facility – A single or contiguous group of improvement that exists to shelter or support Forest Service programs that is in compliance with the highest standard of current Federal or Forest Service accessibility guidelines, at the time of construction.

acid deposition - Rain, snow, or dry particulate matter containing high concentrations of acid anions (e.g. nitrate and sulfate), usually produced by atmospheric transformation of the byproducts of fossil fuel combustion. Precipitation with a pH lower than 5.0 is generally considered to be acidic.

acid neutralizing capacity - The total capacity of a water sample to neutralize acids, as determined by titration with a strong acid. Acid neutralizing capacity includes alkalinity (e.g. carbonate) plus base cations.

acidification – To convert into an acid or become acid.

Agriculture Conservation Program – USDA cost-share program for streambank improvement.

acquisition of land - Obtaining full landownership rights by donation, purchase, exchange, or condemnation.

acre-equivalents - The number of acres of forest habitat improved or affected by the installation of various wildlife habitat improvements in an area. Determined by multiplying by various coefficients.

acre-foot - A measurement of water volume, equal to the amount of water that would cover an area of 1 acre to a depth of 1 foot (specifically 43,560 cubic feet or 325,851 gallons).

activity - A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental quality objectives.

adaptive management – A dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management on a continuing basis to ensure objectives are being met.

administrative unit - All the National Forest System lands where one forest supervisor has responsibility. The basic geographic management area within a Forest Service Region, station, or area.

advance regeneration (reproduction) - Seedlings or saplings that develop, or are present, in the understory.

aerial logging – A yarding system employing aerial means, (e.g., helicopters, balloons), to lift logs.

afforestation - Establishment of a forest or stand in an area not recently forested.

age class - A grouping of living things based on their age.

age class (cohort) - A distinct aggregation of trees originating from a single natural disturbance or regeneration cutting.

age dependent relationships – Complex yield composite relationships between independent and dependent variables that vary by the age of the understory and/or the overstory.

agricultural land - Areas used primarily for production of food and/or fiber (excludes wood fiber). Examples include cropland, pasture, orchards, vineyards, nurseries, confined feeding areas, farmsteads, and ranch headquarters.

air pollution - Any substance or energy form (heat, light, noise, etc.) that alters the state of the air from what would naturally occur.

air quality (PSD) class – Three broad classifications established by the CAA to help prevent significant deterioration of air quality for all areas of the country that are known (or assumed) to be attaining NAAQS.

Class I – Select wilderness areas and national parks where identified air quality related values might become (or currently are) adversely affected by even a small increment of additional air pollution. To date, there are 156 such areas nationwide.

Class II – Areas the states may designate to receive such additional amount of air pollution (even up to 30 times the Class I area increment) that air quality may deteriorate from baseline to, (but not below) NAAQS. To date, there are no such areas nationwide.

Class III – All other areas, by default, where a moderate level of additional air pollution is deemed acceptable. The bulk of the U.S. falls in this class.

air quality related values – Terminology used in the PSD portion of the CAA describing values associated with certain resources that may become impaired by air pollution. Typically, these include aquatic habitats, terrestrial habitats, and visibility.

all aged stand – A stand with trees of all, or almost all age classes, including those of exploitable age.

allocated fund - Funds transferred from one agency or bureau to another for carrying out the purpose of the parent appropriation and agency.

allocation - The assignment of management prescriptions or combination of management practices to a particular land area to achieve the goals and objectives of the alternative.

allopatric – Condition where one species lives in an area without other closely related species. The species have disjunct distributions. Opposite of sympatric.

allotment management plan - The basic land unit used to facilitate management of the range resource on National Forest System and associated lands administered by the Forest Service.

allowable sale quantity - The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the Forest Plan. This quantity is usually expressed on an annual basis as the “average annual allowable sale quantity.”

all-terrain vehicle (ATV) - Any motorized, off-highway vehicle 50 inches or less in width, having a dry weight of 600 pounds or less that travels straddled by the operator. Low-pressure tires are six inches or more in width and designed for use on wheel rim diameters of 12 inches or less, utilizing an operating pressure of 10 pounds per square inch (psi) or less as recommended by the vehicle manufacturer.

alternative - In forest planning, a mix of resource outputs designed to achieve a desired management emphasis as expressed in goals and objectives, and in response to public issues or management concerns.

amendment - A formal alteration of the Forest Plan by modification, addition, or deletion. Forest Plan amendment requires an environmental analysis. Significant findings require an environmental impact statement and the amendment will follow the same procedure used for plan preparation. Insignificant findings allow the changes to be implemented following public notification. Amendments can take place at any time following plan approval.

amenity values - Features or qualities which are pleasurable or aesthetic, as contrasted with the utilitarian features of a plan, project, location, or resource.

analysis area - A collection of lands, not necessarily contiguous, sufficiently similar in character, that they may be treated as if they were identical.

analysis area identifier - A resource characteristic used to stratify the land into capability areas and analysis areas.

Analysis of the Management Situation - A determination of the ability of the planning area to supply goods and services in response to society’s demand. The AMS is contained in a 182-page report available from the Forest Supervisor. The Forest Plan includes a summary of the AMS. Information from it is contained throughout the EIS/Plan.

animal unit month (AUM) - The quantity of forage required by one mature cow and her calf (or the equivalent, in sheep or horses), for one month; 682 pounds of air-dry forage.

annual forest program - The summary or aggregation of all projects that make up an integrated (multifunctional) course of action for a given level of funding of a forest planning area that is consistent with the Forest Plan.

annual work planning process - Preparation of technical plans that serve to implement land and resource management, and program decisions contained in the integrated land, resource plans, and budget allocations.

appropriated fund - Funds available for obligation or outlay by Congress to a given agency.

appropriate management response – The response to a wildland fire based on an evaluation of risks to firefighter and public safety. Circumstances under which the fire occurs, including weather and fuel conditions, natural and cultural resource management objectives, protection priorities, and values to be protected. The evaluation must also include an analysis of the context of the specific fire within the overall logic, geographic area, or national wildland fire situation.

aquatic ecosystem - Components that include: the stream channel, lake and estuary beds, water, biotic community, and associated habitat features. Also included are streams and lakes with intermittently, semipermanently, and seasonally flooded channels or streambeds. In the absence of flowing water, intermittent streams may have pools or surface water.

aquatic habitat types - The classification of instream habitat based on location within channel, patterns of water flow, and nature of flow controlling structures. Habitat is classified into a number of types according to location within the channel, patterns of water flow, and nature of flow controlling structure. Riffles are divided into three habitat types: low gradient riffles, rapids, and cascades. Pools are divided into seven types: secondary channel pools, backward pools, trench pools, plunge pools, lateral scour pools, dammed pools, and beaver ponds. Glides, the third habitat type, are intermediate in many characteristics between riffles and pools. It is recognized that as aquatic habitat types occur in various parts of the country, additional habitat types may have to be described. If necessary, the regional fishery biologist will describe and define the additional habitat types.

arterial roads - Roads that provide service to large land areas and usually connect with public highways or other forest arterial roads to form an integrated network of primary travel routes. The location and standard are often determined by a demand for maximum mobility and travel efficiency rather than specific resource-management service. They are usually developed and operated for long-term land and resource management purposes and constant service. These roads generally serve areas more than 40,000 acres.

artificial regeneration (reproduction) - Creation of a new age class by renewal of a tree crop by direct seeding, or by planting seedlings or cuttings.

authorized use - Specific activity or occupancy, including a ski area, historical marker, or oil and gas lease, for which a special authorization is issued.

B

bald - An early successional opening generally above 4,000 feet, characterized by grassy or heath vegetation.

basal area - The area of the cross-section of a tree inclusive of bark at breast height (4.5 feet or 1.37 meters above the ground) most commonly expressed as square feet per acre or square meters per hectare. Used to measure the density of a stand of trees. For shrubs and herbs it is used to determine phytomass. Grasses, forbs, and shrubs usually measured at or less than 1 inch above soil level. Trees—the cross-section area of a tree

stem in square feet commonly measured at breast height (4.5' above ground) and inclusive of bark, usually computed by using diameter at breast height (DBH), or tallied through the use of basal area factor angle gauge.

basal spray – The application of a pesticide, usually a herbicide for controlling brush or weed trees, directed at the base of the stem.

base sale schedule - A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to, or greater than, the planned sale and harvest for the preceding decade. The planned sale and harvest for any decade must not be greater than the long-term sustained yield capacity.

BEIG (Built Environment Image Guide) – guide for design of administrative and recreation buildings, landscape structures, site furnishings, wayside structures, and signs installed or operated by the Forest Service, its cooperators, and permittees.

best management practice (BMP) - A practice, or a combination of practices determined to be the most effective and practical means of preventing or reducing the amount of pollution generated by non-point sources to a level compatible with water quality goals.

biodiversity - The variety of life in an area, including the variety of gene pools, species, plant and animal communities, ecosystems, and the processes through which individual organisms interact with one another, and their environments.

biological assessment - A “biological evaluation” conducted for major federal construction projects requiring an environmental impact statement, in accordance with legal requirements under Section 7 of the Endangered Species Act (16 U.S.C. 1536(c)). The purpose of the assessment and resulting document is to determine whether the proposed action is likely to affect an endangered, threatened, or proposed species.

biological evaluation - A documented Forest Service review of its programs or activities in sufficient detail to determine how an action or proposed action may affect any proposed, endangered, threatened, or sensitive species.

biological growth potential - The average net growth attainable on a fully-stocked natural forest land.

biological oxygen demand - Dissolved oxygen required by organisms for the aerobic biochemical decomposition of organic matter present in water.

bladed skid road - A travel way through the woods formed by loggers to facilitate dragging (skidding) logs from the stump to a log landing. Skid roads are generally used in steep terrain and are cut into mountainsides with a bulldozer.

board foot - A unit of timber measurement equaling the amount of wood contained in an unfinished board 1 inch thick, 12 inches long, and 12 inches wide. Commonly, 1,000 board feet is written as 1 MBF, and 1,000,000 board feet is written as 1MMBF.

browse - Young twigs, leaves and tender shoots of plants, shrubs or trees that animals eat.

burning (prescribed) - The application of fire, usually under existing stands and under specified conditions of weather and fuel moisture, in order to attain silvicultural or other management objectives.

C

cable logging – A term for any system involving transport of logs along, or by means of steel cables with the load being lifted partly or wholly off the ground.

canopy cover - The percent of a fixed area covered by the crown of an individual plant species or delimited by the vertical projection of its outermost perimeter. Small openings in the crown are included. Used to express the relative importance of individual species within a vegetation community, or to express the canopy cover of woody species. Canopy cover may be used as a measure of land cover change or trend. Often used for wildlife habitat evaluations.

capability – The potential of a land area to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and a given level of management intensity. Note: capability depends upon the current condition and site conditions including climate, slope, land form, soil and geology, and the application of management practices and protection from fire, insects, and disease.

carrying capacity - The number of organisms of a given species and quality that can survive in, without causing deterioration of, a given ecosystem through the least favorable environmental conditions that occur within a stated interval of time.

channel ephemeral streams - Ephemeral streams that have a defined channel of flow where surface water converges with enough energy to remove soil, organic matter, and leaf litter. Ones that exhibit an ordinary high watermark and show signs of annual scour or sediment transport are considered navigable waters of the United States (USACE, Part 330- Nationwide Permit program, 2000).

channelization – Artificial change of a stream channel profile.

Clean Air Act of 1970 (CAA) – A congressional act, along with the amendments passed in 1977 and 1990, that provides authority for the Environmental Protection Agency to develop specific regulations controlling air pollution.

cleaning - A release treatment made in an age class, not past the sapling stage, in order to free the favored trees from less desirable individuals of the same age class which can overtop them.

clearcutting - The harvesting in one cut of all trees on an area for the purpose of creating a new, even-aged stand. The area harvested may be a patch, stand, or strip large enough to be mapped or recorded as a separate age class in planning for sustained yield under area regulation. A method of regenerating an even-aged stand. Regeneration is

from natural seeding, direct seeding, planted seedlings, and/or advance reproduction. Harvesting may be done in groups or patches (group or patch clearcutting), or in strips (strip clearcutting). In the clearcutting system, the management unit or stand in which regeneration, growth, and yield are regulated consists of the individual clearcut stand.

clearcutting with reserves - A two-aged regeneration method in which varying numbers of reserve trees are not harvested to attain goals other than regeneration.

climax - The culminating stage in plant succession for a given environment with the vegetation having reached a highly stable condition.

closed road/trail - A road or trail that is closed for public use.

co-dominant trees - Trees or shrubs with crowns receiving full light from above, but comparatively little from the sides. Crowns usually form the general level of the canopy.

cohort - a group of trees developing after a single disturbance, commonly consisting of trees of similar age, although it can include a considerable range of tree ages of seeding or sprout origin and trees that predate the disturbance.

cold water fishery - Aquatic habitats that predominately support fish species that have temperature tolerances up to about 70°F, and exhibit their greatest reproductive success at temperatures below 65°F (18.3°C).

collector road - Roads that serve smaller land areas and are usually connected to a forest arterial or public highway. They collect traffic from forest local roads or terminal facilities. The location and standard are influenced by long-term multi-resource service needs, and travel efficiency. Forest collector roads may be operated for constant or intermittent service, depending on land-use and resource management objectives for the area served by the facility. These roads generally have two or more local roads feeding into them and generally serve an area exceeding 10,000 acres.

commercial forest land - Forest land that can produce crops of industrial wood, and has not been withdrawn by Congress, the Secretary of Agriculture, or the Chief of the Forest Service. Existing technology and knowledge must be available to ensure timber production without irreversible damage to soils productivity, or watershed conditions. Adequate restocking can be attained within five years after final harvesting.

commercial thinning - Any type of thinning producing merchantable material at least equal to the value of the direct cost of harvesting.

commercial tree species - (1) Tree species suitable for industrial wood products. (2) Conifer and hardwood species used to calculate the commercial forest land allowable sale quality.

commodity outputs - A resource output with commercial value. All resource products that are articles of commerce.

compartment - A portion of a forest under one ownership, usually contiguous and composed of a variety of forest stand types, defined for purposes of locational reference.

composition (stand) - The proportion of each tree species in a stand expressed as a percentage of the total number, basal area, or volume of all tree species in the stand.

concentrated use area (CUA) – An undeveloped site or area located within a general forest area, generally not in the infrastructure system but receiving investments of management time and/or dollars because recreation use leaves evident impacts, such as litter, vandalism, or soil compaction. Any amenities in a CUA are placed and managed for resource protection rather than user convenience.

concern level – A particular degree or measure of viewer interest in the scenic qualities of the landscape, rated level 1 (highest concern) to level 3 (lowest concern).

constraint - A restriction or limit that must be met.

Continuous Inventory of Stand Condition (CISC) - A system that continuously reflects an up-to-date description of timber stands. It tells what and when actions are planned for stands and gives some information about actions that have taken place. It is also the name of the data base management computer system used for the storage and retrieval of data.

conventional logging - A term used to identify methods commonly used in an area to move logs from stump to mill.

conversion (forest management) – A change from one forest type to another in a stand on land that has the capability of both forest types.

coppice - A method of regenerating a stand in which all trees in the previous stand are harvested and the majority of regeneration is from stump sprouts or root suckers.

coppice with reserve - A two-aged regeneration method in which reserve trees are retained to goals other than regeneration. This method normally creates a two-aged stand.

cord - A unit of gross volume measurement for stacked, round wood based on external dimensions, generally implies a stack of 4 x 4 feet vertical cross section and 8 feet long. Contains 128 stacked cubic feet.

corridor - A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries. It can also be identified for wildlife habitat connecting, or protecting forest resources.

Council on Environmental Quality - An advisory council to the president established by the National Environmental Policy Act of 1969. It reviews federal programs for their effect on the environment, conducts environmental studies, and advises the president on environmental matters.

creel survey – A survey of anglers.

critical habitat – Habitat, determined by the Secretary of Interior, essential to the conservation of the endangered or threatened species.

crown class - A class of tree based on crown position relative to the crowns of adjacent trees.

dominant - Trees with crowns extending above the general level of the main canopy of even-aged groups of trees. They receive full light from above, and partly from the sides.

co-dominant - Trees with crowns forming the general level of the main canopy in even-aged groups of trees. They receive full light from above, and comparatively little from the sides.

intermediate - Trees with crowns extending into the lower portion of the main canopy of even-aged groups of trees, but shorter in height than the co-dominants. They receive little direct light from above, and none from the sides.

overtopped (suppressed) - Trees of varying levels of vigor that have their crowns completely covered by the crowns of one or more neighboring trees.

cubic foot - A unit of measure reflecting a piece of wood 12 inches long, 12 inches wide, and 12 inches thick.

culmination of mean annual increment - Age at which average rate of annual tree growth stops increasing and begins to decline. Mean annual increment is expressed in cubic feet measure and is based on expected growth, according to the management intensities and utilization standards assumed in accordance with 36 CFR 219.16(a)(2)(i) and (ii). Culmination of mean annual increment includes regeneration harvest yields, and any additional yields from planned intermediate harvests.

cultural resources - Physical remains of districts, sites, structures, buildings, networks or objects that were used by humans. They may be historic, prehistoric, archaeological or architectural in nature. Cultural resources are non-renewable.

cunit - Equivalent to 100 cubic feet of solid wood. Commonly, 100 cubic feet is expressed as 1 CCF.

cut-offs - Analysis constraints that prevent the valuation of non-timber outputs produced in excess of demand plus x percent. It ensures that the assumptions of a horizontal demand curve are not violated.

cutting cycle - The planned interval between partial harvest in a stand being managed with an uneven-aged regeneration method.

D

daylighting - The practices of cutting back edges of roads or trails by removing shrub and tree growth.

decision criteria - Rules or standards used to evaluate and rank alternatives.

demand – The amount of an output that users are willing to take at specified price, time period, and condition of sale.

den trees - Trees having rainproof, weather- tight cavities used by wildlife.

desired future condition - An expression of resource goals that have been set for a unit of land. It is written as a narrative description of the landscape as it will appear when the goals have been achieved. The condition also includes a description of physical and biological processes, the environmental setting, and the human experience.

desired landscape character - Appearance of the landscape character to be retained or created over time, recognizing that a landscape is a dynamic and constantly changing community of plants and animals. It includes the combination of landscape design attributes and opportunities, and biological opportunities and constraints.

developed recreation - Recreation use or opportunities occurring at developed sites.

developed recreation site – A discrete place containing a concentration of facilities and services used to provide recreation opportunities to the public and evidencing a significant investment in facilities and management under the direction of an administrative unit in the National Forest System.

development level (scale) – An indication of site modification based on classes in the Recreation Opportunity Spectrum. Development Level 1 equates to Primitive, with minimum site modification; 2 equates to Semi-Primitive Motorized/Nonmotorized, with little site modification; 3 equates to Roaded, with moderate modification; 4 equates to Rural, with heavy site modification; and 5 relates to Urban, with a high degree of site modification.

diameter at breast height – A tree's diameter measured at about 4.5 feet (1.37m) above the forest floor on the uphill side of the tree. For the purposes of determining breast height, the forest floor includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

diameter class – Any of the intervals into which a range of diameters of tree stems may be divided for classification and use, (e.g., 10-inch class includes diameters from 9.5 inches to 10.49 inches.

dispersed recreation – Recreation opportunities or use occurring in the general forest area. Does not take place in developed sites.

disturbance (ecology) – Any relative discrete event in time that disrupts the ecosystem, community, or population structure and changes resources, substrate availability, or the physical environment.

disturbance-recovery regime – A natural pattern of periodic disturbance followed by a period of recovery. Examples include fire or flooding.

diversity - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

drainage area/basin - The total area above a given point on a stream that contributes to the flow at that point. Term is often used interchangeably with watershed.

drum chopping - Method used to prepare areas for reforestation. Large drums with cutting blades attached are pulled over areas by vehicles that include crawler-type tractors and rubber-tired skidders.

E

early successional forest – The biotic community that develops immediately following the removal or mortality of most or all of forest canopy, resulting in a predominance of woody species regeneration. As used in the EIS and Plan, a stand age of 0 to 10 years is used to define this condition. See successional stage.

early successional habitat – A vegetative condition typically characterized by low density to no tree canopy cover and an abundance of herbaceous and/or woody ground cover. This condition may include early successional forest, maintained openings, pastures, balds, and open woodlands.

early successional species - Plant or animal species characteristic of early forest successional stages.

ecological classification system - A hierarchical system used to help organize and coordinate the classification of ecological types, units, and to make comparisons. Classification is ecologically based and integrates existing resource data including climate, topography, geology, soil, hydrology, and vegetation. The system includes many levels (from the top-down approach): domain, division, province, section, subsection, land type, land type association, land type phase, and site.

ecological management unit - A grouping of one or more soil series that have similar characteristics including texture, structure, or water retention capacity. EMUs are used in soil mapping.

ecosystem - A complete interacting system of organisms and their environment.

ecosystem/cover type - The native vegetation ecological community considered together with non-living factors of the environment as a unit. The general cover type occupying the greatest percent of the stand location. Based on tree or plant species forming a plurality of the stocking within the stand. May be observed in the field, or computed from plot measurements.

electronic sites - Areas designated for the operation of equipment which transmits and receives radio signals.

endangered species - Any species that is in danger of extinction throughout all or a significant portion of its range, other than members of the class Insecta that have been determined by the Department of Interior to constitute a pest whose protection under the provisions of this (Endangered Species Act of 1973) act would present an overwhelming

and overriding risk to humans. It must be designated in the *Federal Register* by the appropriate secretary.

Endangered Species Act of 1973 - An act that enables endangered and threatened species to be conserved. It provides a program for the conservation of such species, and takes appropriate steps to achieve the purposes of the (relevant) treaties and conventions.

endemic - Species restricted to a particular geographic area. Usually limited to one or a few small streams or a single drainage.

ending inventory - The standing volume at the end of the planning horizon. It must be adequate for the maintenance of long-term sustained yield.

environment - All the conditions, circumstances, and influences surrounding and affecting the development of an organism, or group of organisms.

environmental consequence - The result or effect of an action upon the environment.

Environmental Impact Statement - A disclosure document revealing the environmental effects of a proposed action, which is required for major federal actions under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review. Final Environmental Impact Statement (FEIS) is the final version of the statement disclosing environmental effects required for major federal actions under Section 102 of the National Environmental Policy Act.

environmental impact - Used interchangeably with environmental consequence or effect.

ephemeral streams - Streams having flows that occur for short periods of time in direct response to storm precipitation or snowmelt runoff. Their bottoms are always above the water table and do not contain fish or aquatic insects that have larvae with multiple-year life cycles. Ephemeral streams may have a defined channel, but may be manifested as a natural swale or depression with vegetation and organic material covering the bottom. They also may serve as a conduit for much of the sediment that enters the stream system. Large woody debris associated with ephemeral streams may also contribute significantly to the stability of a stream system. Ephemeral streams that exhibit an ordinary high watermark, show signs of annual scour or sediment transport, are considered navigable waters of the United States.

erosion - The wearing away of the land surface by the action of wind, water, or gravity.

essential habitat - Habitat in which threatened and endangered species occur, but which has not been declared as critical habitat. Occupied habitat or suitable unoccupied habitat necessary for the protection and recovery of a federally designated threatened or endangered species.

eutrophication - Condition of a lake where deleterious effects are caused by increased nutrients (nitrogen and phosphorous), and a decrease in oxygen.

evapotranspiration - The transfer of water vapor to the atmosphere from soil and water surfaces (evaporation), and from living plant cells (transpiration).

even-aged methods – Regeneration methods designed to maintain and regenerate a stand with a single age class.

even-aged silvicultural system - A planned sequence of treatments designed to maintain and regenerate a stand with one age class.

even-aged stand - A stand of trees containing a single age class in which the range of tree ages is usually less than 20 percent of rotation.

existing wilderness - Those areas already designated as wilderness by Congress. There are two such areas on the forests—the Cohutta Wilderness Area and Ellicott Rock Wilderness Area.

extirpation – Extinction of a species from all part of its range.

F

facilities level – A term that refers to campgrounds, expressed as Development Level 1-5. Customers in levels 1 and 2 campgrounds generally seek a relatively primitive experience with a minimum of facilities for comfort or convenience. Tent camping dominates and spurs are too short to accommodate most RVs. Utilities are not provided and access is most difficult. Level 3 developments are called “Recreational Vehicle/Travel Trailer Parks” in national electrical and plumbing codes. The focus is on tent campers and small RVs that do not contain a water closet or bathing facilities. Spur length is usually limited to 35'; low amperage electrical service may be provided. Water hydrants are centrally located to serve 3-5 sites, and flush toilets are typical. Traditionally, a moderate degree of accessibility is provided. Level 4 and 5 developments serve users with RVs of all types. Showers, flush toilets, and other amenities are available; individual water, sewer, and electrical hookups are commonly provided; service buildings are located within 200-300 feet of all sites.

facility – A single or contiguous group of improvements that exists to shelter or support Forest Service programs. The term may be used in either a broad or narrow context; for example, a facility may be a ranger station compound, lookout tower, leased office, work center, separate housing area, visitor center, research laboratory, recreation complex, utility system, or telecommunications site.

farmer-owned land - Owned by farm operators, excluding incorporated farm ownerships.

featured species - The selected wildlife species whose habitat requirements guide wildlife management including coordination, multiple use planning, direct habitat improvements, and cooperative programs for a unit of land. In context of land management planning, featured species are similar to management indicator species.

Federal Register - The designated document that notifies the public of federal actions and includes Notice of Intent, calls for public involvement, etc. It also publishes the regulations needed to implement those federal actions.

felling – The cutting down of trees.

final crop – That portion of the growing stock (to be) kept until final commercial harvest, (i.e., final product objective).

fire condition class – Based on coarse scale national data, classes measure general wildfire risk:

Class One – Fire regimes are usually within historical ranges. Vegetation composition and structure are intact. The risk of losing key ecosystem components from the occurrence of fire is relatively low.

Class Two – Fire regimes on these lands have been moderately altered from their historical range by increased or decreased fire frequency. A moderate risk of losing key ecosystem components has been identified.

Class Three – Fire regimes on these lands have been significantly altered from their historical return interval. The risk of losing key ecosystem components from fire is high. Fire frequencies have departed from historical ranges by multiple return intervals. Vegetation composition, structure and diversity have been significantly altered.

fire management effectiveness index - A measure of the effectiveness of annual fire management operational programs. Measured in dollars per thousand acres protected, the objective is to minimize the index value.

fire management plan – Strategic plans that define a program to manage wildland fires based on an area's approved land management plan. They must address a full range of fire management activities that support ecosystem sustainability, values to be protected, protection of firefighter and public safety, public health and environmental issues, and must be consistent with resource management objectives and activities of the area.

fire regime – A generalized description of the role a fire plays in the ecosystem. It is characterized by fire frequency, predictability, seasonality, intensity, duration, scale (patch size), and regularity or variability. Five combinations of fire frequency exist.

Groups One and Two include fire return intervals in the 0-35 range. One includes Ponderosa Pine, other long needle pine species, and dry site Douglas-fir. Group Two includes the drier grassland types - tall grass prairie, and some Pacific chaparral ecosystems.

Groups Three and Four include fire return intervals in the 35-100+ year range. Three includes interior dry site shrub communities including sagebrush and chaparral ecosystems. Group Four includes lodgepole and Jack pine.

Group Five is the long interval (infrequent), stand replacement fire regime and includes temperate rain forest, boreal forest, and high elevation conifer species.

fire use – The combination of wildland fire use and prescribed fire application to meet resource objectives.

fisheries classification - Water bodies and streams classed as having a cold- or warm-water fishery. This designation is dependent upon the dominant species of fish occupying the water.

fisheries habitat - Streams, lakes, and reservoirs that support fish.

floodplains - Lowland or relatively flat areas joining inland and coastal water including, at a minimum, that area subject to a 1-percent (100-year return period) or greater chance of flooding in any given year. Although floodplains and wetlands fall within the riparian area, they are defined here separately as described in the Forest Service Manual.

floor on first period production - The minimum harvest volume in the first period that should be produced to prevent a significant impact on the local economy.

forage - All browse and non-woody plants that are available to livestock or game animals used for grazing or harvested for feeding.

forage production - The weight of forage that is produced within a designated period of time on a given area. The weight may be expressed as green, air dry, or oven dry. The term may also be modified as to time of production including annual, current years, or seasonal forage production.

foreground - The area between the viewer and the middle ground in a landscape.

forest - An area managed for the production of timber and other forest products, or maintained under woody vegetation for indirect benefits as protection of a watershed, recreation, or wildlife habitat.

forest type - A category of forest defined by its vegetation (particularly its dominant composition) as based on a percentage cover of trees.

forest development road - A road wholly or partly within, or adjacent to, and serving a part of the National Forest System. It also has been included in the Forest Development Road System Plan.

forest health – The perceived condition of a forest derived from concerns about factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance.

forest land - Land at least 10 percent occupied by forest trees of any size, or formerly having had such tree cover, and not currently developed for non-forest use. Lands developed for non-forest use including areas for crops, improved pasture, residential, or administrative areas, improved roads of any width, adjoining road clearing, and power line clearing of any width.

Forest and Rangeland Renewable Resources Planning Act of 1974 - An act of Congress requiring the preparation of a program for the management of the national forests' renewable resources, and of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all National Forest System lands and renewable resources.

Forest Service Handbook (FSH) - A handbook that provides detailed instructions for proceeding with specialized phases of programs or activities for Forest Service use.

Forest Service Manual (FSM) - Agency manuals that provide direction for Forest Service activities.

forest trail system - Trails that are part of the forest transportation system. A designated path commonly used and maintained for hikers, horse riders, bicycles, or two-wheeled motorized vehicles.

forest type - A descriptive term used to group stands of similar composition and development because of given ecological factors, by which they may be differentiated from other groups of stands.

forest supervisor - The official responsible for administering the National Forest System lands in a Forest Service administrative unit. It may consist of two or more national forests or all the forests within a state. The supervisor reports to the regional forester.

forest-wide standard - A performance criterion indicating acceptable norms, specification, or quality that actions must meet to maintain the minimum considerations for a particular resource. This type of standard applies to all areas of the forest regardless of the other management prescriptions applied.

free-to-grow - A seedling or small tree free from direct competition from other trees, shrubs, grasses, or herbaceous plants.

fuel break - Any natural or constructed barrier used to segregate, stop, and control the spread of fire, or to provide a control line from which to work.

fuel treatment - The rearrangement or disposal of fuels to reduce fire hazard. Fuels are defined as living and dead vegetative materials consumable by fire.

fuels management - The planned treatment of fuels to achieve or maintain desired fuels conditions.

fuelwood - Wood used for conversion to some form of energy.

G

game species - Any species of wildlife or fish for which seasons and bag limits have been prescribed, and which are normally harvested by hunters, trappers, and fishermen under state or federal laws, codes, and regulations.

Gateway Forest – Designated federally-owned National Forest System lands on which increased management priority is placed on visual resource management because of their location in very sensitive recreational, travel way, and community settings.

general forest area - National forest lands not categorized as developed recreation sites, trails or wilderness. It can be a logical working area, (i.e., a drainage, geographic area, forest district, etc.). Typically containing a wide spectrum of settings and opportunities, facilities and sites located inside the boundary of a GFA are sometimes considered *concentrated use areas* (CUA), that may include dispersed front- and/or backcountry campsites, parking areas, pullouts and landings, river and road corridors, lake surfaces, and day use areas including OHV areas, climbing areas, target shooting areas, etc. Amenities or constructed features inside GFAs are primarily for resource protection.

geologic features - Landforms or other features of significant geologic interest that may require special management to protect the special qualities, or provide interpretation to the public.

geologic formation - A mappable body of rock identified by distinctive characteristics, some degree of internal homogeneity, and stratigraphic position. The name normally consists of two parts. The first is the name of the geographic locality where the formation was first identified and described. This is followed by a descriptive geologic term, usually the dominant rock type.

Geographic Information System - An information processing technology to input, store, manipulate, analyze, and display spatial resource data to support the decision-making processes of an organization. Generally, an electronic medium for processing map information, typically used with manual processes to affect specific decisions about land base and its resources.

geological area - A unit of land that has been designated by the Forest Service as containing outstanding formations or unique geological features of the earth's development, including caves and fossils. Areas of this type and all other special interest areas are identified and formally classified primarily because of their recreational and educational values. Areas with similar types of values of scientific importance are formally classified as research natural areas.

global ranks – Ranks assigned by the Nature Conservancy and state heritage programs based on number of occurrences.

grassland - Areas on which vegetation is dominated by grasses, grass-like plants, forbs, and/or cryptogams (mosses, lichens, and ferns), provided these areas do not qualify as built-up land or cultivated cropland. Examples include tall grass and short grass prairies, meadows, cordgrass marshes, sphagnum moss areas, pasturelands, and areas cut for hay.

grazing - Consumption of range or pasture forage by animals.

grazing capacity - The maximum stocking rate possible without inducing damage to vegetation or related resources.

grazing permit - Official, written permission to graze a specified number, kind, and class of livestock for a specific period on a defined range allotment.

gross receipts - A total of all funds received by the U.S. Treasury as a result of Forest Service activities.

groundwater - Water in a saturated zone in a geologic stratum. Water stored below the water table where the soil (or other geologic material) is saturated.

group selection – An uneven-aged regeneration method in which trees are removed periodically in small groups. Uneven age classes for trees are established in small groups. The width of groups is about twice the height of the mature trees, with small opening providing microenvironments suitable for tolerant regeneration, and the larger openings providing conditions suitable for more intolerant regeneration.

growing stock trees - Live trees, meeting specified standards of quality or vigor, included in growth and yield projections to arrive at the allowable sale quantity.

growing stock volume - Volume (cubic feet) of solid wood in growing stock trees 5 inches DBH and larger, from a 1-foot stump to a minimum 4-inch top diameter, outside bark, on the central stem. Volume of solid wood in primary forks from the point of occurrence to a minimum 4-inch top diameter outside bark is included.

H

habitat - The native environment of an animal or plant.

harvest cutting – An intermediate for final cutting that extracts salable trees.

harvesting method - A procedure by which a stand is logged. Emphasis is on meeting logging requirements rather than silvicultural objectives.

herbicide – A pesticide used for killing or controlling the growth of undesirable plants.

heritage sites/assets – Remnants of past cultures that remind us of the centuries-old relationship between people and the land (from *National Heritage Strategy*); property, plant or equipment that are unique for one or more of the following reasons: (1) historical or natural significance; (2) cultural, educational or artistic/aesthetic significance; or (3) significant architectural characteristics.

high-grading - The removal from the most commercially valuable trees, often leaving a residual stand composed of trees of poor condition or species composition.

historic landscapes - Industrial, agricultural, pastoral or domestic landscapes that have evolved over many years from human alteration. Commonly functional and often vernacular, the landscapes may not always be visually pleasing, often responding to specific functions or topography, not formally planned or designed. They may be informal to the degree that they appear to be natural occurrences, or the spatial organization of built and natural elements may be quite traditional or formal. They are identifiable and

can be mapped, either as point-specific features or enclaves within a larger landscape, as entire landscapes themselves, or as a combination of both.

human resource programs - Any of the federal labor programs providing work experience for local people.

hydric soils – Soils developed in conditions where soil oxygen is limited by the presence of saturated soil for long periods during the growing season.



improved pasture - Fenced, fertilized pastures intensively managed for livestock grazing.

improvement cutting – The removal of less desirable trees in a stand of poles or larger trees, primarily to improve composition and quality.

industrial fuelwood - Wood to be used specifically by industry for production of energy.

industrial wood - All commercial round wood products, except fuelwood.

infestation – The attack by macroscopic organisms in considerable concentration. Examples are infestations of tree crowns by budworm, timber by termites, soil or other substrates by nematodes or weeds.

initial attack – The aggressive response to a wildland fire based on values to be protected, benefits of response, and reasonable cost of response.

in-stream flow - The presence of adequate stream flow in channels necessary to maintain the integrity of the stream channel, and protection of downstream beneficial uses including fish and wildlife needs, outdoor recreation uses of water, and livestock watering needs.

integrated pest management (IPM) – The maintenance of destructive agents, including insects at tolerable levels, by the planned use of a variety of preventive, suppressive, or regulatory tactics and strategies that are ecologically and economically efficient and socially acceptable.

Interdisciplinary Team (IDT) - A group of resource specialists (e.g.: forester, wildlife biologist, hydrologist, etc.) responsible for developing the Forest Plan/Environmental Statement, and for making recommendations to the forest supervisor.

intermediate treatments - A collective term for any treatment designed to enhance growth, quality, vigor, and composition of the stand after establishment of regeneration and prior to final harvest.

intermittent streams – Streams that flow in response to a seasonally-fluctuating water table in a well-defined channel. The channel will exhibit signs of annual scour, sediment transport, and other stream channel characteristics, absent perennial flows. Intermittent

streams typically flow during times of elevated water table levels, and may be dry during significant periods of the year, depending on precipitation cycles.

interpretive association - A nonprofit, tax-exempt corporation or organization whose purpose is extending and enhancing the ability of the Forest Service to provide customer service to National Forest visitors. They work cooperatively with the Forest Service in educating the public about natural and cultural issues on public lands.

interpretive services - Visitor information services designed to present inspirational, educational, and recreational values to forest visitors in an effort to promote understanding, appreciation, and enjoyment of their forest experience.

intolerant – A plant requiring sunlight and exposure for establishment and growth.

L

land exchange - The conveyance of non-federal land or interests in the land in exchange for National Forest System land or interests in land.

landing – A cleared area in the forest to which logs are yarded or skidded for loading onto trucks for transport.

landline location - Legal identification and accurate location of national forest property boundaries.

land management planning – A formal process of management planning involving four interactive steps: monitoring, assessment, decision making, and implementations as described in the Federal Code of Regulations.

landscape - An area composed of interacting ecosystems that are repeated because of geology, land form, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape, and pattern that are determined by interacting ecosystems.

landscape character – Particular attributes, qualities, and traits of landscape that give it an image and make it identifiable or unique.

land type - An intermediate level in the ecological classification system based on landform, natural vegetative communities, and soils.

land type association - A group of landtypes. The landtypes in the association are sufficiently homogeneous to be considered as a whole for modeling the future outputs and effects of planned management activities. Landtype associations may not follow watershed boundaries, and are defined on the basis of general similarities in climate, geology, landform, and vegetation.

large woody debris (LWD) (coarse woody debris) (CWD) – Any piece(s) of dead woody material, e.g., dead boles, limbs, and large root masses, on the ground in forest stands, or in streams.

late-seral (successional) stage - The stage of forest development at which overstory trees have attained most of expected height growth and have reached ecological maturity. As used in the EIS and Plan, a stand age of greater than 80 years is generally used to define this condition. Old growth forests occur during the latter periods of this seral stage and at ages that vary by forest type and in response to a variety of environmental conditions. See successional stage.

lease - A contract between the landowner and another granting the latter the right to search for and produce oil, gas, or other mineral substances (as specified in the document) on payment of an agreed rental, bonus, or royalty. This right is subject to the terms, conditions, and limitations specified in the document.

leave tree – A tree (marked to be) left standing for wildlife, seed production, etc, in an area where it might otherwise be felled.

limits of acceptable change (LAC) – A nine-step planning process used to establish acceptable wilderness resource and social conditions, and prescribe appropriate management actions.

local road - Roads that connect terminal facilities with forest collector or forest arterial roads, or public highways. Forest local roads may be developed and operated for either long- or short-term service. These roads are generally single lane.

logging - The felling, skidding, on-site processing, and loading of trees or logs onto trucks.

long-term facilities - Facilities that are developed and operated for long-term land management and resource utilization needs. They may be operated for constant or intermittent service.

1. constant service - Facilities developed and operated for continuous or annual recurrent service.

2. intermittent service - Facilities developed and operated for periodic service and closed for more than one year between periods of use. Closure is by means other than a gate.

long-term sustained-yield capacity - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity, consistent with multiple-use objectives.

low PSI skidder - A term used to identify any one of several types of vehicles used to move logs from stump to log loading area. Low PSI (pounds per square inch) identifies those vehicles that, because of design of tracks, wheels, or suspension system, exert much lower pressure on ground surface than other types of ground-based skidding vehicles.

M

M&E – Monitoring and Evaluation – Determining on a sample basis how well the objectives of Forest Plan management practices have been met and what effects those practices had on the land and environment. (See Monitoring.)

machine planting - A method by which tree seedlings are planted by mechanical means rather than by hand.

management action – A set of management activities applied to a land area to produce a desired output.

management action controls – Specifies the acreage or the proportion of an analysis unit assigned to a set of management actions. The controls can be specified in terms of greater than or equal to, equal to, or less than equal to some amount, or proportion of the analysis unit acreage.

management area - A selected grouping of capability or analysis areas selected through evaluation procedures used to locate decisions, and resolve issues and concerns. An area with similar management objectives, and a common management prescription.

Management Attainment Report (MAR) - A process used in determining whether work is progressing as planned. It provides the manager with information for measuring progress against objectives, information for measuring self and subordinates' performance, and an indication of a reporting unit's performance.

management concern - An issue, problem, or condition which constrains the range of management practices identified by the Forest Service in the planning process.

management direction - A statement of multiple-use and other goals and objectives. The associated management prescriptions, and standards and guidelines for attaining them.

management emphasis - The multiple-use values to be featured or enhanced.

management indicator species (MIS) – An animal or plant selected for use as a planning tool in accordance with 1982 NFMA regulations (36 CFR 219.19). These species are used to help set objectives, analyze effect of alternatives, and monitor Plan implementation. They are chosen because their population changes are believed to indicate the effects of management on selected biological components.

management intensity - A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

management opportunity - A statement of general actions, measures, or treatments that address a public issue or management concern in a favorable way.

management practice - A specific action, measure, course of action, or treatment undertaken on a forest.

management prescription - Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

management situation - A comprehensive statement of the planning area resources, its history as it may influence planning, past and present uses, and a review of the public issues directly concerned with the area.

management team - A decision-making group consisting of the forest supervisor, staff officers, and district rangers.

management type - The tree species or species group that should be grown on a specific site, whether or not it presently occupies the site that best suits the particular site soil, aspect, elevation, and moisture provided by the area and the forest plan's objectives.

mast tree - Generally hardwood trees of the heavy seeded variety including oaks, hickories, walnut, beech—25 years and older capable of producing frequent seed crops to feed a variety of wildlife species.

mature timber - The stage at which a crop or stand of trees best fulfills the main purpose for which it was grown.

maximum modification - A visual quality objective in which man's activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

mean annual increment of growth - The total increase in girth, diameter, basal area, height, or volume of individual trees or a stand up to a given age divided by that age.

mechanical site preparation - Soil disturbance by mechanical chopping, furrowing, dozing, or disking to prepare areas for reforestation. Objective is to reduce plant competition for trees to be planted.

mechanical transport - Any contrivance for moving people or material in or over land, water, or air, having moving parts, that provides a mechanical advantage to the user and that is powered by a living or non-living power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois, or similar primitive devices without moving parts.

mesic - Sites or habitats characterized by intermediate moisture conditions, i.e., neither decidedly wet or dry.

middle ground - The space between the foreground and the background in a picture or landscape; generally ½ mile to 4 miles distance from the viewer.

mid-seral (successional) stage - The stage of forest development during which distinct overstory, midstory, and understory canopies are developed. As used in the EIS

and Plan, a stand age of 41 to 80 years is generally used to define this condition. This seral stage occurs at various ages by forest type in response to a variety of environmental conditions. See successional stage.

mineral exploration - The search for valuable minerals on lands open to mineral entry.

mineral soil - Weathered rock materials without any vegetative cover.

mineral resource - A known or undiscovered concentration of naturally occurring solid, liquid, or gaseous material in or on the earth's crust in such form and amount that economic extraction of a commodity from the concentration is currently or potentially feasible.

minerals (leasable) - Coal, oil, gas, phosphate, sodium, potassium, oil shale, sulphur, and geothermal steam. All hard-rock minerals that occur on acquired lands, as opposed to public domain lands, are leasable.

minerals (salable) - Common variety deposits that—although they may have value or use in trade, manufacture, the sciences, or in the mechanical or ornamental arts—do not possess a distinct, special economic value for such use over and above the normal uses of the general sum of such deposits. These may include sand, stone, gravel, pumicite, cinders, pumice (except that occurring in pieces more than two inches on a side), clay, and petrified wood.

minimum management requirement - Any constraint imposed to comply with 36 CFR 219.27 and other legal restrictions that must be met by benchmark solutions as noted in 36 CFR 219.11(e)(1). These include requirements including conserving soil productivity, maintaining minimum viable populations of wildlife, preserving the habitat of endangered species' habitat, dispersing openings, and limiting cut size. It also includes any other standards and guidelines, including best management practices that serve to define management prescriptions and resource response.

mitigation - Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

modification - A visual quality objective in which human activity may dominate the characteristic landscape but must, at the same time, use naturally established form, line, color, and texture appearing as a natural occurrence when viewed in foreground or middle ground.

monitoring - The periodic evaluation on a sample basis of Forest Plan management practices to determine how fully objectives have been met and how closely management standards have been applied.

montane - Relating to the zone of relatively moist, cool upland ;slopes characterized by the presence of large evergreen trees as a dominant life form.

mortality - Dead or dying trees resulting from forest fire, insect, diseases, or climatic factors.

motorized equipment - Machines that use a motor, engine, or other non-living power source. This includes, but is not limited to, such machines as chain saws, aircraft, snowmobiles, generators, motor boats, and motor vehicles. It does not include small battery or gas-powered hand carried devices that include shavers, wristwatches, flashlights, cameras, stoves, or other similar small equipment.

multiple use - The management of all the various renewable surface resources of the National Forest System so that they are used in a manner that will best meet the needs of the American people. Making the most judicious use of the land for these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in the use to conform to changing needs and conditions.

multipliers - The ratio of a total impact to a component of the impact in input/output analysis. An example would be the ratio of the sum of direct, indirect, and induced impacts to direct impacts.

N

National Ambient Air Quality Standards (NAAQS) – Standards established by EPA after passage of the Clean Air Act of 1970 that apply for outdoor air throughout the country.

National Environmental Policy Act (NEPA) of 1969 - An act to declare a national policy that will encourage productive and enjoyable harmony between humankind and the environment. It was created to promote efforts that will prevent or eliminate damage to the environment, biosphere, and stimulate the health and welfare of humanity. In addition, the act was crafted to enrich the understanding of the ecological systems and natural resources important to the nation, and establish a Council of Environmental Quality.

National Forest Land and Resource Management Plan (Forest Plan) - A plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and establishes management standards and guidelines for the National Forest System lands of a given national forest.

National Forest Management Act (NFMA) of 1976 - Act passed as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring the preparation of regional guides and forest plans, and the preparation of regulations to guide them.

National Forest System (NFS) - All National Forest lands reserved or withdrawn from public domain of the United States and acquired through purchase, exchange, donation, or other means. National Grasslands and land utilization projects administered under Title III of the Bankhead–Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010–1012), and other lands, waters, or interests that are administered by the Forest Service, or are designated for administration through the Forest Service as a part of the system.

National Forest System Land - Federal land that has been legally designated as National Forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

National Register of Historic Places – The National Register of Historic Places is the Nation’s official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior.

National Recreation Trails - Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the national system of trails authorized by the National Trails System Act. National recreation trails provide a variety of outdoor recreation uses, in or reasonably accessible, to urban areas.

National Visitor Use Monitoring - A systematic process to estimate annual recreation and other uses of National Forest lands through user surveys.

National Wild and Scenic Rivers System - Rivers with outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values designated by Congress under the Wild and Scenic Rivers Act of Oct. 2, 1968, for preservation of their free-flowing condition.

National Wilderness Preservation System - All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.

natural regeneration - An age class created from natural seeding, sprouting, suckering, or layering.

net annual growth - The net change in merchantable volume expressed as an annual average between surveys in the absence of cutting (gross growth minus mortality).

net public benefits - An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued. Net public benefits are measured by quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple use and sustained yield.

no-action alternative - The most likely condition expected to exist in the future if current management direction would continue unchanged.

non-chargeable volume - All volume not included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity.

non-commodity output - A resource output that cannot be bought and sold.

non-declining yield - A level of timber production planned so that the planned sale and harvest for any future decade is equal to, or greater than the planned sale and harvest for the preceding decade.

non-forest land - Land that has never supported forests and lands formerly forested where use for timber utilization is precluded by development for other use. Lands that never have had, or that are incapable of having 10 percent or more of the area occupied by forest trees; or lands previously having such cover and currently developed for non-forest use.

non-game species - Any species of wildlife or fish which is ordinarily not managed or otherwise controlled by hunting, fishing, or trapping regulations. The designation may vary by state.

non-point source pollution - A diffuse source of pollution not regulated as a point source. May include atmospheric, deposition, agricultural runoff, and sediment from land-distributing activities.

non-stocked stands - Stands less than 16.7 percent stocked with growing stock trees.

non-timber forest products - All forest products except timber, including resins, oils, leaves, bark, plants other than trees, fungi, and animals or animal products.

O

objective - A concise, time-specific statement of measurable planned results that respond to pre-established goals. It forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

off-highway vehicle (OHV) - Any vehicle capable of being operated off established roads, e.g., motorbikes, four-wheel drives, and snowmobiles.

off-road vehicle (ORV) - Any motorized vehicle designed for or capable of cross county travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain; except that term excludes (A) any registered motorboat; (B) any fire, military, emergency or law enforcement vehicle when used for emergency purposes, and any combat or combat support vehicle when used for national defense purposes; and (C) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

offstream use - Water withdrawn or diverted from a ground or surface-water source for public water supply, industry, irrigation, livestock, thermoelectric power generation, and other uses.

old growth forests - An ecosystem distinguished by old trees and related structural attributes. Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics including tree size, accumulation

of large dead woody material, number of canopy layers, species composition, and ecosystem function. Old growth is not necessarily virgin or primeval. It can develop over time following human disturbances, just as it does following natural disturbances. Old growth encompasses older forests dominated by early seral species, and forests in later successional stages dominated by shade tolerant species.

on-site - A term referring to species normally found on a site under natural conditions. The same or contiguous property that may be divided by a public or private right-of-way, provided that the entrance and exit between the properties is at a crossroads intersection, and that access is by crossing, as opposed to going along the right-of-way.

operating plan - A written plan, prepared by those engaged in mining activity on the forests, and approved by a forest officer for prospecting, exploration, or extraction activities that are slated to take place on National Forest System land.

ordinary high water mark - The line on the shore established by the fluctuation of water, and is indicated by physical characteristics including a clear, natural line impressed on the bank; shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter, debris, or other appropriate means that consider the characteristics of the surrounding area.

output - The goods, end products, or services that are purchased, consumed, or used directly by people. Goods, services, products, and concerns produced by activities that are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. A broad term for describing any result, product, or service that a process or activity actually produces.

output, minimum level - The amount of an output that will occur regardless of management activity.

outstanding mineral rights - Instances in which the minerals in federally- owned lands were severed prior to the transaction in which government acquired the land. Such rights are not subject to the Secretary of Agriculture's rules and regulations. Removal or extraction of these minerals must be allowed in accordance with the instrument severing the minerals from the surface and under applicable state and local laws and regulations.

overstory - That portion of trees in a two- or multi-layered forest stand that provides the upper crown cover.

overstory removal - The cutting of trees comprising an upper canopy layer in order to release trees or other vegetation in an understory.

P

PAOT – Persons At One Time – A measure of recreation carrying capacity, especially for developed sites. National conventions include 5 persons per family picnic/camp unit, 3.5 persons per parking lot stall at a trailhead or visitor center, 1.5 persons per motorcycle parking stall, and 40 persons per tour bus parking stall.

partial retention - A visual quality objective which in human activities may be evident, but must remain subordinate to the characteristic landscape.

partnership - Voluntary, mutually beneficial and desired arrangement between the Forest Service and another or others to accomplish mutually agreed-on objectives consistent with the agency's mission and serving the public's interest.

payments in lieu of taxes - Payments to local or state governments based on ownership of federal land, and not directly dependent on production of outputs or receipt sharing.

per capita use - The average amount of water used person during a standard time period, generally per day.

perennial stream - Any watercourse that generally flows most of the year in a well-defined channel and is below the water table. Droughts and other precipitation patterns may influence the actual duration of flow. It contains fish or aquatic insects that have larvae with multi-year life cycles. Water-dependent vegetation is typically associated with perennial streams.

person-year - About 2,000 working hours that may be filled by one person working during the course of one year or several people working a total of 2,000 hours.

petrographic – The description and systematic classification of rocks.

physiographic region - A region of similar geologic structure and climate that has had a unified geomorphic history.

planning area - The area of the National Forest System covered by a regional guide or forest plan.

planning criteria - Standards, tests, rules, and guidelines by which the planning process is conducted, and upon which judgments and decisions are based.

planning horizon - The overall time period considered in the planning process that spans all activities covered in the analysis or plan. All future conditions and effects of proposed actions which would influence the planning decisions.

planning period - One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits.

pre-commercial thinning - The selective felling, deadening, or removal of tree in a young stand not for immediate financial return, but primarily to accelerate diameter increment on the remaining stems, to maintain a specific stocking or stand density range, or to improve the vigor and quality of the remaining trees.

prescribed fire – Any fire ignited by management actions to meet specific objectives including disposal of fuels, and controlling unwanted vegetation. The fires are conducted in accordance with prescribed fire plans, and are also designed to stimulate grasses, forbs, shrubs, or trees for range, wildlife, recreation, or timber management purposes.

present net value - The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area.

preservation - A visual quality objective that provides for ecological change only.

presuppression - Activities required in advance of fire occurrence to ensure effective suppression action, including: (1) recruiting and training fire forces, (2) planning and organizing attack methods, (3) procuring and maintaining fire equipment, and (4) maintaining structural improvements necessary for the fire program.

primitive road - Roads constructed with no regard for grade control or designed drainage, sometimes by merely repeated driving over an area. These roads are single lane, usually with native surfacing and sometimes passable with four-wheel drive vehicles only, especially in wet weather.

process records - A system that records decisions and activities that result from the process of developing a forest plan, revision, or significant amendment.

proclamation boundary - The boundary contained within the presidential proclamation that established the National Forest.

productive deferred - Productive (capable) forest land which has been legislatively designated or administratively designated by the Secretary of Agriculture or Chief of the Forest Service for wilderness study or possible additions to the Wilderness System. This classification includes RARE II area designated as wilderness, but does not include RARE II areas designated as “further planning.”

productivity class - A classification of the capacity of a given piece of land for timber growth is expressed in cubic feet per acre a year.

Class I - Lands capable of producing 120 cubic feet or more per acre a year.

Class II - Lands capable of producing 85 to 119 cubic feet per acre a year.

Class III - Lands capable of producing 50 to 84 cubic feet per acre a year.

Class IV - Lands capable of producing 20 to 49 cubic feet per acre a year.

program - Sets of activities or projects with specific objectives, defined in terms of specific results and responsibilities for accomplishments.

program budget - The schedule of projects and activities to be carried out on the forest for a year for which funds have been appropriated.

program development and budgeting - The process by which activities for the forest are proposed and funded.

project - A work schedule prescribed for a project area to accomplish management prescriptions. An organized effort to achieve an objective identified by location, activities, outputs, effects, time period, and responsibilities for execution.

proposed action - In terms of the National Environmental Policy Act, the project, activity, or decision that a federal agency intends to implement or undertake. The proposed action described in the Environmental Impact Statement is the Forest Plan.

proposed wilderness – Areas recommended for wilderness by the Forest Service as a result of the RARE II study, but which have yet to be acted on by Congress.

prospecting permit - A written instrument or contract between the landowner and another conveying to the latter the right to enter the former's property and search for mineral materials. Two types of permits are used: (1) a BLM Prospecting Permit is issued by the Bureau of Land Management upon recommendation of the Forest Service. In most cases, these are preference right permits in which the prospector has the first opportunity, to the exclusion of all others, to lease any minerals discovered, and (2) a Forest Service Prospecting Permit issued by the Forest Service. No preference rights are conveyed under Forest Service permits, except in some cases of common varieties on acquired lands.

public domain land - Original holdings of the United States that were never granted or conveyed to other jurisdictions or reacquired by exchange for other public domain lands.

public issue - A subject or question of widespread public interest relating to management of the National Forest System.

public participation activities - Meetings, conferences, seminars, workshops, tours, written comments, survey questionnaires, and similar activities designed or held to obtain comments from the general public and specific publics.

public roads - Roads across National Forest land which were in place as public ways when these lands were acquired. These roads may be a part of the forest, state, or county system, and may be maintained by any of these agencies.

public supply – Water withdrawn by public and private water suppliers and delivered to users.

pulpwood - Wood cut and prepared primarily for manufacture into wood pulp.

pure stand - A stand composed of essentially a single tree species, conventionally at least 85 percent based on numbers, basal areas, or volumes.

Q

qualifiers – Measurable characteristics of outputs and activities. They characterize properties or attributes of activities or outputs.

R

raking - A term used in land clearing whereby crawler tractors, or other types of similar heavy equipment, with a large rake device attached to the front end, are used to push clearing debris into piles or windrows.

range allotment - A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range.

range management - The art and science of planning and directing range use to obtain sustained maximum animal production, consistent with perpetuation of the natural resources. Two types of range management are:

- 1. extensive** - To control livestock numbers within present capacity of the range, but little or no attempt is made to achieve uniform distribution of livestock. Range management investments are minimal and only to the extent needed to maintain stewardship of the range in the presence of grazing. Past resource damage is corrected and resources are protected from natural catastrophes.
- 2. intensive** - To maintain full plant vigor and to achieve full livestock utilization of available forage. This goal is achieved through implementation of improved grazing systems and construction and installation of range improvements. Cultural practices, (seeding and fertilizing), to improve forage quality and quantity may be used.

ranger district - Administrative subdivisions of the forest supervised by a District Ranger who reports to the Forest Supervisor.

rare species - Any native or once-native species of wild animal which exists in small numbers, and has been determined to need monitoring. May include peripheral species.

real dollar value - A monetary value, which compensates for the effects of inflation.

receipt shares - The portion of receipts derived from Forest Service resource management that is distributed to state and county governments, including the Forest Service, 25 percent fund payments.

reconstruction - Work that includes, but is not limited to, widening of roads, improving alignment, providing additional turnouts, and improving sight distance that improve the standard to which the road was originally constructed. Also undertaken to increase the capacity of the road or to provide greater traffic safety.

Record of Decision - A document separate from, but associated with an environmental impact statement that publicly and officially discloses the responsible official's decision on the alternative assessed in the environmental impact statement chosen to implement.

recreation - Leisure time activity including swimming, picnicking, camping, boating, hiking, hunting, and fishing.

recreation capacity – A measure of the number of people a site can reasonably accommodate at one time; sometimes measured as PAOT or RVDs.

Recreation Opportunity Spectrum (ROS) - A method for classifying types of recreation experiences available, or for specifying recreation experience objectives desired in certain areas. Classes are: Primitive, Semi-Primitive Non-Motorized, Semi-Primitive Motorized, Roaded Natural, Rural, and Urban.

- **Primitive (ROS)** – An area characterized by having essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free from evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.

The recreation experience opportunity level provided would be characterized by the extremely high probability of experiencing isolation from the signs and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers a high degree of challenge and risk.

- **Semi-primitive Non-Motorized (ROS)** – An area characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users (or concentration of users) is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle.

The recreation experience opportunity level provided would be characterized by the high, but not extremely high, (or moderate) probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk. (The opportunity to have a high degree of interaction with the natural environment.) Motorized use is not permitted.

- **Semi-primitive Motorized (ROS)** – An area characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users (or concentration of users) is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle.

The recreation experience opportunity level provided would be characterized by the high, but not extremely high, (or moderate) probability of experiencing isolation from the sights and sounds of humans, independence, closeness to nature, tranquility, and self-reliance through the application of woodsman and outdoor skills in an environment that offers challenge and risk. (The opportunity to have a high degree of interaction with the natural environment.) Motorized use is permitted.

- **Roaded Natural (ROS)** – An area characterized by predominantly natural-appearing environments with moderate evidences of the sights and sounds of man. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities.

The recreation opportunity experience level provided would be characterized by the probability for equal experiencing of affiliation with individuals and groups, and for isolation from sights and sounds of humans. Opportunities for both motorized and non-motorized forms of recreation may be provided.

- **Rural (ROS)** – A classification for areas characterized by a substantially modified natural environment. Resource modification and utilization practices are to enhance specific recreation activities and to maintain vegetative cover and soil, but harmonize with the natural environment. A considerable number of facilities are designed for use by a large number of people. Moderate densities are provided away from developed sites. Facilities for intensified motorized use and parking are provided.

The recreation opportunity experience level provided would be characterized by the probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. These factors are generally more important than the setting. Opportunities for wildland challenge, risk-taking, and testing of outdoor skills are generally unimportant.

- **Urban (ROS)** – An area characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resources modification and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans, on-site, are predominant. Large numbers of users can be expected, both on-site and in nearby areas. Facilities for highly intensified motor use and parking are available, with forms of mass transit often available to carry people throughout the site.

The recreation opportunity experience level provided would be characterized by the probability for experiencing affiliation with individuals and groups is prevalent, as is the convenience of sites and opportunities. Experiencing natural environments, having challenges and risk afforded by the natural environment, and the use of outdoor skills are relatively unimportant. Opportunities for competitive and spectator sports and for passive uses of highly human-influenced parks and open spaces are common.

recreation visit (also National Forest recreation visit) – The entry of one person upon a National Forest to participate in recreation activities for an unspecified period of time. A NF visit can be composed of multiple site visits.

recreation visitor day (RVD – also National Forest recreation visitor day) –

Recreational use of National Forest sites, or areas of land or water, that aggregates 12 visitor-hours; may consist of one person for 12 hours, 12 persons for one hour, or any equivalent combination of continuous or intermittent recreation use by individuals or groups. This was the basic use-reporting unit in the Recreation Information Management (RIM) System.

reforestation – The re-establishment of forest cover by seeding, planting, and natural means.

regeneration - The act of renewing of a tree crop by establishing young trees by naturally or artificially. The young crop itself.

regeneration cutting - Any removal of trees intended to assist regeneration already present or to make regeneration possible.

regeneration (reproduction) method - A cutting procedure by which a new age class is created. The major methods are clearcutting, seed-tree, shelterwood, selection, and coppice.

regeneration (reproduction) period - The time between the initial regeneration cutting and the successful re-establishment of a new age class by natural means, planting, or direct seeding.

Region 8 - The states that make up the Southern Region of the USDA Forest Service.

Regional Forester - The official responsible for management of National Forest land within a USDA Forest Service region.

regulated harvest – Includes any volume scheduled in calculations of the allowable sale quantity which is harvested from suitable forest land.

release and weeding – A silvicultural treatment designed to free desirable trees from competition with overstory trees, less desirable trees, or grasses and other forms of vegetative growth. It includes release of natural and artificial regeneration.

removal cut - The cut which removes the last seed bearers of a seed tree or shelterwood regeneration method after the new seedling stand is considered to be established.

research natural area - An area set aside by the Forest Service specifically to preserve a representative sample of an ecological community, primarily for scientific and educational purposes. Commercial exploitation is not allowed and general public use is discouraged.

reserve trees - Trees, pole-sized or larger, retained after the regeneration period under the clearcutting, seed-tree, shelterwood, or coppice methods.

reserved mineral rights - Refers to those cases wherein the minerals were severed from the surface during the transaction whereby the government acquired the land. These rights are subject to the Secretary of Agriculture's rules and regulations that were applicable at the time of the transaction.

resource - An aspect of human environment which renders possible, or facilitates the satisfaction of, human wants, and the attainment of social objectives.

resource allocation model - A mathematical model using linear programming that will allocate land to prescriptions and schedule implementation of those prescriptions simultaneously. The end purpose of the model is to find a schedule and allocation that meets the goals of the forest and optimizes some objective function including minimizing costs. The model used for this planning is called spectrum.

resource use and development opportunities - A possible action, measure, or treatment and corresponding goods and services identified and introduced during the scoping process. It may subsequently be incorporated into and addressed by the land and resource management plan in terms of a management prescription.

responsible line officer - The Forest Service employee who has the authority to select and/or carry out a specific planning action.

retention - A visual quality objective in which man's activities are not evident to the casual forest visitor.

revegetation - The re-establishment and development of a plant cover. This may take place naturally through the reproductive processes of the existing flora or artificially through the direct action of humans (e.g.: afforestation and range reseeding).

revision - To make the plan new or up-to-date. Plan revision must be considered and approved in accordance with the requirements for the development and approval of a forest plan. Revisions take place every 10-15 years, but may occur more frequently if conditions or public demands change significantly.

right-of-way - A right of use across the lands of others. It generally does not apply to absolute purchase of ownership. Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project or facility passing over, upon, under, or through such land.

riparian - Land areas directly influenced by water. They usually have visible vegetative or physical characteristics showing this water influence. Streamside, lake borders, and marshes are typical riparian areas.

riparian areas - Areas with three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems that extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width.

riparian corridor - An administrative zone applied to both sides of a stream or along side a pond, lake, wetland, seep or spring. It is a fixed width by stream type that may fall within or beyond the true riparian area.

riparian dependent species - Species that are dependent on riparian areas during at least one stage of their life cycle.

riparian functions - Activities that occur in a riparian area without the influence of management activities. Functions include erosion and deposition by the streams, nutrient cycling, movement and storage of water, vegetative succession, etc.

ripping - A process where the soil is mechanically sliced or broken to improve tilth, aeration, and permeability.

river classifications

(1) **wild** – Rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

(2) **scenic** – Rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

(3) **Recreational** – Rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

road – A motor vehicle path more than 50 inches wide, unless classified and managed as a trail. It may be classed as a system or non-system road.

road - constant service - A facility on the transportation system developed and operated for long-term land management and resource utilization needs. It is also operated for continuous or annual recurrent service. System-open roads generally remain open for public use except for seasonal closures to prevent road damage due to bad weather conditions.

road - intermittent service - A facility on the transportation system that is developed and operated for long-term land management and resource utilization needs. It is operated for periodic service and closed for more than one year between periods of use. System-closed roads are generally built to access logging sites and are closed once logging activities are completed. They can be re-opened several years later, however, when access is once again needed to the site.

road closure - A technique used by management to regulate and control the use of facilities to achieve transportation economy, user safety, protection of the public investment, and accomplishment of forest resource objectives. It may be intermittent or long term.

road density - A measure of the total length of road in any given unit of area (e.g.: 4 miles/square mile.)

road maintenance levels - A formally established set of objectives that describes the conditions necessary to achieve the planned operation of a road. The levels vary from Level I, basic custodial care, to Level V, which is assigned high use roads in which user safety and comfort are important considerations.

roadless area – Places that have retained or are regaining a natural untrammeled appearance; any signs of prior human activity are disappearing or being muted by natural forces. Criteria provide for an individual roadless area to include no more than one-half mile of improved road for each 1,000 acres.

Roadless Area Review and Evaluation (RARE) II - The assessment of “primitive” areas within the National Forests as potential wilderness areas as required by the Wilderness Act. This refers to the second such assessment that was documented in the final environmental impact statement of the Roadless Area Review and Evaluation, January 1979.

RARE II area - An area of land identified during the RARE II and the re-evaluation process as having potential for inclusion in the National Wilderness Preservation System.

RARE II inventory boundary - A boundary established with public input surrounding large areas of primarily Forest Service lands for the purpose of evaluation during the RARE II process. These lands meet minimum Forest Service criteria for potential wilderness.

rollover - A maximum PNV solution with an individual good or service production constrained at its maximum potential level. It provides an economically efficient basis for comparing all benchmark levels.

rotation - The number of years required to establish, including the regeneration period and grow timber crops, to a specified condition or maturity for harvest. Even- and two-aged management prescriptions in the Forest Plan use a rotation.

roundwood - Timber and fuelwood prepared in the round state - from felled trees to material trimmed, barked, and crosscut (e.g.: logs and transmission poles).

RPA Program - The recommended direction for long-range management of renewable resources of National Forest System lands. This direction serves as the basis for the regional targets assigned to the forest. The development of this direction is required by the Forest and Rangeland Renewable Resources Planning Act.

runoff - The total stream discharge of water from a watershed including surface and subsurface flow, but not groundwater. Usually expressed in acre-feet.

rural - A recreation opportunity spectrum classification for areas characterized by a substantially modified natural environment. Sights and sounds of man are evident. Renewable resource modification and utilization practices enhance specific recreation activities or provide soil and vegetative cover protection.

rural water use – Term used in previous water-use circulars to describe water used in suburban or farm areas for domestic and livestock needs. The water is generally self-supplied.

S

sacred sites – Any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion had informed the agency of the existence of such a site.

sale schedule - The quantity of timber planned for sale by time period from an area of suitable land covered by a forest plan. The first period (usually a decade) of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained.

salmonids – Fish of the family salmonidea, the char, trouts, salmon, and whitefishes.

salvage cutting - The removal of dead trees or trees being damaged or killed by injurious agents other than competition. To recover value that would otherwise be lost.

sanitation cutting - The removal of trees to improve stand health and to reduce actual or anticipated spread of insects and disease.

sapling - A usually young tree that is larger than a seedling, but smaller than a pole. Size varies by region.

sawtimber - Trees suitable in size and quality for producing logs that can be processed into dimension lumber.

scalloping - The undulating vegetative treatment given to a roadside for aesthetic purposes.

Scenery Management System (SMS) - A system for the inventory and analysis of the aesthetic values of the National Forest lands. It replaces the Visual Management System (VMS) as defined in Agricultural Handbook #462.

scenic attractiveness – The scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, rockform, waterform, and vegetation pattern. Classified as A (Distinctive), B (Typical or Common), or C (Undistinguished).

scenic class – A system of classification describing the importance or value of a particular landscape or portions of that landscape. Values range from 1 (highest value) to 7 (lowest value).

scenic integrity – A measure of the degree to which a landscape is visually perceived to be “complete”. The highest scenic integrity ratings are given to those landscapes which have little or no deviation from the character valued for its aesthetic appeal. Scenic integrity is used to describe an existing situation, standard for management, or desired future conditions.

scenic integrity objective (SIO) - A desired level of excellence based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape. Objectives include Very High, High, Moderate, Low, and Very Low.

Very High (VH) – Generally provides for only ecological changes in natural landscapes and complete intactness of landscape character in cultural landscapes.

High (H) – Human activities are not visually evident to the casual observer. Activities may only repeat attributes of form, line, color, and texture found in the existing landscape character.

Moderate (M) – Landscapes appear slightly altered. Noticeable human-created deviations must remain visually subordinate to the landscape character being reviewed.

Low (L) – Landscapes appear moderately altered. Human-created 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 (VL) – An existing scenic inventory classification in which landscapes appear heavily altered. Human-created 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.

scoured channel - A definable channel of flow where surface water converges with enough energy to remove soil, organic matter, and leaf litter.

secondary processor - A mill that processes partially manufactured wood (a wood product such as chips or lumber), into a finished product. Examples include paper and furniture.

secondary trout streams - Streams that do not contain naturally-reproducing trout populations, but will sustain trout throughout the year. Populations must be maintained by stocking.

sediment - Solid mineral and organic material that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice.

seedling/sapling seral (successional) stage – The stage of forest development characterized by high stem density, closed low canopies, and minimal herbaceous layer development. As used in the EIS and Plan, a stand age of 11 to 40 years is generally used to define this condition. See successional stage.

seedling/sapling stands - Stands at least 16.7 percent stocked with growing stock trees, of which more than one-half of total stocking is seedlings and saplings.

seed tree – An even-aged regeneration method where in a single cut, the removal of all merchantable trees in a stand, except for a small number of widely dispersed trees retained for seed production, and to produce a new age class in a fully-exposed microenvironment.

seed tree with reserves method - A two-aged regeneration method in which some or all of the seed trees are retained after regeneration has become established to attain goals other than regeneration.

seep - A wet area where a seasonal high water table intersects with the ground surface. Seeps that meet the definition of a wetland are included in the Riparian Corridor.

selected species - Species selected as indicators of the effects of management. Term is the same as management indicator species.

selection cutting - The removal of selected trees, particularly mature trees at planned intervals (cutting cycle), individually or in small groups, from an uneven-aged forest to realize the yield, and establish a new crop of desired tree species. Additionally, the tending of immature stand components are accomplished at each cutting cycle.

sensitive species - Those species that are placed on a list by the Regional Forester for which population viability is a concern. In this Region, we generally use Natural Heritage rankings G1-3, N1-3, T1-3, or H, and USDI Fish and Wildlife Service candidates as a basis for developing the list.

sensitivity analysis - A determination of the consequences of varying the level of one or several factors while holding other factors constant.

sensitivity level - A particular degree or measure of viewer interest in the scenic qualities of the landscape.

sequential lower bounds - The maximum percent decrease in harvest volume in any decade as compared to the preceding decade. This prevents the forest from significantly decreasing its share of the market, which would violate the assumptions of the horizontal demand curve.

sequential upper bounds - The maximum percent increase in harvest volume in any decade as compared to the preceding decade. This prevents the forest from significantly increasing its share of the market, which would violate the assumptions of the horizontal demand curve.

shearing - A method used in land clearing whereby tree stems are severed at ground line by large bladed mechanisms mounted on crawler tractors (e.g.: serrated tooth V-blade or KG blade).

shelterwood - A regeneration method of regenerating an even-aged stand in which a new age class develops beneath the partially shaped microenvironment provided by the

residual trees. The sequence of treatments can include three distinct types of cuttings: (1) an optional preparatory harvest to enhance conditions for seed production; (2) an establishment harvest to prepare the seed bed, and to create a new age class; and 3) a removal harvest to release established regeneration from competition with the overwood.

shelterwood with reserves - A two-aged regeneration method in which some or all of the shelter trees are retained, well beyond the normal period of retention, to attain goals other than regeneration.

short-term facilities - Facilities developed and operated for limited resource activity or other project needs. It will cease to exist as a transportation facility after the purpose for which it was constructed is completed, and the occupied land is reclaimed and managed for natural resource purposes.

silvicultural system - A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop, and provide for regeneration and according to the type of forest thereby produced.

silviculture - The art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

silvics - The study of the life history and general characteristics of forest trees and stands, with particular reference to environmental factors, as a basis for the practice of silviculture.

single-tree selection - A regeneration method of creating new age classes in uneven-aged stands in which individual trees of all size classes are removed uniformly throughout the stand to achieve desired stand structural characteristics.

site - An area in which a plant or stand grows, considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can carry.

site class - A classification of site quality, usually expressed in terms of ranges of dominant tree height at a given age or potential mean annual increment at culmination.

site preparation - The preparation of the ground surface prior to reforestation. Various treatments are applied as needed to control vegetation that will interfere with the establishment of the new crop of trees or to expose the mineral soil sufficiently for the establishment of the species to be reproduced.

site index - A series-specific measure of actual or potential forest productivity (site quality, usually for even-aged stands), expressed in terms of the average height of trees included in a specified stand component (defined as a certain number of dominants, codominants, or the largest and tallest trees per unit area) at a specified index or base age.

site productivity class - A species-specific classification of forest land in terms of inherent capacity to grow crops of industrial, commercial wood. Usually derived from the site index.

site quality (productivity) - The productive capacity of a site, usually expressed as volume production of a given species.

skid trails - A travel way through the woods formed by loggers dragging (skidding) logs from the stump to a log landing without dropping a blade and without purposefully changing the geometric configuration of the ground over which they travel.

skidding - A term for moving logs by dragging from stump to roadside, deck, or other landing.

slash - The residue left on the ground after felling, silvicultural operations, or as a result of storm, fire, girdling, or poisoning. All vegetative debris resulting from the purchaser's operations. Slash associated with construction of roads is subject to treatment according to construction specifications, all other is subject to the terms of contract provision B/BT6.7.

snag - A dead or partially dead (more than 50 percent) hardwood or pine tree which is used by many bird species for perching, feeding, or nesting.

social analysis - An analysis of the social (as distinct from the economic and environmental) effects of a given plan or proposal for action. It includes identification and evaluation of all pertinent desirable and undesirable consequences to all segments of society, stated in some comparable quantitative terms, including persons or percent of population in each affected social segment. In addition, social analysis also includes a subjective analysis of social factors not expressible in quantitative terms.

soil enhancement - Application of methods or materials to the soil to increase its productivity and stimulate growth of vegetation.

soil productivity - The inherent capacity of a soil to support the growth of specified plants, plant communities, or a sequence of plant communities. Soil productivity may be expressed in terms of volume or weight/unit area/year, percent plant cover, or other measures of biomass accumulation.

soil survey - A term for the systematic examination of soils in the field and in laboratories; their description and classification; the mapping of kinds of soil; the interpretation of soils according to their adaptability for various crops, grasses, and trees; their behavior under use of treatment for plant production or for other purposes; and their productivity under different management systems.

soil and water resource improvement - The application of preplanned treatment measures designed to favorably change conditions of water flow, water quality, rates of soil erosion, and enhancement of soil productivity.

southern pine beetle - One of the many species of pine bark beetles that are present in the forest at all times. When environmental and forest conditions become favorable, the

beetle populations can increase and cause substantial timber losses over extensive areas in a relatively short period of time.

spatial feasibility testing - A process for verifying on a sample basis that land allocation and scheduling is actually implementable on the ground.

special concern species – Species that is federally listed as Category 2 or ranked as globally rare by state heritage programs and The Nature Conservancy. Also used by some states for any species of wild animal native or once native to the state, which is determined by the state to require monitoring.

special use authorization - A permit, term permit, or easement that allows occupancy, use, rights, or privileges of National Forest System land.

special use permit – A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

splash dams – Dams, usually temporary, built of wood across mountain streams to pond up large amounts of water.

spring - A water source located where water begins to flow from the ground due to the intersection of the water table with the ground surface. Generally flows throughout the year. Springs that are the source of perennial or intermittent streams are included in the Riparian Corridor.

stand - A contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit.

stand density - A quantitative measure of stocking expressed either absolutely per unit of land in terms of number of trees, basal area, volume per unit area, or relative to some standard condition.

stand improvement - A term comprising all intermediate cuttings made to improve the composition, structure, condition, health, and growth of even-aged, two-aged, or uneven-aged stands.

standard - Requirement that precludes or imposes limitations on resource management practices and uses. Usually for resource protection, public safety, or addressing an issue.

state, county, and municipal land - Land owned by states, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

stocking - The degree of occupancy of land by growing stock trees, measured by basal area or number of trees per unit area and spacing compared with a minimum standard - which varies by tree size and species or species group - to the occupancy that is required to fully utilize the growth potential of the land.

stratified mixture - A stand in which different tree species occupy different strata of the total crown canopy.

stratigraphic – Pertaining to strata or layers, as in a description of layers of rock types.

stratum (canopy layer) - A distinct layer of vegetation within a forest community.

Streamside Management Zones (SMZ) - Land areas adjacent to natural streams, lakes, ponds, and seeps. These zones are typically designed to reduce, minimize or prevent non-point source pollution from entering a stream system (e.g.: sediment from a road or timber harvesting activity). Specific SMZ buffer widths are often defined in State Best Management Practice handbooks.

stressors – Pressure or change brought upon an ecosystem by pollution sources including sediment, contaminants, and toxins.

successional stage - A period, marked by distinctiveness of structure, in the development of a forest community from establishment of tree regeneration to advanced age. In general, successional stages used in the Plan and EIS are defined in terms of forest age as a surrogate measure of the distinct structure at each stage as follows:

- Early – 0 to 10 years old
- Seedling/sapling – 11 to approximately 40 years old
- Mid – approximately 41 to 80 years old
- Late – over 80 years old; includes old growth.

suitability - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

suitable forest land - National Forest System land allocated by a Forest Plan decision to be managed for timber production on a regulated basis. *Regulated basis* means a systematic relationship between tree growth and timber harvest such that a specific timber volume objective level can be sustained indefinitely.

supply - The amount of a good or service that producers are willing to provide at a specified price, time period, and conditions of sale.

surficial water - Water on or at the ground surface. Does not include ditches, canals, spillways, or other human-created flow channels.

sustained yield of the products and services - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest System without impairment of the productivity of the land.

sympatric – Condition where two or more closely related species live together in the same area. The species have overlapping distributions. Opposite of allopatric.

T

targets - Objectives assigned to the forest by the Regional Plan.

taxomic – Classification of organisms into categories according to their natural relationships.

tentatively suitable forest land - National Forest System land that meets specific criteria in the implementing regulations of the National Forest Management Act (36 CFR 219.14 for further consideration during the planning process for timber production on a regulated basis. Note that “tentatively suitable land” is not the same as the allocation of the existing Forest Plan, as amended since 1985, but is identified by a reanalysis. (Also called “Phase 1 suitability” or “Stage 1 suitability” because its designation as Part “A” of a three-part process described by the text of the National Forest Management Act.) (Timber Supply/Demand).

term permit - A special-use authorization to occupy and use National Forest System land, other than rights-of-way, for a specified period. It is revocable and compensable according to its terms.

theming – A land and/or management scheme created with the list of land and/or management.

thermoelectric power water use – Water used in the process of the generation of thermoelectric power.

thinning - A cutting made to reduce stand density of trees primarily to improve growth, enhance forest health, or to recover potential mortality.

thinning interval - The period of time between successive thinning entries, usually used in connection with even-aged stands.

threatened species - Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Designated as a threatened species in the *Federal Register* by the Secretary of Interior.

tiering – A National Environmental Policy Act term used to reference the coverage of general matters in broader environmental impact statements (including national program or policy statements), with subsequent narrower statements or environmental analyses (including regional or basin-wide program statements or ultimately site-specific statements), incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

timber - Wood retaining many of the recognizable characteristics of a tree: round, bark covered, and tapering, but without the limbs and leaves. In wood-industry usage, it may be “standing timber”- that portion of living trees with characteristics of value to the wood-using industry, or cut trees not yet processed beyond removing limbs and tops.

timber demand - A relationship between stumpage or delivered log price and the quantity of timber produced.

timber product market area - The geographic area enclosed within a polygon drawn by connecting those mills buying forest timber that are the farthest away from the forest.

timber production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of forest planning, timber production does not include the production of fuelwood or harvests from unsuitable lands.

timber removals (drain) - The merchantable volume of trees removed from the inventory by harvesting, cultural operations including stand improvement, land clearing, or changes in land use expressed as an annual average between surveys. Within National Forests, removals are almost all timber harvest except that the inventory on lands withdrawn by legislative action is also normally accounted for as “removals.”

timber sale program quantity - The volume of timber planned for sale during the first decade of the planning horizon. It includes the allowable sale quantity (chargeable volume), and any additional material (non-chargeable volume), planned for sale. The timber sale program quantity is usually expressed as an annual average for the first decade.

timber stand improvement - A term comprising all intermediate cuttings made to improve the composition, constitution, condition, and increment of a timber stand.

timber supply - The amount of wood raw material available to be harvested within specified parameters of time and geographic area.

timberland - Forest land that is producing or capable of producing in excess of 20 cubic feet per acre per year of industrial wood crops under natural conditions. Not withdrawn from timber utilization, and not associated with urban or rural development. Currently, inaccessible and inoperable areas are included.

tolerance - The ability of a tree to grow satisfactorily in the shade of, and in competition with, other trees.

topography - The configuration of a land surface including its relief, elevation, and the position of its natural and human-made features.

toxicity index profile – Estimate of cumulative potential for toxic impacts in water.

traditional cultural property – A historic property that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.

trailheads - The parking, signing, and other facilities available at the terminus of a trail.

traffic service levels – Describe a road’s significant traffic characteristics and operating conditions.

transfer age – The age a stand will transfer from one Model 2 management class to another.

transfer class – A Model 2 management class that receives transferred acres. A regeneration transfer class has a transfer age of zero. All other transfer classes have an age greater than zero.

transfer columns – A column constructed the matrix generator to create special LP structures. They accumulate information from several decision variables into one column.

two-aged silvicultural system - A planned sequence of treatments designed to maintain and regenerate a stand with two age classes.

two-aged stand - A stand composed of two distinct age classes that are separated in age by more than 20 percent of rotation.

type conversion - A change from tree species or species group to another. An example is a change from hardwoods to pine.

U

undercutting (root pruning) - The root pruning of seedlings in a nursery bed.

understory - The trees and other vegetation growing under a more or less continuous cover of branches and foliage formed collectively by the upper portion (overstory) of adjacent trees and other woody growth.

uneven-aged regeneration methods - Methods of regenerating a forest stand, and maintaining an uneven-aged structure by removing some trees in all size classes either singly, in small groups, or strips. The methods are single-tree or group selection.

uneven-aged silvicultural system - A planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes.

universal soil loss equation - An equation used to estimate soil erosion rates and for the design of water erosion control systems. $A = RKLSPC$ wherein A = average annual soil loss in tons per acre per year; R = rainfall factor; K = soil erodibility factor, L = length of slope; S = percent of slope; P = conservation practice factor; and C = cropping and management factor.

unregulated forest - Commercial forest land that will not be organized for timber production under sustained-yield principles.

unsuitable forest land (not suited) - Forest land not managed for timber production because: (a) Congress, the Secretary [of Agriculture], or the Chief [of the Forest Service] has withdrawn it; (b) it is not producing or capable of producing crops of industrial wood; (c) technology is not available to prevent irreversible damage to soils productivity, or watershed conditions; (d) there is no reasonable assurance based on existing technology and knowledge, that it is possible to restock lands within five years after final harvest, as

reflected in current research and experience; (e) there is, at present, a lack of adequate information about responses to timber management activities; or (f) timber management is inconsistent with, or not cost efficient in meeting the management requirements and multiple-use objectives specified in the Forest Plan.

urban – An area characterized by a substantially urbanized environment. The background may have natural-appearing elements.

utilization standards - Measurements for standing trees that describe the minimum size tree that will be designated for sale for various products including sawtimber or small roundwood.

V

values, market - Prices of market goods and services measured in real dollars in terms of what people are willing to pay as evidenced by market transactions.

values, non-market - Prices of non-market goods and services imputed from other economic values.

variety class - A classification system for establishing three visual landscape categories according to the relative importance of the visual features. This classification system is based on the premise that all landscapes have some visual values, but those with the most variety or diversity of visual features have the greatest potential for high scenic value.

vector – A matrix composed of only one row or column.

viable population - Population of plants or animals that has the estimated numbers and distribution of reproductive individuals to ensure its continued existence is well distributed in the planning area.

viewshed - The total landscape seen, or potentially seen from all or a logical part of a travel route, use area, or water body.

visibility – As an air quality related value, this term refers to the ability of an air mass to convey the landscape image. Similar to “turbidity”, except it is a measure of air quality.

visual quality objective - A desired level of excellence based on physical and sociological characteristics of an area under the Visual Management System. Refers to the degree of acceptable alterations of the characteristic landscape. Objectives include Preservation, Retention, Partial Retention, Modification, and Maximum Modification. Except for “preservation,” each goal describes a different degree of acceptable alteration of the natural landscape based on the importance of esthetics.

visual resource - The composite of basic terrain, geological features, water features, vegetative patterns, and land-use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

W

warm water fishery - Aquatic habitats that support fish species which have their best reproductive success and summer water temperature tolerance between 75 and 85 degrees Fahrenheit (23-29 C), or about 80 degrees Fahrenheit. Examples include sunfish species, and largemouth bass.

water supply area - Areas that serve present and future municipal water supply and trout hatching or rearing operations.

water yield - The measured output of the forest's streams expressed in acre-feet. The amount or volume of water that flows in a given period of time from a watershed.

waterbars - A change in the grade of a roadbed, trail surface, or fire line used to divert water off the surface to prevent it from eroding ruts and possibly carrying sediment to a stream.

watershed - The total area above a given point on a stream that contributes water to the flow at that point.

Weeks Act - Implemented in 1911, it authorized the acquisition of lands on the watershed of navigable streams for the purposes of conserving their navigability, or for the purpose of timber.

wetlands - (pursuant to the Federal Clean Water Act) - Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances, support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas, and are found primarily within palustrine systems; but may also be within riverine, lacustrine, estuarine, and marine systems.

wild and scenic river - A river or section of river designated as such by congressional action under the Wild and Scenic Rivers Act of Oct. 2, 1968, as supplemented and amended, or those sections of a river designated as wild, scenic, or recreational by an act of the legislature of the state or states through which it flows.

wilderness - A Congressionally-designated area that is part of the National Wilderness Preservation System established through the Wilderness Act of 1964; also defined in the Act as a wilderness, in contrast with those areas where man and his own works dominate the landscape; is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean an area of underdeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions, and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size so as to make practicable its

preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Wilderness Act of 1964 – Act which gave Congress authority to designate certain areas of public land as wilderness. It established the National Wilderness Preservation System to secure an enduring resource of wilderness.

wilderness study area - One of the areas selected by the Chief of the Forest Service from an inventory of undeveloped National Forest System lands as having apparent high qualities for wilderness. Lands possessing the basic characteristics of wilderness and designated by Congress for further wilderness study. A study can determine whether they should be recommended for addition to the National Wilderness Preservation System.

wildland fire - Any non-structural fire on wildlands other than one intentionally set for management purposes. Confined to a predetermined area. Not to be confused with “fire use”, which includes prescribed fire.

wildland urban interface – The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

wildlife - All non-domesticated mammals, birds, reptiles, and amphibians living in a natural environment, including game species and non-game species. Animals, or their progeny (i.e., feral animals - including horses, burros, and hogs), that once were domesticated, but escaped captivity, are not considered wildlife.

wildlife and fish user-day – A 12-hour participation in the use of wildlife and fish primarily for consumptive or non-consumptive use including hunting, fishing, or wildlife viewing. Such use is the result of habitat management, and the populations supported by that habitat. A WFUD is counted as one day or any part of a day that the user participated in these activities. Does not include sport or commercial uses of anadromous fish.

wildlife habitat diversity - The distribution and abundance of different plant and animal communities and species within a specific area.

wildlife habitat improvement - The manipulation or maintenance of vegetation to yield desired results in terms of habitat suitable for designated wildlife species or groups of species.

wildlife tree - A den tree, snag, or mast or food tree.

with-without comparison - An evaluation that compares outputs, benefits, costs, and other effects with a base alternative.

withdrawal – Water removed from the ground or diverted from a surface water source for use.

withdrawal of land - An order removing specific land areas from availability for certain uses.

withdrawn National Forest lands - National Forest System lands segregated or otherwise withheld from settlement, sale, location, or entry under some or all of the general land laws.

woodland grazing - Grazing livestock on the grass-forbs existing under forested stands, mainly southern yellow pine types.

wrenching - The disturbance of seedling roots in a nursery bed (e.g.: with a tractor-drawn blade), with the objective of stimulating the development of a fibrous root system.

X

xeric - Pertaining to sites or habitats characterized by decidedly dry conditions.

Y

yarding - A term used to describe operations used to move logs from stump to point where logs are loaded for transport to mill. Most commonly used in cable logging operations.

yield composite - Activity and output relationships which estimate yields. They allow the development of a yield stream from a related yield stream without entering each yield coefficient independently. Yield composite relationships can be time, age, or sequence based.

yield stream - A subset of a yield table containing specific information for an activity or output. A timber output may have a yield stream for amount, diameter, basal area, or trees.

yield table - A tabular statement of outputs expected to be produced under a specific set of conditions.

Z

zone - Large, contiguous areas of land that include watersheds or management areas. It can be comprised of several complete analysis units. The land within a zone is generally a heterogenous mixture of environmental types.

zone management actions - Management actions available to zones. They contain the ability to coordinate the management activities that occur within a zone.

States that the federal government shall provide leadership in preserving, restoring and maintaining the historic and cultural environment of the Nation, and that federal agencies shall administer the cultural properties under their control in a spirit of stewardship and trusteeship for future generations; initiate measures necessary to direct their policies, plans and programs in such a way that federally owned sites, structures, and objects of historical, architectural or archaeological significance are preserved, restored and maintained for the inspiration and benefit of the people; and, in consultation with the Advisory Council on Historic Preservation, institute procedures to assure that federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures and objects of historical, architectural or archaeological significance.

EO 11990 Protection of Wetlands

<http://hydra.gsa.gov/pbs/pt/call-in/eo11990.htm>

Requires each federal agency to provide leadership and to take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for acquiring, managing, and disposing of federal lands and facilities; providing federally undertaken, financed, or assisted construction and improvements; and conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

EO 11644 (amended by EO 11989) Use of Off-Road Vehicles

<http://www.nara.gov/fedreg/codific/eos/e11644.html>

Establishes policies and provides for procedures that ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.

EO 11988 Floodplain Management

<http://hydra.gsa.gov/pbs/pt/call-in/eo11988.htm>

Requires each federal agency to provide leadership and to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for acquiring, managing, and disposing of federal lands and facilities; providing federally undertaken, financed, or assisted construction and improvements; and conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

EO 12088 Federal Compliance with Pollution Control Standards (Amended by E.O. 12580, January 23, 1987)

<http://hydra.gasa.gov/pbs/pt/call-in/eo12088.htm>

Delegates responsibility to the head of each executive agency for ensuring that all necessary actions are taken for the prevention, control, and abatement of environmental pollution. This order gives the Environmental Protection Agency

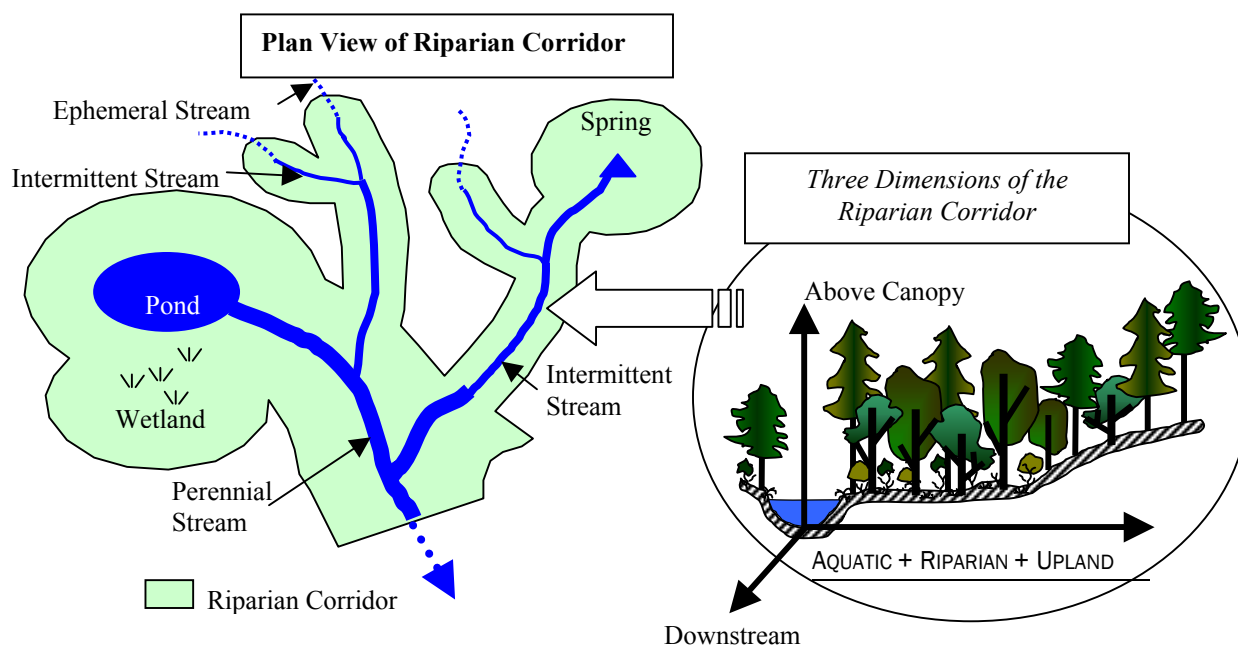
APPENDIX C

Riparian Corridors

A. Overview of Riparian Corridors

The figure below is a simplified representation of the Riparian Corridor that demonstrates its extension on both sides of a watercourse, down into the water table, and laterally around wetlands and other surface water sources. The Riparian Corridor may fall within or beyond the riparian area.

Figure 1. Simplified Representation of the Riparian Corridor



B. Operational Definition for a Riparian Area

Riparian areas are areas associated with the aquatic ecosystem and that portion of the terrestrial ecosystem that is substantially affected by the presence of surface and groundwater. Riparian areas consist of perennial streams, natural ponds, lakes, wetlands, and adjacent lands with soils, vegetation and landform indicative of high soil moisture or frequent flooding. Riparian areas have variable widths that are determined by ecologically significant boundaries rather than arbitrary distances. The extent of the riparian area is determined on the ground using features of soil, landform and vegetation. No feature is used alone to delineate these ecosystems. Characteristics indicative of these areas are:

Soils - Dark colored Entisols, Inceptisols, and Mollisols;

Landforms - the 100-year floodplain

Vegetation - the presence of wetland plants classified as obligates or facultative wetlands species as defined by the U.S. Fish and Wildlife Service in the National List of Plants that Occur in Wetlands: Northeast (Region 1). (Reed, P.B. jr. 1988).

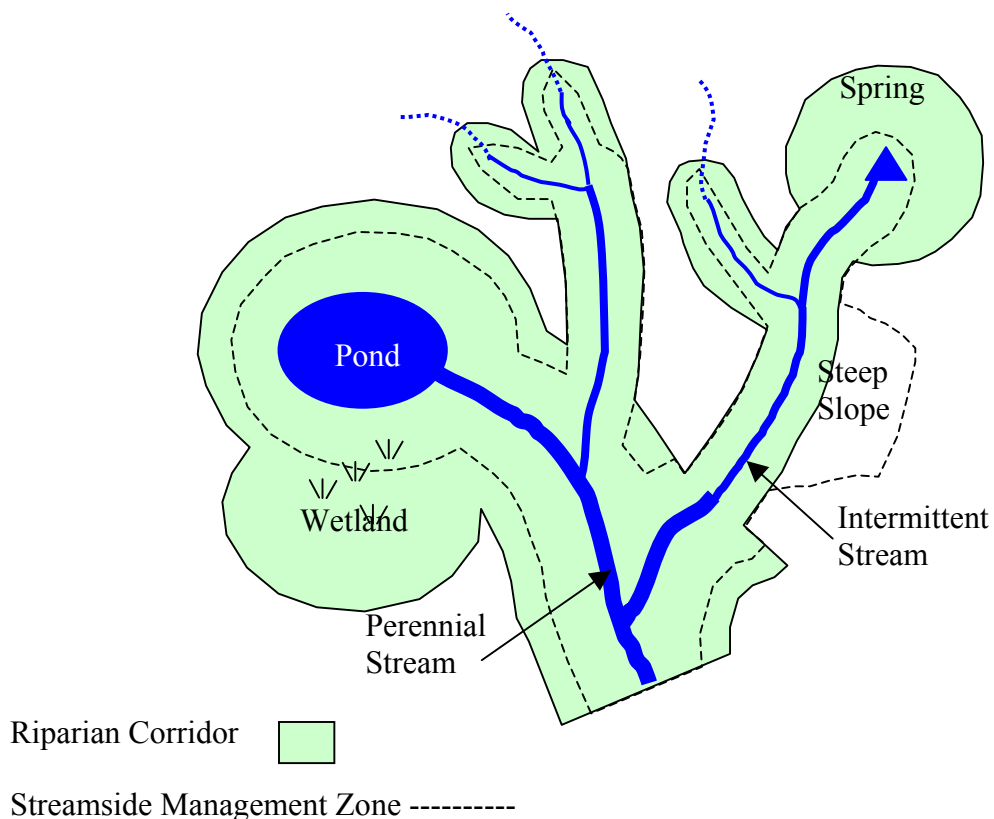
C. Relationship of Riparian Corridors with Streamside Management Zones

This Forest Plan will meet or exceed State BMPs. Current State BMP handbooks or manuals are incorporated as direction in the Forest Plan and are implemented for those resource management activities that are covered by the handbooks/manuals. Management direction for activities not included in BMP handbooks/manuals is included in the Forest Plan or this appendix.

The streamside management zones (SMZ) recommended in State BMPs are designated areas directly adjacent to streams and water bodies where land management activities are controlled or regulated to primarily protect water quality and aquatic organisms from upslope land uses. Provisions within the SMZ typically contain sediment filter strips, a base shade level, restriction on ground disturbance and protection of stream banks and streambeds. As described, Riparian Corridors are management prescription areas that maintain ecological processes and functions. SMZs may be the same width or smaller than the riparian corridor, however, in some cases they may extend beyond the corridor. (See Figure 2.)

Streamside Management Zones (SMZs) are defined as land areas adjacent to natural streams where additional precautions are used in carrying out land management activities. For purposes of simplification, stream orders are used as approximations of hydrological regimes (perennial streams are order 4 or above, intermittent streams are order 3, and ephemeral streams are equated to orders 1-2).

Relationship of Riparian Corridor to SMZ



Ephemeral Streams

Desired Conditions for Ephemeral Stream Zones

Ephemeral streams do not have true riparian areas but are hydrologically connected to perennial and intermittent streams. Ephemeral Stream Zones include and are directly adjacent to all scoured ephemeral channels. The primary purpose of this zone is to maintain the ability of the land to filter sediment from upslope disturbances while achieving the goals of the adjacent management prescription area. In addition, the emphasis along ephemeral streams is to maintain channel stability and sediment control by keeping vehicles away from stream banks and maintaining, restoring, or enhancing large woody debris. The management direction in this zone reflects the adjacent management prescription and may be modified by the Management Area as a result of watershed analysis.

APPENDIX D

Rare Community Descriptions

These community descriptions are to provide a very basic common understanding of what is covered under the 9F Rare Community Prescription. More detailed descriptions are available and will be included to guide implementation, but will be reserved for implementation documents. Even with more detailed information, in many cases, judgment by field biologists and forest botanists will be needed to identify and characterize rare communities.

Wetland Communities

Appalachian Highlands Bogs, Fens, Seeps, and Ponds

These rare communities are characterized by: 1) soils that are semi-permanently to permanently saturated as a result of groundwater seepage, perched water tables, rainfall, or beaver activity, but otherwise are generally nonalluvial, and 2) presence of wetland-associated species such as sphagnum, ferns, and sedges. Dominant vegetation may be herbs, shrubs, trees, or some complex of the three. Ponds in this group include limesink, karst, and depression ponds, which may hold areas of shallow open water for significant portions of the year. Also included are all impoundments and associated wetlands resulting from beaver activity. Artificial impoundments are not included, unless they support significant populations or associations of species at risk. These communities may be found in both the Appalachian and Piedmont regions. Primary management needs are protection from nontarget management disturbance and resource impacts, particularly to local hydrology. Periodic vegetation management may be necessary to maintain desired herbaceous and/or shrubby composition at some sites. These communities include Mafic and Calcareous Fens, Sphagnum and Shrub Bogs, Swamp Forest-Bog Complex, Mountain Ponds, Seasonally Dry Sinkhole Ponds, and Beaver Pond and Wetland Complex as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 458-15 Appalachian Highlands Wooded Depression Ponds
- 458-20 Appalachian and Interior Highlands Limesink and Karst Wooded Ponds
- 470-10 Appalachian Highlands Forested Bogs
- 470-20 Appalachian Highlands Forested Acid Seeps
- 470-50 Appalachian Highlands Forested Fens and Calcareous Seeps
- 475-10 Appalachian Highlands Acid Herbaceous Seeps
- 475-20 Appalachian Highlands Alkaline Herbaceous Fens and Seeps
- 475-30 Appalachian and Interior Highlands Herbaceous Depression Ponds and Pondshores

Appalachian Highlands Riverine Vegetation

These rare communities are characterized by: 1) sites adjacent to or within stream channels that are exposed to periodic flooding and scour, and 2) presence of significant populations or associations of species at risk. These communities may be found in both Appalachian and Piedmont regions. Primary management needs are protection from disturbance during development of road crossings, and maintenance of desirable in-stream flows. These communities include River Gravel-Cobble Bars as defined in the Southern Appalachian Assessment (SAMAB 1996), and the rare Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 457-10 Appalachian Highlands Riverine Vegetation
- 457-30 Rocky Riverbeds
- 457-40 Appalachian Highlands Riverscour Vegetation

Coastal Plain Ponds and Pond Margins

These wetland communities occur as imbedded features, usually found in pine flatwoods, in the East Gulf Coastal Plain. Cypress Ponds, Coastal Plain Vernal Pools, Gum Ponds, Bay Swamps and Shrub Bays, and Seasonally Dry Sinkhole Ponds are included as Coastal Plain Ponds and Pond Margins. They are influenced by drainage changes affected by impermeable clay lenses, slight depressions, peat accumulations, or limestone karst weathering. Surrounding higher terrain is underlain by deep sand, causing these ponds to be fed almost entirely by groundwater. These drainage changes cause seasonal, periodic, or permanent inundation. When dry, or reduced in size due to seasonal drought, these communities are subject to fires spreading from adjacent uplands. Winter fires are unlikely to burn these communities, except during extreme drought cycles. Surrounding vegetation and hydrology vary widely depending on the depth of the impermeable clay lens and the size of the watershed influencing the pond. Vegetation conditions range from cypress and gum ponds, to shrub-dominated swamps or bays, to continuous herbaceous flats or depressions.

In the field, these communities can be distinguished from surrounding forests and woodlands by a marked change in overstory composition or density, the presence of ponded water or saturated soils, and a decrease in elevation. Good examples of Coastal Plain Ponds and Pond Margins have a low incidence of exotics. Occurrences are typically small in size, ranging only up to twenty acres in size.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 340-10 – Atlantic and Gulf Coastal Plain Upland Depression Forested Ponds
 - Rufous Mayhaw Forest – CEGLO07783
 - Swamp Blackgum Depression Forest – CEGLO07434

- 340-20 – Southeastern Coastal Plain Flatwoods – Wooded Ponds and Dome Swamps
 - Swamp Blackgum/Myrtle Dahoon/Southern Waxy Sedge – Softhead Pipewort Forest – CEGLO04720
 - Pond-cypress/(Swamp Blackgum)/Swamp Dog hobble – Buttonbush – Wax-myrtle Depression Forest – CEGLO07420
 - Pond-cypress/Myrtle Dahoon/(Peatland Sedge, Pinebarren Sedge) Stringer Forest – CEGLO07419
 - Pond-cypress/Myrtle Dahoon Depression Forest – CEGLO07418
- 340-50 – Southeastern Coastal Plain Upland Depression Shrub Ponds
 - Saturated Alder Thicket – CEGLO03912
 - Pondshore Titi Thicket – CEGLO03844
- 345-05 – Southeastern Coastal Plain Open Ponds and Marshes
 - East Gulf Coastal Plain Floatingheart Pond - CEGLO04621
- 345-10 – Southeastern Coastal Plain Open Limesinks and Emergent Vegetation
 - Pineland St. John's-wort/Yellow Hatpins – Willowleaf Meadow-beauty – (Kral's Yellow-eyed-grass) Dwarf-shrubland – CEGLO04998
 - Coastal Plain Vernal Pool Depression – CEGLO04100
- 345-30 – Southeastern Coastal Plain Emergent Ponds and Marshes
 - East Gulf Coastal Plain Maidencane Pond – CEGLO07792

Coastal Plain Baygalls and Bayheads

These communities are dominated by sweetbay (*Magnolia virginiana*), redbay (*Persea borbonia*), and gallberry (*Ilex coriacea*). They may appear linearly along small stream courses or in large depressions near the head of drains. Infrequent fires during dry periods prevent this type's succession to closed canopy streamside forest.

In the field, coastal plain baygalls and bayheads can be distinguished from surrounding forests and woodlands by a decrease in elevation, an increase in shrub density, a change in overstory composition to predominately bays, and the presence of water, inundated soils, and moist conditions even during dry periods. Good examples of coastal plain baygalls and bayheads have a low incidence of exotic species. Occurrences are typically small in size ranging up to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 360-10 – Southeastern Coastal Plain Baygalls and Bayheads
 - Black Titi/Shining Fetterbush – Blaspheme-vine Forest – CEGLO07042
 - Shrub Titi Swamp – CEGLO03847
 - Sweetbay – Swamp Blackgum – Southern Magnolia/Big Gallberry – Southern Wild Raisin/Bayhead Goldenrod Forest – CEGLO07473
 - Atlantic/East Gulf Coastal Plain Sweetbay – Blackgum Streamhead Forest – CEGLO04722
 - Atlantic/East Gulf Coastal Plain Sweetbay-Blackgum Seepage Forest – CEGLO08552

Upper East Gulf Coastal Plain Mountain Laurel Hillside Seepage Bog –
CEGL008548**Coastal Plain Seepage Bogs**

Coastal Plain seepage bogs occur in a pine flatwoods landscape, on very gently sloping to almost level topography, and often have a sparse canopy (typically 5%-10% cover) of stunted longleaf (*Pinus palustris*) and slash (*Pinus elliottii* var. *elliottii*) pines. Characteristic species include wiregrass (*Aristida beyrichiana*), feather bristle beaksedge (*Rhynchospora oligantha*), Florida dropseed (*Sporobolus floridana*) (rarely), crimson pitcherplant (*Sarracenia leucophylla*), and parrot pitcherplant (*Sarracenia psittacina*). Patchy shrubs include woolly huckleberry (*Gaylussacia mosieri*), inkberry (*Ilex glabra*), wax myrtle (*Morella carolinensis* [= *Myrica heterophylla*]), fetterbush (*Lyonia lucida*), coastal sweet pepperbush (*Clethra alnifolia*), St. John's wort (*Hypericum* spp.), buckwheat tree (*Cliftonia monophylla*), and laurel greenbriar (*Smilax laurifolia*).

In the field, coastal plain seepage bogs can be distinguished from surrounding forests and woodlands by a drastic reduction in overstory density, the presence of wet or inundated soils, pitcherplants and other insectivorous plants, and stunted overstory trees. Good examples of coastal plain seepage bogs have a low incidence of non-native species and include wiregrass (*Aristida beyrichiana*) in the herbaceous layer. Occurrences are typically small in size, but may range up to twenty acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

347-10 – Southeastern Coastal Plain Herbaceous Seepage Bogs
East Gulf Coastal Plain Wet Flatwood Bog – CEGLO04154

Forest Communities**Basic Mesic Forests**

These communities are characterized by closed-canopy deciduous overstories and rich and diverse understories of calciphilic herbs, underlain by high-base geologic substrates. On moderate to high elevation sites, these communities are typically found in protected coves, and can be distinguished from more acidic mesic cove forests by the abundance of species such as white basswood (*Tilia americana*), yellow buckeye (*Aesculus flava*), black walnut (*Juglans nigra*), faded trillium (*Trillium discolor*), sweet white trillium (*Trillium simile*), black cohosh (*Cimicifuga racemosa*), blue cohosh (*Caulophyllum thalictroides*), whorled horsebalm (*Collinsonia verticillata*), mock orange (*Philadelphus inodorus*), sweet shrub (*Calycanthus floridus*), sweet cicely (*Ozmorhiza* spp.), doll's eyes (*Actaea racemosa*), maidenhair fern (*Adiantum pedatum*), and plantain-leaved sedge (*Carex plantaginea*). Good examples of moderate and high elevation basic mesic forests have a low incidence of white pine (*Pinus strobus*), eastern hemlock (*Tsuga canadensis*), rhododendron

(*Rhododendron* spp.), and Christmas fern (*Polystichum acrostichoides*). An oak-dominated variant of moderate to high elevation basic mesic forest occurs over limestone on upper to mid slopes of the Interior Plateau of Tennessee, the Cumberlands of Alabama, and the Ridge and Valley of Georgia. This basic mesic community is dominated or codominated by shumard oak (*Quercus shumardii*) or chinquapin oak (*Quercus muehlenbergii*), in combination with various species of oaks and hickories and either sugar maple (*Acer saccharum*), chalk maple (*Acer leucoderme*), or southern sugar maple (*Acer barbatum*). Typical calciphilic understory species also are present. On lower elevation sites, these communities are more typically found on north slopes, where dominant and characteristic overstory species are American beech (*Fagus grandifolia*) and northern red oak (*Quercus rubra*), with tulip poplar (*Liriodendron tulipifera*), white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), or white ash (*Fraxinus americana*), with southern sugar maple, chalk maple, painted buckeye (*Aesculus sylvatica*), and pawpaw (*Asimina triloba*) in the midstory and shrub layers, and understories that include faded trillium, nodding trillium (*Trillium rugelii*), black cohosh, doll's eyes, foam flower (*Tiarella cordifolia* var. *collina*), bloodroot (*Sanguinaria canadensis*), bellworts (*Uvularia* spp.) and trout lilies (*Erythronium* spp.). Good examples of low elevation basic mesic forests have a low incidence of sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and exotics such as Japanese honeysuckle (*Lonicera japonica*) or Chinese privet (*Lingustrum vulgare*). Basic mesic forest communities are found in both the Appalachian and Piedmont regions. Only prime examples of these communities, as identified in the forest-wide rare community database, are managed under the Rare Community Prescription. Primary management needs are protection from non-target management disturbance. This community includes the following Associations defined by NatureServe (2001a, 2001b):

CEGL007711	Southern Appalachian Cove Forest (Rich Foothills Type),
CEGL007695	Southern Appalachian Cove Forest (Rich Montane Type),
CEGL008442	Shumard Oak-Chinquapin Oak Mesic Limestone Forest
CEGL008466	Basic Piedmont Mesic Mixed Hardwood Forest
CEGL008488	Southern Ridge and Valley Basic Mesic Hardwood Forest
CEGL004542	Piedmont Rocky Mesic Mafic Forest.

Atlantic White Cedar Swamp

This forest, or forested wetland community, occurs along streams or in basins in the East Gulf Coastal Plain of Alabama, Florida and Mississippi. Dominant and characteristic species are Atlantic white cedar (*Chamaecyparis thyoides*), slash pine (*Pinus elliotii*), swamp blackgum (*Nyssa biflora*), magnolia (*Magnolia grandiflora*), and Cliftonia (*Cliftonia monophylla*) in the overstory. The shrub layer is fairly open to very dense. Understory species include titi (*Cyrilla racemiflora*), Cliftonia (*Cliftonia monophylla*), fetterbush (*Lyonia lucida*), large gallberry (*Ilex coriacea*), inkberry (*Ilex glabra*), and saw palmetto (*Serenoa repens*). Herbaceous density and composition varies with site hydrology, litter depth, and fire history. Herbaceous species found include, beak rush (*Rhynchospora* spp.), Southern long sedge (*Carex lonchocarpa*),

netted chain-fern (*Woodwardia areolata*), sweet pitcherplant (*Sarracenia rubra*), sphagnum mosses (*Sphagnum* spp.), goldenclub (*Orontium aquaticum*), partridge berry (*Mitchella repens*), sundews (*Drosera* spp.), cinnamon fern (*Osmunda cinnamomea*), and royal fern (*Osmunda regalis*).

In the field, Atlantic white cedar swamp can be distinguished from drier surrounding sites by the presence of moist or saturated soils. This condition is obvious during the late winter and early spring when high rainfall levels and low evapotranspiration may allow ponding of water. The presence of Atlantic white cedar is adequate to denote the community. A range of understory conditions is possible: 1) It can be found in saturated basins or hummocks in which a heavy peat or muck layer overlies the sandy subsoil. This condition leads to a sparse herbaceous layer and a community dominated by trees. 2) Linear occurrences along streams in saturated, highly acid, coarse sandy situations lead to sparsely forested woodlands dominated by shrubs or herbaceous ground covers. 3) Occurrences along blackwater streamsides and springheads of uneven-aged mixed forests with well-developed shrub and herbaceous strata. Occurrences are typically small in size ranging from five to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 360-20 - Southeastern Coastal Plain Streamhead Atlantic White Cedar Forests.
- Atlantic White Cedar-Slash Pine/Swamp Blackgum-Carolina Red Maple/Saw Palmetto Forest - CEGLO07145
- Steephead White Cedar Woodland - CEGLO03634
- Gulf Coastal Plain Streamside White-cedar Swamp - CEGLO07151

Wet Pine Flatwoods

This woodland community occurs in the East Gulf Coastal Plain, on low, flat terrain. It is usually dominated by slash pine (*Pinus elliottii*). Wiregrass (*Aristida stricta* var. *beyrichiana*) is a frequent groundcover, with pitcher plant bogs imbedded sporadically throughout the community. Pools, ponds, and bogs occur in the depressions in this terrain.

In the field, wet pine flatwoods can be distinguished from surrounding forests and woodlands by a reduction in overstory density, the presence of seasonally wet or inundated soils, a transition into low, relatively flat, poorly drained terrain. Good examples of wet pine flatwoods have a low incidence of exotic species, and a high likelihood of imbedded bog communities. Surface rutting or compaction has not affected drainage. Feral hog, cattle, and horse populations, if present, are managed to keep their effects to species composition and hydrology, minimal. Occurrences can range in size up to several hundred acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

330-20(in part) – Southeastern Coastal Plain Wet Slash Pine Savannas and Flatwoods
Slash Pine/Saw Palmetto – Little Gallberry Woodland – CEGLO03653

Pine Savannas and Woodlands

This open woodland community may have an overstory composed of slash (*Pinus elliottii*), pond (*Pinus serotina*) or longleaf (*Pinus taeda*) pine. Low tree density and a sparse shrub layer are characteristic of this shallowly inundated or wet community. Topography may be nearly flat seepage areas or slight depressions in deep sands or peat over a clay lens. The shrub stratum may be dense or sparse, and may consist of inkberry (*Ilex glabra*), titi (*Cyrilla racemiflora*), and saw palmetto (*Serenoa repens*). The rich and diverse herbaceous layer consists of wiregrass (*Aristida beyrichiana*), feather bristle beaksedge (*Rynchospora oligantha*), toothache grass (*Ctenium aromaticum*), Gulf chaffhead (*Carphephorus pseudoliatris*), and several pitcherplants including trumpet pitcherplant (*Sarracenia alata*).

In the field, pine savannas can be differentiated from surrounding upland habitats by a reduction in overstory density and elevation, wet or inundated ground conditions, scattered shrubs and a continuous herbaceous understory. Very slight topographic changes result in savannas and their sizes can range up to several hundred acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

330-10 – Southeastern Coastal Plain Longleaf Savannas and Flatwoods
East Gulf Coastal Plain Longleaf Pine Savanna – CEGLO03645
Longleaf Pine/Saw Palmetto – Little Gallberry Woodland – CEGLO03653
330-20(in part) – Southeastern Coastal Plain Wet Slash Pine Savannas and Flatwoods
Slash Pine-Pond Cypress Saturated Woodland - CEGLO04768
Slash Pine (Pond Pine)/Southern Wiregrass-Feather-Bristle Beaksedge-
(Yellow Pitcherplant, Hooded Pitcherplant, Parrot Pitcherplant) Woodland -
CEGLO03673
Slash Pine Titi Swamp - CEGLO03638
Slash Pine/Saw Palmetto-Little Gallberry Woodland - CEGLO03643

Xeric Sandhills

This community occurs in the East Gulf Coastal Plain, where it is restricted to extremely deep sandy soils. It is distinctive for its lack of wiregrass due to the extreme edaphic conditions. This sandhill association is widespread on Lakeland soils. Longleaf pine dominates the canopy, with 10-30% coverage. The understory of scrub oaks, mainly turkey oak (*Quercus laevis*), but also bluejack oak (*Quercus incana*), sand live oak (*Quercus geminata*) and sand post oak (*Quercus boyntonii*), is

highly variable, from shrubs to small trees (depending on interval, season, and pattern of fire), and from very sparse to very dense. Hawthorn (*Crataegus lacrimata*) and gopher apple (*Licania michauxii*) are typically present as low shrubs. Little bluestem (*Schizachyrium scoparium*), three-awn grasses (*Aristida* spp.), and goat's rue (*Tephrosia* spp.), may be contained in the herbaceous stratum.

In the field, xeric sandhills can be distinguished from surrounding forests and woodlands by an increase in elevation, extremely deep sandy soils, low overstory density, and the small, shrubby, growth form of oak species in the area. Good examples of xeric sandhills have a low incidence of sweetgum (*Liquidambar styraciflua*), loblolly pine (*Pinus taeda*), and exotics such as Japanese honeysuckle (*Lonicera japonica*) or Chinese privet (*Ligustrum sinense*). Occurrences are typically small in size, ranging up to ten acres.

This community includes the following rare associations identified and defined by NatureServe¹ (2001):

- 320-10 – Southeastern Coastal Plain Xeric Longleaf Pine Sandhill/Pinelands
- East Gulf Coastal Plain Xeric Longleaf Pine Sandhills – CEGLO03587
- Longleaf Pine/Turkey Oak/Gopher-Apple/Southern Wiregrass – Sandhill
- Croton Woodland – CEGLO03583

Cliffs and Rock Outcrops

Talus Slopes

This community is characterized by nonvegetated or sparsely vegetated accumulations of rock at 2,500 to 4,600 feet elevation. It is found in the Appalachian region. It is distinguished from Forested Boulderfields by the lack its lack of trees. It is distinguished from rocky summits by its occurrence on side slopes as opposed to ridges and peaks. Primary management needs are protection from nontarget management disturbance. This community includes Talus Slopes as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Group as defined by NatureServe (2001a):

- 430-10 Eastern Acid Talus

Forested Boulderfields

This community is characterized by rock fields, normally found at 3,500 to 5,300 feet elevation, but including a subset below that elevation for Alabama, that support a variable density of trees, typically dominated by yellow birch. In Alabama it is also interspersed with longleaf and virginia pines. It is distinguished from talus slopes by the presence of trees. It is found in the Appalachian region. Primary management needs are protection from nontarget management disturbance. This community includes Boulderfields as defined in the Southern Appalachian Assessment (SAMAB 1996), and the following Associations as defined by NatureServe (2001a, 2001b):

- CEGL004982 Southern Appalachian Hardwood Boulderfield Forest (Typic Type)
- CEGL006124 Southern Appalachian Boulderfield Forest (Currant and Rockcap Fern Type)

Cliffs and Bluffs

These communities are characterized by steep, rocky, sparsely-vegetated slopes, usually above streams or rivers. Cliff communities may be dry or wet, and include communities associated with waterfalls, such as spray cliffs and rock houses. These communities are found in the Appalachian region. Primary management needs are protection from management disturbance and maintenance of hydrology near wet cliffs. This community includes Calcareous Cliffs, Mafic Cliffs, Sandstone Cliffs, and Spray Cliffs as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 430-40 Eastern Dry Acid Cliffs
- 430-45 Eastern Moist Acid Cliffs
- 430-50 Eastern Dry Alkaline Cliffs
- 430-55 Eastern Moist Alkaline Cliffs
- 430-60 Appalachian Highlands Northern White-Cedar Bluffs
- 430-65 Appalachian Highlands Rock Houses

Rock Outcrops

These communities are characterized by significant areas of exposed, usually smooth, exfoliating granite or related rocks, with scattered vegetation mats and abundant lichens. These communities are found in both the Appalachian and Piedmont regions. Primary management needs are protection from nontarget management disturbance and recreational impacts. This community includes Granitic Dome and Granitic Flatrock as defined in the Southern Appalachian Assessment (SAMAB 1996), and all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 435-10 Appalachian Highlands Granitic Domes
- 435-20 Appalachian Highlands Granitic Flatrock

Other Communities

Glades, Barrens, and Associated Woodlands

These communities are characterized by thin soils and exposed parent material that result in localized complexes of bare soil and rock, herbaceous and/or shrubby vegetation, and thin, often stunted woods. During wet periods they may include scattered shallow pools or areas of seepage. They vary widely in species composition depending on the type of underlying parent material. They differ from rock outcrop

communities by exhibiting some level of soil and vegetation over the majority of the site. Field delineations should include the entire complex of characteristic vegetation composition and structure. These communities may be found in both Appalachian and Piedmont regions. Primary management needs are protection from nontarget management disturbance and recreational impacts. Periodic vegetation management, especially prescribed fire, may be necessary to maintain or restore desired herbaceous and/or shrubby composition. These communities include Calcareous Woodlands and Glades, Mafic Woodlands and Glades, Serpentine Woodlands and Glades, and Shale Barrens as defined in the Southern Appalachian Assessment (SAMAB 1996), and the rare Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 401-17 Appalachian Highlands Calcareous/Circumneutral Dry-Mesic Hardwood Forests and Woodlands
- 440-05 Appalachian Highlands Carbonate Glades and Barrens
- 440-10 Interior Highlands Carbonate Glades and Barrens
- 440-25 Appalachian Sandstone Glades and Barrens
- 440-40 Appalachian Shale Glades and Barrens
- 440-65 Appalachian Serpentine Woodlands
- 440-80 Appalachian Mafic Igneous/Metamorphic Glades and Barrens

Patch Prairies and Grasslands

These communities occur on dry upland sites and are characterized by dominance of grasses and herbs, though scattered trees may be present. These communities represent remnants of naturally occurring grasslands historically maintained by fire and other natural forces, as opposed to old fields. Provisions of the Rare Community Prescription apply only to prime examples that support significant populations or associations of species at risk. Other natural grasslands will be restored and maintained within complexes of open woodlands. These communities are found in both the Appalachian and Piedmont regions. Primary management needs are maintenance and restoration using a variety of vegetation management methods including prescribed fire. These communities include all Associations within the following Ecological Groups as defined by NatureServe (2001a):

- 445-10 Interior Highlands Patch Prairies and Grasslands

Canebrakes

This community is characterized by almost monotypic stands of giant or switch cane (*Arundinaria gigantea*), usually with no or low densities of overstory tree canopy. It is typically found in bottomlands or stream terraces. Although cane is found commonly as an understory component on these sites, provisions of the Rare Community Prescription apply only to larger patches (generally greater than 0.25 acres) exhibiting high densities that result in nearly monotypic conditions, or to areas selected for restoration of such conditions. This community is found in the Appalachian, Piedmont, and Coastal Plain regions. Primary management needs are restoration and maintenance through overstory reduction and periodic prescribed

fire. Although several Associations described by NatureServe (2001a, 2001b) include cane as a major component, this community most closely corresponds to:

CEGL003836 Floodplain Canebrake

Caves and Mines

This community is characterized by natural and human-made openings in the ground that extend beyond the zone of light, creating sites buffered in relation to the outside environment. Included are karst and sinkhole features that lead to such subterranean environments. Provisions of the Rare Community Prescription apply only to those sites supporting cave-associated species. This community is found in the Appalachian region. Primary management needs are protection from nontarget management disturbance and recreational impacts, and maintaining quality of water flowing into underground streams.

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APPENDIX E

Suitability for Timber Production, Timber Sale Program, and Appropriate Silvicultural Practices

NFMA regulations (36 CFR 219.14) require that lands not suitable for timber production be identified. This process involves three stages of analysis. Stage I analysis identifies lands tentatively suitable for timber production. Stage II explores the financial aspect of varying intensities of timber management on lands identified as tentatively suitable from Stage I. Stage III identifies lands as unsuited for timber production under the alternative selected in the Revised Forest Land And Resource Management Plan.

Stage I: Physical Suitability

- Stage I analysis involves these categories:
- Lands that do not meet the definition of forestland.
- Lands that have been administratively or congressionally withdrawn from timber production by and act of Congress, the secretary of agriculture, or the chief of the forest service.
- Lands incapable of producing industrial wood.
- Lands where technology is not available to ensure timber production without irreversible damage to soils productivity, or watershed conditions
- Lands where there is no reasonable assurance of adequate restocking.
- Lands where there is inadequate information.

Table E-1 displays the stage I analysis for the National Forests in Alabama by Management Area.

Table E-1: Stage I Suitability Analysis – Tentatively Suitable Acres

Stage I – Suitability	Bankhead	Conecuh	Oakmulgee	Talladega	Tuskegee	NFsAL
Total Acres	181,808	83,991	157,700	230,516	11,211	665,226
Wilderness*	-21,570	0	0	-15,897	0	-37,467
WSR*	-8514	0	0	0	0	-8,514
RNA*	0	0	-602	0	0	-602
Water	-1249	-338	0	-2338	-76	-4,001
Non-forest	-3450	-1194	-2024	-3534	-350	-10,552
Incapable	-1531	-461	0	0	0	-1,992
Unproductive	-73	0	0	-104	0	-177
Sensitive Soils	-1218	-12,600	-10,438	-56	-62	-24,374
Tentatively Suitable	144,203	69,398	144,636	208,587	10,723	577,547

Stage II: Financial Analysis

Stage II does not identify any lands as unsuitable for timber production, but explores the financial efficiency of different intensities of management on lands identified as tentatively suitable in stage I. For more information on the Stage II analysis, see Appendix B of the Final Environmental Impact Statement (FEIS).

Stage III: Identification of Suitable Acres

Stage III analysis is accomplished during the formulation and evaluation of alternatives and considers the results of the Stage II analysis. Lands are identified as not appropriate for timber production to meet the objectives of alternative being considered if:

1. Based upon consideration of multiple-use objectives for the alternative, the land is proposed for resource uses that preclude timber production. However, in some management prescriptions that are classified as unsuitable for timber production, timber harvest may occur to meet the desired condition of other resources.
2. Other management objectives for the alternative limit timber production activities to the point where management requirements set forth in 36 CFR 219.27 cannot be met.
3. The lands are not cost-efficient, over the planning horizon, in meeting forest objectives, which includes timber production.

The following tables display the results of the Stage III analysis for the preferred alternative.

Table E-2: Total Acres by Unit in Alternative I

	Bankhead	Conecuh	Oakmulgee	Talladega	Tuskegee	NFsAL
Tentatively Suitable	144,203	69,398	144,636	208,587	10,723	577,547
Riparian	-14,995	-13,317	-31,040	-20,382	-1897	-81,631
Steep Slopes	-5941	0	-2387	-32,974	0	-41,302
RCW, TES	0	-2515	-6694	-8010	0	-17,219
Uninventoried	-1351	0	0	-2555	0	-3,906
Total	121,916	53,566	104,515	144,666	8,826	433,489

Table E-3: Suitable Acres by Unit for Alternative I

Preferred Alt	Bankhead	Conecuh	Oakmulgee	Talladega	Tuskegee	NFsAL
Total	121,916	53,566	104,515	144,666	8,826	433,489
12A/12B Remote	-4234	0	0	-9324	0	-13558
1B Recommended Wilderness	0	0	0	-832	0	-832
2C Eligible WSR	0	-89	0	0	0	-89
4C Geologic Area	0	-46	0	0	0	-46
4D Botanical	-1848	-23	0	0	-52	-1923
4E Heritage	-12,020	0	0	0	-8	-12028
4I Natural Area	0	-258	0	0	0	-258
4 -Canyon corridor	-2165	0	0	0	0	-2165
Bogs	0	-57	0	0	0	-57
0. Custodial	-899	0	0	-283	0	-1182
7D Developed Rec.	-2493	-1090	-458	-493	-66	-4600
7A Scenic Byway Corridor	0	0	0	-2818	0	-2818
7B Scenic View Shed	0	0	0	-4290	-163	-4453
Total Suitable	98,257	52,003	104,057	126,626	8,537	389,480

Timber Sale Program

NFMA regulations (36 CFR 219.16) require that “In a forest plan, the selected forest management alternative include a sale schedule which provides the allowable sale quantity.” The following table shows the allowable sale quantity (ASQ) calculated by the Spectrum linear programming model. The ASQ only considers volume from lands suitable for timber production. Estimated sale quantity represents volume realized from management activities on lands unsuitable for timber production and is also included in the following table.

**Table E-4: Total Timber Sale Program
(Million Cubic Feet)**

	Period				
	1	2	3	4	5
ASQ Allowable Sale Quantity (Suitable)	85.3	155.8	157.5	160.0	166.0
ESQ Estimate Sale Quantity (unsuitable)	5.9	16.2	14.5	12.0	6.1
Total Timber Sale Program	91.2	172.0	172.0	172.0	172.1

Vegetation Management Practices

Introduction

The purpose of this appendix is to describe the silvicultural systems, and associated harvest and reforestation methods and other vegetation management practices for the management of the National Forests in Alabama. This information complies with CFR 219.15. Vegetation practices are described, as are applicable circumstances for application, however specific conditions will be addressed at the site-specific, project level. Standards that apply to these practices are detailed in the plan.

Forest stands are constantly changing over time, as trees grow, die and are replaced by other vegetation. These characteristic patterns of vegetation change, or successional trends, are specific to each forest type and are further influenced by site conditions such as soil type, aspect, and elevation. Natural processes such as fire, windstorms, floods, insect attacks, and disease have been evolutionary factors in forests. Forests have evolved to regenerate in the aftermath of these events.

Humans have altered forest ecosystems by logging, road construction, hunting and other recreation, fire suppression, human-caused wild fires, introduction of non-native plants, etc. The National Forests in Alabama have been shaped by extensive clearing of the land for agriculture in the 1800's, logging and wildfires in the early 1900's, and extensive reforestation with loblolly pine during the mid 1900's.

Restoration and maintenance of forest ecosystems is the focus of the management on the National Forests in Alabama. Of particular concern are loblolly pine, shortleaf pine, and slash pine plantations occupying sites that are better suited to longleaf pine ecosystems or other communities. Restoration projects use classic silvicultural systems and modified silvicultural treatments to achieve forest plan objectives.

Silvicultural Systems

Silviculture is defined as the art and science of controlling the establishment, growth, composition, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis. A silvicultural system is a planned series of treatments for tending, harvesting and re-establishing a stand. It includes regeneration methods and intermediate treatments. The proper choice of silvicultural treatments depends on the community type, ecology of the tree species, forest conditions, wildlife habitat needs, and management prescription applied. The system evolves over time as circumstances change and knowledge improves.

The term silvicultural system designates a planned program of land management treatments, i.e., silvicultural practices, during the entire life of a stand to meet both short term and long-range forest plan objectives. Achievement of stand management objectives is determined by the forests' desired future conditions. Desired conditions are described for the National Forests in Alabama at the forest, the management area, and at the management prescription level. Silvicultural treatments are designed to take the forest from the existing conditions toward the desired future condition.

Even-aged Management - An even-aged system strives to maintain and regenerate stands with one age class. Even-aged systems create site conditions similar to large-scale disturbances. If graphed, the diameter distribution, of the dominant stems, in even-aged stands produces a bell shaped curve. Shade tolerant understory trees such as dogwood are not considered part of the dominant stand type.

Even-aged stands often have an uneven-aged appearance. Shade tolerant trees in the mid- and understory, intermediate and suppressed trees of smaller diameters appear to be of different ages. However, upon closer study the suppressed and intermediate trees are the same age as the dominant and co-dominant trees.

Regeneration methods for even-aged management are clearcut, shelterwood, and seed tree.

Regeneration Methods

Clearcut – Clearcutting is the most easily recognized method of regeneration. It mimics natural disaster by removing essentially all of the overstory trees from the site. The objective of clearcutting is to regenerate an even-aged stand. Clearcutting provides favorable conditions for the establishment of shade intolerant tree species. Regeneration of the site following clearcutting can be from natural seeding, advanced reproduction, or planted seedlings. For restoration, clearcutting is often used where a natural seed source for the desired species is unavailable and is followed by planting seedlings.

Seed tree – Seed tree is the harvesting of all trees except for a small number of widely dispersed trees retained for seed production and to produce a new age class.

Generally about 6 to 10 trees per acre of the desired species are left as seed trees. This method is generally used where good seed trees exist and where natural regeneration is likely to be successful. Seed trees are usually removed after regeneration is established. Regeneration of the site following seed tree would be from natural seeding. Spot planting of seedlings in areas not adequately stocked may occur.

Shelterwood – Shelterwood is the cutting of most trees, leaving those needed to produce sufficient shade to produce a new age class. The shelterwood may be implemented in two or three stages. A three-stage shelterwood has a prep-cut, a seed cut and a removal cut. The prep-cut provides for the development of crowns of the seed trees to produce seed. A two-stage shelterwood would only have a seed cut and a removal cut. Generally 10 to 15 trees per acre for the desired species are left in the seed cut. The shelterwood method is more suited to those species that are somewhat shade tolerant and less suited to shade intolerant species. As with seed tree, regeneration following shelterwood would be from natural seeding. Spot planting of seedlings in areas not adequately stocked may occur.

Site Preparation – Site preparation usually occurs following the regeneration harvest. The treatments are designed to enhance successful regeneration by preparing the forest floor. Most treatments will reduce undesirable vegetation, re-distribute dead vegetation, and expose some mineral soil. Methods of site preparation include manual, mechanical, prescribed fire, chemical treatments or combinations of these. The use of mechanical site preparation on shelterwood sites may be limited due to equipment size and potential damage to residual trees.

Intermediate Treatments

Prescribed burning – Many of the forest communities of the National Forest in Alabama have long ecological association with fire. However, for many years fire has been excluded or reduced. Ongoing and planned restoration and maintenance projects include the increased frequency of prescribed fire and in some cases the re-introduction of prescribed fire. Prescribed fire is used for site preparation, control of understory and ground vegetation, fuel reduction, and to stimulate the growth of grasses and other fire evolved species. Once a stand is established and attains a size that can withstand prescribed burning, the frequency of burning may be as often as every 2 years.

Pre-commercial Thinning/Release – Pre-commercial thinning treatments are designed to reduce stocking. Release treatments are designed to free trees from competing vegetation. These treatments usually occur soon after stand establishment prior to any stand material reaching a merchantable size. The treatments may be manual, mechanical, or chemical. Pre-commercial thinning is often necessary in stands with natural regeneration because of high numbers of natural stems, which sometime occur in clumps.

Thinning – Thinning is an intermediate stand treatment in even-aged management, made to reduce the density of trees within a stand. Thinning is done primarily to improve growth, enhance forest health, or recover potential mortality, however, thinning may also be done to improve stand structure, enhance visuals or for wildlife habitat improvement. Depending on the objective, trees may be removed from the main canopy (from above), from the lower crown classes (from below), from specific species group, in rows, in strips or by using fixed spacing intervals.

Two-aged Management - A two-aged system is designed to maintain and regenerate a stand with two or more age classes. The primary silvicultural system used on the National Forests in Alabama is two-aged management. Even-aged regeneration methods have been modified to leave reserve trees for various purposes, such as visuals or wildlife browse. The result is a two-age condition.

Regeneration Methods

Clearcut with reserves – **Clearcutting with reserves** leaves varying numbers of reserve trees to attain goals other than regeneration. For example, in loblolly pine stands being restored to longleaf pine, existing longleaf trees on the site would be retained indefinitely. Regeneration of the site following clearcutting can be from natural seeding, advanced reproduction, or planted seedlings. For restoration, clearcutting with reserves is often used where a natural seed source for the desired species is unavailable but desired reserve trees are available. Generally site preparation and planting follow harvest.

Seed tree with reserves – **Seed tree with reserves** retains some or all of the seed trees indefinitely for purposes other than regeneration. Regeneration of the site following seed tree would be from natural seeding. Spot planting of seedlings in areas not adequately stocked may occur.

Shelterwood with reserves – A **shelterwood with reserves** retains some or all of the seed trees indefinitely for purposes other than regeneration. As with seed tree, regeneration following shelterwood would be from natural seeding. Spot planting of seedlings in areas not adequately stocked may occur.

Reserves – On the National Forests in Alabama reserve trees are typically any trees of the desired species, relic longleaf pine, hickory, dogwood, or any trees designated for wildlife or aesthetic value. Reserve trees are maintained where available, however in some situations reserves trees are not available or would be a safety hazard to leave. Decisions in these situations are made on a site-specific, case-by-case basis.

Site Preparation – Site preparation usually occurs following the regeneration harvest. The treatments are designed to enhance successful regeneration by preparing the forest floor. Most treatments will reduce undesirable vegetation, re-distribute dead vegetation, and expose some mineral soil. Methods of site preparation include manual, mechanical, prescribed fire, chemical treatments or combinations of

these. The use of mechanical site preparation on shelterwood sites may be limited due to equipment size and potential damage to residual trees.

Intermediate Treatments

Prescribed burning – Many of the forest communities of the National Forest in Alabama have long ecological association with fire. However, for many years fire has been excluded or reduced. Ongoing and planned restoration and maintenance projects include the increased frequency of prescribed fire and in some cases the reintroduction of prescribed fire. Prescribed fire is used for site preparation, control of understory and ground vegetation, fuel reduction, and to stimulate the growth of grasses and other fire evolved species. Once a stand is established and attains a size that can withstand prescribed burning, the frequency of burning may be as often as every 2 years.

Pre-commercial Thinning/Release – Pre-commercial thinning treatments are designed to reduce stocking. Release treatments are designed to free trees from competing vegetation. These treatments usually occur soon after stand establishment prior to any stand material reaching a merchantable size. The treatments may be manual, mechanical, or chemical. Pre-commercial thinning is often necessary in stands with natural regeneration because of high numbers of natural stems, which sometime occur in clumps.

Thinning – Thinning is an intermediate stand treatment in even-aged management, made to reduce the density of trees within a stand. Thinning is done primarily to improve growth, enhance forest health, or recover potential mortality, however, thinning may also be done to improve stand structure, enhance visuals or for wildlife habitat improvement. Depending on the objective, trees may be removed from the main canopy (from above), from the lower crown classes (from below), from specific species group, in rows, in strips or by using fixed spacing intervals

Uneven-aged Management - An uneven-aged system is designed to maintain and regenerate a stand with three or more age classes. Uneven-aged systems create site conditions similar to small-scale disturbances. In uneven-aged stands the largest number of stems, of the dominant forest type, is in the smallest diameters decreasing in number as the diameter increases. If graphed, the diameter distribution produces a reverse J shaped curve. These stands have great variety of stem density, tree heights and continuity of canopy. Regeneration methods for uneven-aged management are single-tree selection, and group selection.

Single-tree selection – The single-tree selection method removes individual trees of all size classes throughout the stand to promote growth of remaining trees and to provide space for regeneration. This method is sometimes called individual tree selection. New trees are established in spaces created by harvesting the selected trees. Single-tree selection favors regeneration of shade tolerant species, and is very difficult to apply to shade intolerant conifers. The interval of time between

stand entries is termed the cutting cycle. Cutting cycles typically range from 5 to 20 years.

Group selection – The group selection method involves removing small groups of trees to establish a new age class. The width of the groups is commonly approximately twice the height of the mature trees. Small openings are appropriate for shade tolerant vegetation while larger openings are for more shade intolerant vegetation. The interval of time between stand entries is termed the cutting cycle. Cutting cycles typically range from 5 to 20 years. The uneven-aged stand consists of a mosaic of even-aged groups. Group selection with reserves retains some of the trees within the group to attain goals other than regeneration.

Site Preparation – Site preparation for uneven-aged management, as with even-aged management, strives to enhance regeneration. However, methods of site preparation will be limited because of the potential damage to residual stems and advanced reproduction. Chemical methods or a combination of chemical and manual methods are most often effective. Site preparation, pre-commercial thinning, and release treatments may be combined and may occur prior to harvest. Only the areas of the stand where the treatments are need would be treated.

Prescribed burning - The frequency and timing of prescribed fire in uneven-aged stands must be managed carefully. As with even-aged management, prescribed fire will be restricted to times when the newly established age class reaches a size that damage will be minimal. However, new age classes within the stand are created every 5 to 20 years depending on cutting cycle.

Thinning – In uneven-aged management thinning treatments happen simultaneously with the regeneration harvests, however, with group selection, thinning may occur between the groups at any time. Thinning in uneven-aged management further serves the purpose of creating conditions for development of advanced reproduction.

Monitoring/New Information – As a stand grows and develops, whether even-aged or uneven-aged, it must be re-evaluated periodically to determine if objectives are still being met. Additional treatments may be necessary, or planned treatments may be eliminated as conditions change. New information, technologies or even political climate may necessitate a change in management strategy.

Other Considerations

Salvage/Sanitation – Salvage and sanitation are not silvicultural systems or methods of regeneration. They often occur at the same time and are usually discussed together, but they serve different purposes. Salvage cutting is the removal of dead, damaged or dying trees to recover economic value that would otherwise be lost. Sanitation cutting is the removal of trees to improve stand health by stopping or reducing the actual or anticipated spread of insects and disease. Sanitation cutting may include the removal of live healthy

trees while salvage cutting does not. Both salvage and sanitation cutting serve the purpose of removing material that could become heavy fuel. This reduces the risk of catastrophic wildfire. Following salvage or sanitation cutting the residual stand must be evaluated to determine the adequacy of stocking. Site preparation or planting may be needed to ensure regeneration depending on the size of the area affected.

Mid-story treatments – The Conecuh National Forest and the Talladega National Forest contain habitat management areas (HMAs) for the red-cockaded woodpecker (RCW), an endangered species. Pine and pine/hardwood stands within the HMAs are managed to provide habitat for the RCW. Populations of RCW have declined in stands with mid-stories, so removal of the mid-story and maintaining open park-like stands is desired in those pine and pine/hardwood stand within RCW HMAs. Mid-story treatment may include manual, mechanical and chemical methods; often follow by prescribed fire. Once desired conditions are achieved, they usually can be maintained with frequent prescribed fire.

A combination of treatments, including reducing the basal area through thinning, re-introducing or increasing the frequency of prescribed fire, and mid-story removal may be necessary to achieve woodland or savanna conditions. These treatments would restore native pyrophytic plants to the herbaceous layer and benefit a suite of species including RCW, quail, Bachman's sparrow, brown-headed nuthatch, American kestrel, fox squirrel, etc.

Selection of Silvicultural System

The selection of which silvicultural system and regeneration method to use is based on the existing forest condition and the desired condition of the management area and management prescription. Silvicultural systems will be applied where they contribute to accomplishing management objectives, and are appropriate for the desired tree species. The following table identifies, by forest community the range of appropriate silvicultural regeneration methods that may be used.

Community type	Even-aged			Two-aged			Uneven-aged	
	Clearcut	Seed tree	Shelterwood	Clearcut w/reserves	Seed tree w/reserves	Shelterwood w/reserves	Group Selection	Single tree selection
Conifer Northern Hardwood	A	N	N	A	N	N	A	A
Mixed Mesophytic	A	A	N	A	A	N	A	A
Coastal Plain Upland Hardwood	A	A	N	A	A	N	A	A
River Flood Plain	A	N	N	A	N	N	A	A
Cypress Tupelo	A	N	N	A	N	N	A	A
Dry-Mesic Oak	A	A	N	A	A	N	A	A
Dry and Xeric Oak	A	N	N	N	N	N	A	A
Xeric Pine and Pine Oak	A	A	A	A	A	A	A	N
Dry and Dry-Mesic Pine-Oak	A	A	A	A	A	A	A	N
Upland Longleaf	A	A	A	A	A	A	A	A
Mountain Longleaf	A	A	A	A	A	A	A	A
Wet Pine	A	A	A	A	A	A	A	N

References:

- Society of American Foresters. 1998. *The Dictionary of Forestry*. The Society of American Foresters. Bethesda, MD. 210 pp.
- Smith, David M. 1986. *The Practice of Silviculture*. Wiley, New York. 527 pp.

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
1	Are rare communities being protected, maintained, and restored?	Trends in the numbers, locations, abundance and conditions of rare community occurrences by type	1	Schedule site visits to map and track locations, composition and condition of rare communities utilizing standard GIS coverage and NRIS Terra, FSVeg and Fauna databases. Utilize standard reports for Annual M&E reporting. Use the assigned values to determine cave classification and to determine cave significance under the implementation regulations of the Federal Cave Resources Protection Act of 1988.	10 Year Intervals	Annual	Moderate	Moderate	Forest Biologist & Botanist
1	Are rare communities being protected, maintained, and restored?	Acres and/or number of occurrences of rare communities treated to maintain or restore desired conditions	2	Track annual accomplishments with standard tracking systems and compare with changing occurrences and conditions as determined in task #1	Annual	Annual	Moderate	High	Forest Biologist & Botanist
1	Are rare communities being protected, maintained, and restored?	Rare communities protection or mitigation during project planning and implementation	3	1) Review of project EAs/EISs, and 2) Field inspections of project areas.	Annually	Annual	Moderate	High	Forest Botanist
1	Are rare communities being protected, maintained, and restored?	Are rare communities being maintained, managed and protected	4	Sample projects during program reviews to determine and document that standard is being met. .	Annually	Annual	Moderate	Moderate	Forest Botanist
1	Are rare communities being protected, maintained, and restored?	Trends in the numbers, locations, abundance and conditions of caves and mine occurrences.	5	Use the assigned values to determine cave classification and to determine cave significance under the implementation regulations of the Federal Cave Resources Protection Act of 1988.	5 Year Intervals	Annual	Moderate	Moderate	Forest Biologist
1	Are rare communities being protected, maintained, and restored?	Rare communities protection or mitigation in open allotments and grazing permit implementation	6	1) Review of Allotment Management Plans, and 2) Field inspections of open allotments Public Range Improvement Act of 1978.	Annual	Annual	Moderate	High	Forest Botanist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Status and trend in forest cover acreage by major forest and woodland community type and successional stage	7	Map and update changes through routine inventories. Monitor acres by major forest and woodland community type and trends?	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Acres of silvicultural treatments implemented by activity type and forest type	8	Summarize acres of treatments by major community type utilizing established activity tracking systems.	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Acres burned (wildland and prescribed fire) by forest type and season of burn compared to desired fire regimes	9	Acres burned (wildland and prescribed) by major forest community type. Maps of prescribed burn units are incorporated into the GIS data base annually, by the end of the burning season. Total acres are determined from a GIS query.	Continuous	Annual	Moderate	Moderate	Forest Biologist, Botanist, District and Forest FMO
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Trends in hooded warbler populations in relationship to mid- and late-successional Mesic Deciduous Forest.	10	Breeding Bird Survey occurrence trends for the species compared to available habitats.	Annual	3 Years	Moderate	Moderate	Forest Biologist
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Trends in scarlet tanager populations on Bankhead and Talladega Division in relationship to mid- and late-successional Oak and Oak-Pine Forest.	11	Breeding Bird Survey occurrence trends for the species compared to available habitats.	Annual	3 Years	Moderate	Moderate	Forest Biologist
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Trends in brown-headed nuthatch populations on Bankhead and Tuskegee in relationship to mid- and late-successional Pine and Pine-Oak Forest.	12	Breeding Bird Survey occurrence trends for the species compared to available habitats.	Annual	3 Years	Moderate	Moderate	Forest Biologist

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MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
2	Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?	Trends in red-cockaded woodpecker populations on Talladega Division, Oakmulgee Division, and Conecuh in relationship to mid- and late-successional Pine and Pine-Oak, Mountain Longleaf, and Upland Longleaf Forests.	13	Breeding Bird Survey occurrence trends for the species compared to available habitats.	Annual	3 Years	Moderate	Moderate	Forest Biologist
3	Are key successional stage habitats being provided?	Trends in early, mid-, and late-successional forests by prescription group	14	Map and update changes through routine inventories. Monitor acres by successional stage and trend?	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
3	Are key successional stage habitats being provided?	Trends in prairie warbler populations in relationship to early-successional stage habitats.	15	Breeding Bird Survey occurrence trends for the species compared to early-successional forest habitat availability.	Annual	3 Years	Moderate	Moderate	Forest Biologist
3	Are key successional stage habitats being provided?	Trends in wood thrush populations in relationship to mid- and late-successional habitats.	16	Breeding Bird Survey occurrence trends for the species compared to mid- and late successional habitat availability.	Annual	3 Years	Moderate	Moderate	Forest Biologist
3	Are key successional stage habitats being provided?	Total acres of wildlife openings and acres of opening maintenance activity implemented by activity type.	17	Use annual program of work accomplishments to measure.	Continuous	Annual	Moderate	Moderate	Forest Biologist
3	Are key successional stage habitats being provided?	Trends in wood thrush populations in relationship to unfragmented landscape habitats.	18	Breeding Bird Survey occurrence trends for the species compared to mid- and late successional habitat availability.	5 years	5 years	Moderate	Moderate	Forest Biologist

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MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
3	Are key successional stage habitats being provided?	Trend in the abundance and distribution of landscapes important for forest interior birds	19	Rerun IMI analysis periodically or as needed	5 years	5 years	Moderate	Moderate	Forest Biologist
3	Are key successional stage habitats being provided?	Acreage of existing and potential old growth by forest community class	20	Rerun IMI and CISC analysis periodically or as needed	5 years	5 years	Moderate	Moderate	Forest Silviculturist
4	How well are key terrestrial habitat attributes being provided?	Trends in hard mast production capability	21	Map and update changes in forest composition and condition through routine inventories. Infer mast production capability from the status of older age classes of oak forest community types	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
4	How well are key terrestrial habitat attributes being provided?	Abundance of snags and downed wood	22	Map and update changes in forest successional conditions and area impacted by insect and disease through routine inventories. Infer snag and downed wood by the acres of late-successional stage forests and mortality due to insects and disease	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
4	How well are key terrestrial habitat attributes being provided?	Trend in riparian area acreage by forest type and successional stage	23	Map and update changes in riparian areas, forest community type and successional conditions	Continuous	Annual	Moderate	Moderate	Forest Silviculturist
4	How well are key terrestrial habitat attributes being provided?	Acres of vegetation management implemented in riparian areas by activity type	24	Track annual accomplishments with standard tracking system	Continuous	Annual	Moderate	Moderate	Forest Silviculturist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
5	What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?	What are the trends in aquatic habitat conditions, particularly for species needing specialized habitats?	25	Track changes in physical and chemical habitat quality within at least 3 representative reaches of each physiographic province and/or river basin. Measured parameters will include such specialized habitat factors as LWD, leafpacks, vegetation, and substrate composition. Habitat sampling is accomplished using defined protocols.	At least 3 sequential years within each 10 year period.	As available	Moderate	moderate	S.O. Fisheries Biologist
5	What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?	What are the trends in the composition and abundance of stream fish communities? [MIS - 36 CFR 219.19(a)(6)]	26	Track changes in the relative abundance of fish taxa and guilds within at least 3 representative reaches of each physiographic province and/or river basin. Fish species are sampled with electrofishing and netting using defined protocols.	At least 3 sequential years within each 10 year period.	As Available	High	High	S.O. Fisheries Biologist
5	What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?	What are the trends in the composition and abundance of stream molluscan communities? [MIS - 36 CFR 219.19(a)(6)]	27	Track changes in the relative abundance of mollusc taxa and guilds within at least 3 representative reaches of each physiographic province and/or river basin. Aquatic snails and mussels are sampled with snorkeling, nets, surber samplers, and other appropriate techniques using defined protocols.	At least 3 sequential years within each 10 year period.	As Available	High	High	S.O. Fisheries Biologist
5	What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?	What are the trends in aquatic macro-invertebrate populations? [MIS - 36 CFR 219.19(a)(6)]	28	Track changes in the relative abundance of aquatic macroinvertebrate taxa and guilds within at least 3 representative reaches of each physiographic province and/or river basin. Macroinvertebrates are sampled with timed searches, kick nets, surber samplers, and other appropriate techniques using defined protocols.	At least 3 sequential years within each 10 year period.	As Available	High	High	S.O. Fisheries Biologist
5	What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?	How do aquatic habitat conditions and aquatic fish, mussel, and macroinvertebrate communities differ between managed reaches and equivalent reference reaches.	29	Track changes in the relative abundance of aquatic taxa and guilds within at least 3 reaches that are representative of each of the most intensive management activities. Compare results to those of the reference reaches in task #5-1, 5-2, 5-3, and 5-4.	At least 3 sequential years within each 10 year period.	As Available	High	High	S.O. Fisheries Biologist
6	What are status and trends of forest health threats on the forest?	Trends in the amount of air pollutants and their effects on forest ecosystems, e.g. ozone susceptible species	30	Complete relative risk assessment for ecosystems across the Forest. Parts of the assessment include the sensitivity of living ecosystem components (e.g. geology and soils) to ameliorate pollution. Soil, water and vegetation sampling in high risk areas. Summarize air quality monitoring data from sites on or near the Forest.	Once in a 10 year period	As available	Moderate	Moderate	Forest Air Specialist

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MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
6	What are status and trends of forest health threats on the forest?	Contingent on task 31, trends in the amount of air pollutants and their effects on forest ecosystems.	31	Where the relative risk assessment indicates an ecosystem (or component) at significant risk, establish a baseline, then monitor trends in an appropriate indicator of ecosystem health (or in the component itself). Examples include soil/water chemistry monitoring for the effects of acid deposition and monitoring of plant or animal population/tissue for effects of contact with air pollutants. Priority of items varies with state of science and monitoring results. Reconsider priorities with	Continuous based on completing task #28	Annual	Moderate	High	Forest Air Specialist
6	What are status and trends of forest health threats on the forest?	Conditions and trends of forest fuels and acres of hazardous fuels treated through wildland fire use, prescribed fire, and mechanical treatment	32	Fuel monitoring following Regional protocol. Acres of hazardous fuels treated through wildland fire use, prescribed fire, and mechanical treatment mapped into the GIS data base reports generated through GIS/NRIS FSVeg queries.	Continuous	Annual	Moderate	Moderate	District FMO & Forest FMO
6	What are status and trends of forest health threats on the forest?	Compliance with SIP and internal Forest Service provisions for smoke management. [36 CFR 219.27(a)(12)]	33	#1. Coordinate with State & local air quality agencies to track emissions from NF lands, with emphasis on PM2.5 emissions from prescribed fires. #2. Obtain data from State operated air quality monitors either directly from the State or through the EPA "Air Data" webpage. #3. Where Forest Service would benefit from a more precise determination of non-attainment area boundaries, it will coordinate with the State to generate the quality and amount of data that is needed for NAAQS attainment/non-attainment determination. #4. Where the Forest Service uses smoke dispersion models to fine-tune parameters for burning projects, Forest Service will obtain data to verify the accuracy of the model. #5. Where there is a need to monitor the movement of visible smoke plumes near critical sensitive targets, Forest Service may use manual or automated methods.	#1, #2, #3, and #4. As needed #5 Annual	#1, #2, #3, #4 As needed, #5 Annual	#1, #2, #4, #5 Moderate, #3 High	#1, #2, #5 Moderate, #3 Very High, #4 High	Forest FMO and Zone Air Specialist
6	What are status and trends of forest health threats on the forest?	Trends in insect and disease effects [36 CFR 219(k)(5)(iv), 36 CFR 219.20(b)]	34	Sample for specific insects or disease as evidence of infestations occurs following established protocols for the organisms of concern. Track Forest Health Monitoring results to identify emerging concerns.	As needed	Annual	Moderate	Moderate	Forest Silviculturist and Forest Health Field Unit
6	What are status and trends of forest health threats on the forest?	Trends in forest composition and condition that have been associated with these insects and diseases	35	Map and update changes through routine inventories, indicating source of impacts due to native insects and disease. Utilize annualized FIA and Forest Health Monitoring results to validate findings.	Continuous	Annual	Moderate	Moderate	Forest Silviculturist and Forest Health Field Unit

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
6	What are status and trends of forest health threats on the forest?	Are planned measures to control destructive insects and disease being achieved? [36 CFR 219.12(k)5(iv)]	36	Track annual accomplishments with standard tracking system	Annual	Annual	Moderate	Moderate	Forest Silviculturist and Forest Health Field Unit
6	What are status and trends of forest health threats on the forest?	Trends in the number of occurrences and/or acreage of selected non-native species? [36 CFR 219(k)(5)(iv), 36 CFR 219.20(b)]	37	Track changes in acreage and conditions of non-native invasive plants mapped and inventoried. Sample for specific non-native insects or disease in anticipation of their occurrence and during infestations. Follow established protocols for the organisms of concern. Track Forest Health Monitoring results to identify emerging concerns.	Annual	Annual	Moderate	Moderate	Forest Ecologist, Forest Silviculturist and Forest Health Field Unit
6	What are status and trends of forest health threats on the forest?	Effectiveness of treatments to eliminate or control invasive non-native species?	38	Interdisciplinary review of treatments results	Annually or at conclusion I&DC project as needed	Annual	Moderate	Moderate	Forest Silviculturist and Forest Health Field Unit
6	What are status and trends of forest health threats on the forest?	What are the trends in forest composition and condition that have been associated with these insects and diseases?	39	Track acreage of riparian and mileage of streams with disease or pest infestations resulting in loss or addition of standing or downed wood. Include estimates of resulting canopy closure. Measure representative reaches for LWD densities within bankful channels.	annually	annually	low	low	District Biologist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Population trends in Red-cockaded-woodpeckers as an indicator of effectiveness of management on recovery of the species [MIS - 36 CFR 219.19(a)(6)] 2	40	Follow recovery plan and RCW Handbook guidance	Seasonal	Annual	High	High	Forest Biologist

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MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Trends in recovery of T&E species, and status and distribution of some viability concern species that are not specifically identified under other elements. Species targeted under this element will be determined through periodic review of each species' status and conservation priority. Priorities will likely vary through the life of the Plan as new information is obtained.	41	Various methods will be used as appropriate to the species or species group. Refer to PETS Species Inventory and Monitoring Handbook.	Various	As information is available	High	High	Forest Biologist and Forest Ecologist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Status and trends in bird communities	42	Breeding Bird Survey occurrence trends for the bird communities	Annual	Annual	Moderate	High	Forest Biologist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Forest-wide status of cerulean warbler within its range (Bankhead).	43	National Strategic Plan - emphasis species. Monitored on the Bankhead National Forest, but not as an MIS. Evaluated based on presence or absence in targeted habitat types or in response to experimental habitat treatments. Monitoring to focus on verifying occurrence location data rather than determining population response to management activities.	Annual	Annual	Moderate	High	Forest Biologist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Status and trends of fish communities	44	Systematic stream fish community inventories	Selected streams are examined	Annual	Moderate	High	Fisheries Biologist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Status and trends of bat communities	45	Mist netting, Anabat, and cave counts	Annual	Annual	Moderate	High	Forest Biologist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Status and trends of plant communities	46	Systematic plant community inventories	Selected sites are examined	Annual	Moderate	High	Forest Botanist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Trends in reporting to the state natural heritage units	47	Collect data from Alabama Natural Heritage Program related to annual accomplishments for habitat and rare species occurrences	Annual	Annual	Low	Moderate	Forest Botanist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Are rare species being maintained, managed, and protected.	48	Sample projects during program reviews to determine and document that standard is being met. Results reported in M&E report.	Annual	Annual	Moderate	Moderate	Forest Botanist
7	What are the status and trends of federally listed species and species with viability concerns on the forest?	Rare species protection or mitigation during project planning and implementation	49	Review project Eas/EISsand field inspect selected projects. Results reported in M&E report	Annual	Annual	Moderate	High	Forest Botanist
7	What are the status and trends of federally listed species on the forest?	What progress is being made toward recovery of aquatic T&E species and conservation of aquatic sensitive species? [36 CFR 219.19 (a)(7)]	50	Partially covered under # 5-1, 5-2, 5-3, and 5-4. Also report stream mileage with expected aquatic habitat improvements or successful reintroductions.	annually	annually	low	low	Fisheries Biologist
7	What are the status and trends of federally listed species on the forest?	What are the trends in T&E aquatic populations in relationship to National Forest management activities? [MIS - 36 CFR 219.19(a)(6)]	51	Partially covered under # 5-1, 5-2, 5-3, and 5-4. Add additional stream reaches to the general monitoring reaches as necessary to monitor trends in representative habitat and/or populations of each of the 22 listed aquatic species.	At least 3 sequential years within each 10 year period.	As Available	High	High	Fisheries Biologist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
7	What are the status and trends of federally listed species on the forest?	Are rare species being maintained, managed, and protected.	52	Monitor open allotments and continue rare plant species surveys to determine and document that standard is being met. Public Rangeland Improvement Act of 1978	Annual	Annual	Moderate	Moderate	Forest Botanist
8	What are the trends for demand species and their use?	Trends in harvest data for deer, turkey, and quail in relationship to habitat improvement activities for these species. [MIS - 36 CFR 219.19(a)(6)] 2	53	Collect harvest data from Alabama Wildlife and Freshwater Fisheries related to annual accomplishments for habitat improvement tracked with standard tracking systems	Annual	Annual	Low	Moderate	Forest Biologist
8	What are the trends for demand species and their use?	Trends in hunting participation on WMA's located on National Forest management units.	54	Compile reports from Alabama Wildlife and Freshwater Fisheries Annual Reports of hunting pressure and harvests on WMA's located on National Forest management units.	Annual	Annual	Low	Moderate	Forest Biologist
8	What are the trends for demand species and their use?	Trends in the number of permits issued and harvest levels for selected special forest products	55	Compile reports from records of permits issued	Annual	Annual	Moderate	Moderate	Forest Biologist and Forest Products Staff
8	What are the status and trends of species with viability concerns and/or their habitats?	What are the population status and trends of sensitive mussel species or assemblages and their critical aquatic habitats elements?	56	Mostly covered under # 5-1 and 5-3. Add stream reaches to the physiographically selected reaches as necessary to cover representative taxa and genera with potential viability concerns.	At least 3 sequential years within each 10 year period.	As Available	High	High	Fisheries Biologist
8	What are the trends for demand species and their use?	What are the fish stocking levels by type and location?	57	The State of Alabama tracks this element and their info will be documented within each lake management plan as it is developed or updated.	annually	As Available, at least once every 10 years	low	low	District Biologist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
8	What are the trends for demand species and their use?	What are the sport fish population levels (stream and reservoir) in relationship to stream and lake habitat improvement activities? [MIS - 36 CFR 219.19(a)(6)] 2	58	The State of Alabama tracks this element and their info will be combined with any Forest Service info and documented within each lake management plan as it is developed or updated.	variable	As Available, at least once every 10 years	low	low	District Biologist
9	Are high quality, nature-based recreation experiences being provided and what are the trends	Results and trends in user satisfaction ratings [36 CFR 219.21(a)]	59	Analysis of NVUM customer satisfaction data for Day Use, Overnight General Forest Area, and Wilderness programs and local Customer Satisfaction survey tools.	5 years NVUM - 1 year Local Customer	5 years - update annually	Low - Low	High - Moderate	SO-Recreation Staff
9	Are high quality, nature-based recreation experiences being provided and what are the trends	Backlog of facility and trail maintenance needs and trends	60	Analysis of INFRA Deferred Maintenance Report and reporting of per cent change in backlog.	Annually	Annual	Moderate	Moderate	SO-Recreation Staff
9	Are high quality, nature-based recreation experiences being provided and what are the trends	Trends in financial resources needed and available to provide recreation opportunities	61	Analysis of incoming funds - traditional budgets and fee collections - and costs of operations, in view of needs. Reports using INFRA and FFIS, and Trend Tracker data.	Annually	Annual	Low	Moderate	SO-Recreation Staff
9	Are high quality, nature-based recreation experiences being provided and what are the trends	Trends in health and safety associated with recreation programs	62	Report on meeting critical standards for developed facilities, trails and GFAs.	Annually	Annual	High	Moderate	SO - Recreation Staff
9	Are high quality, nature-based recreation experiences being provided and what are the trends	Accessibility of developed sites and facilities	63	Summary report of all accessibility complaints and how they are dealt with.	Annually	Annual	Moderate	High	District/SO-Recreation Staff

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MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
10	What are the status and trends of recreation use impacts on the environment?	Illegal or unauthorized recreational uses observed and the effects of these uses	64	Analysis of LEIMARS report - incidents, and warning /violation notices for illegal activities related to recreation - for trends in illegal activity. M & E Report.	Annually	Annual	High - Low Depending of the type, intensity and frequency of activity	High	Recreation Staff SO
10	What are the status and trends of recreation use impacts on the environment?	Recreation activities contribution to the degradation of terrestrial, aquatic, rare or riparian areas or adversely affecting water quality	65	Evaluation of recreation's possible contribution to particular problems identified by other monitoring elements in this plan. Amount of recreation use and type of activity will be considered. M&E Report. See monitoring questions#1, 5,6,7, 8, 9,15.	Annually	Annual	Moderate	Moderate	Recreation StaffSO and natural resource scientists
10	What are the status and trends of recreation use impacts on the environment?	Accelerated sediment delivery and bank instability resulting from dispersed recreation along priority streams/rivers and improvements being made to reduce these impacts where necessary	66	Primarily visual observation of dispersed recreation area/trail condition and documentation of improvement needs. Documentation of improvement needs in riparian improvement needs inventory.	Annually	Annual	Moderate	Moderate	Watershed Staff
11	What is the status and trend of wilderness character?	Trends in air quality related values in Class 1 Wilderness areas [36 CFR 219.27(a)(12)]	67	Water quality sampling for acid dep.; vegetation sampling for ozone & long-term trends; soil water sampling.	Ranges from synoptic to set time periods for short & long-term monitoring	Annual	High - Moderate	High - Moderately High	District & Zone Air Resource Management Specialists
11	What is the status and trend of wilderness character?	Status and trend of visibility in Class 1 areas and the relationship to landscape visibility across the Forest	68	IMPROVE national aerosol monitoring network.	Samples taken every 3 days for a 24 hr. time period.	Annual	Very high	Very High To High	District & National data analysis & interpretation contracts.
11	What is the status and trend of wilderness character?	Is wilderness visitor use within limits that do not impair the values for which the wilderness was established? [36 CFR 219.18(a)]	69	Analyze trends in wilderness visitor use and compile summary report using GIS mapping (number and location of concentrated use areas) and use of visitor satisfaction results using NVUM and wilderness trailhead registration data.	Every 5 years	Every 5 years	Moderate	High	District

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
11	What is the status and trend of wilderness character?	Trends in fire regimes and effects on fire dependent communities in Wilderness	70	Annual summary report of number of Wildland Fire Use Fires and acres and number of management ignited fires and season of burn.	Continuous	Annual	Moderate	High	SO
12	What are the status and trend of Wild and Scenic River conditions?	Are free-flowing conditions being protected?	71	Implement annual program review at the forest level to track number and types of projects implemented along the river corridor. Include discussion in annual M&E report.	Annually	Annual	Moderate	High	SO
12	What are the status and trend of Wild and Scenic River conditions?	Are the Outstandingly Remarkable Values being protected?	72	Implement annual program review at the forest level to track number and types of projects implemented along the river corridor. Include discussion in annual M&E report.	Annually	Annual	Moderate	Moderate	SO
13	Are the scenery and recreation settings changing and why?	Acres of National Forest land that meet or exceed established scenic quality objectives [36 CFR 219.27(c)(6), 36 CFR 219.27(d)(1)]	73	Treatment and location data entered in activity tracking system at time treatment completed. Summary report of project acres that meet or exceed the assigned SIO. M&E report.	Continuous	Annual	Low	Moderate	SO-Recreation Staff (Forest Landscape Architect)
13	Are the scenery and recreation settings changing and why?	Acres of National Forest land that meet or exceed established ROS objectives	74	Treatment and location data entered in activity tracking system at time treatment completed. Summary report of project acres that meet or exceed the assigned ROS objective. M&E report.	Continuous	Annual	Low	Moderate	SO-Recreation Staff (Forest Landscape Architect)
14	Are heritage sites being protected?	Are heritage sites being identified for protection? [36 CFR 219.24(a)(4)]	75	Heritage inventories and surveys pursuant to 106 for all ground disturbing projects are reviewed by SHPO/THPO per Regional PA and Forest MOUs. M&E Report.	Annually	Annual	Moderate	High	Forest and District Archeologist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
14	Are heritage sites being protected?	Effectiveness of heritage protection measures effective? [36 CFR 219.24(a)(4)]	76	Sample field condition assessment of sites eligible or listed in National Register. M&E Report	Annually	Annual	High	High	Forest and District Archeologist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Stream stability in reference watersheds compared to stability of streams in watersheds where projects are occurring	77	Conduct pebble count sampling on a subset sample of projects once per year (September – October or following a major storm event) using procedure described by Kappesser (2002). Utilize Riffle Stability Index, Relative Bed Stability (Kauffman, 1999) and percent finer than 4 millimeters to determine acceptable levels of variability or thresholds of concern. Evaluate project watersheds before, during, and after projects and compare with reference watershed data.	Continuous	Annual	Moderate	High	Forest Hydrologist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Stream water temperatures in reference watersheds compared to watersheds where projects are occurring (maximums and minimums)	78	Install data loggers in all reference watershed streams and use data from them to compare with data from managed watersheds. Once a year, conduct statistical analysis to evaluate occurrence and significance of differences.	Continuous	Annual	Moderate	High	Forest Hydrologist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Condition and trend of chemical resilience of watersheds across the Forest as indicated by chemical parameters	79	Water quality sampling protocol	Periodic	Annual	Moderate	High	Forest Hydrologist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Are State BMPs and Forest Standards being implemented to protect and maintain soil and water resources? [36 CFR 219.27(a)(4), 36 CFR 219.12(k)(2)]	80	Field inspection of project sites following established monitoring protocol. Results reported annually in M&E Report.	Continuous	Annual	Moderate	High	Forest Hydrologist or Soil Scientist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Are Standards (BMPs) Effective minimizing non-point source pollution?	81	Sample project activities related to BMPs to for effectiveness of BMPs and standards. 1) Visual inspection of implemented standards, 2) Measured effects of standards, and/or 3) Aquatic biota inventories Results reported annually in M&E Report.	Periodic or at random	Annual	Moderate	High	Forest Hydrologist or Soil Scientist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Effect of management activities on soil quality and productivity [36 CFR 219.12(k)(2), 36 CFR 219.27(a)(1)]	82	Sample projects for soil loss. Actual soil movement may sometimes be determined by techniques such as fabric dams. Results reported annually in M&E Report	Periodic or at random	Annual	Moderate	High	Forest Hydrologist or Soil Scientist
15	Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?	Are temporary roads being re-vegetated within 10 years of contract or permit termination? [36 CFR 219.27(a)(11)]	83	Sample projects during program reviews to determine and document that standard is being met.	Annually	Annual	Moderate	Moderate	Forest Engineer
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Are management strategies in riparian areas adhering to Forest Plan riparian guidelines?	84	Review of project documents and related EAs/EISs for compliance with BMPs and standards. Results reported annually in M&E Report.	annually - 10%/year of decision notices	Annual	low	low	Forest Hydrologist
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Are riparian areas or corridors providing necessary shade and cover for aquatic habitats?	85	Stream surveys in project areas of shade and cover of aquatic habitats. Measurements taken according to established protocols. Results reported annually in M&E Report.	Continuous	Annual	Moderate	High	Forest Hydrologist or Fisheries Biologist
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Are soils in riparian areas being maintained and ground cover protected?	86	Sample projects during program reviews to determine and document that standard is being met. Field measurements of percent rutting and percent ground cover in project areas. Results reported annually in M&E Report.	Annually	Annual	Moderate	Moderate	Forest Soil Scientist
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Are best management practices being applied in riparian areas? [36 CFR 219.27(a)(4), 36 CFR 219.12(k)(2)]	87	Sample projects during program reviews to determine and document that standard is being met. Field monitoring, according to established protocols, of BMP application in riparian areas of project sites. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Hydrologist or Soil Scientist

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Effects on riparian values, soil and water quality, and & (e) streambank stability [36 CFR 219.27(a)(4), 36 CFR 219.27(b)(6), 36 CFR 219.27(c)(6)]	88	Sample projects during program reviews to determine and document where riparian values soil and water impacts and steambank stability is observed. Results reported annually in M&E Report.	Annually	Annual	Moderate	Moderate	Forest Hydrologist or Soil Scientist
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Are 100 year floodplains identified for all forest service projects?	89	1) Review of project EAs/EISs, and 2) Field inspections of project areas. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Hydrologist or Soil Scientist
16	What are the conditions and trends of riparian area, wetland and floodplain functions and values?	Wetland maintenance or mitigation during project planning and implementation	90	1) Review of project EAs/EISs, and 2) Field inspections of project areas. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Hydrologist or Soil Scientist
17	How do actual outputs and services compare with projected?	Are forest products being produced within predicted ranges? [36 CFR 219.27 (c)(2)]	91	Track trends from annual accomplishments with STARS and compare with Forest Plan projections.	Annually	Annual	Moderate	High	Forest Products Staff
17	How do actual outputs and services compare with projected?	Trends in demand for mineral resources in relationship to national forest mineral resource availability?	92	Track trends in minerals permits and compare with Forest Plan projections.	Annually	Annual	Moderate	High	Forest Lands and Minerals Staff
17	How do actual outputs and services compare with projected?	Surface occupancy and rights in relation to sub-surface rights. [36 CFR 219.22]	93	Interdisciplinary review of surface occupancy and minerals permits	Annually	Annual	Moderate	Moderate	Forest Lands and Minerals Staff

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
17	How do actual outputs and services compare with projected?	Access to explore and develop mineral resources of domestic compelling significance [36 CFR 219.22]	94	Interdisciplinary review of surface occupancy and minerals permits	Annually	Annual	Moderate	Moderate	Forest Lands and Minerals Staff
17	How do actual outputs and services compare with projected?	Are roads being maintained, constructed or reconstructed to reduce sediment delivery to water bodies and to provide a transportation system that supplies safe and efficient access for forest users while protecting forest resources. [36 CFR 219.27 (a)(10)]	95	Interdisciplinary review of transportation system. Track miles of National Forest System Roads (NFSR) exist compared to miles maintained to their objective maintenance level. Miles of road improved. Miles of road decommissioned (classified and unclassified).	Annually	Annual	Moderate	High	Engineering Staff
17	How do actual outputs and services compare with projected?	Are constructed roads designed according to standards appropriate for the planned uses? [36 CFR 219.27 a (10), 36 CFR 219.27 b (7)]	96	Interdisciplinary review of transportation system.	Annually	Annual	Moderate	High	Engineering Staff
17	How do actual outputs and services compare with projected?	Are needed transportation corridors designated to established standards? [36 CFR 219.27 a (9)]	97	Interdisciplinary review of Roads Analysis Process accomplishments	Annually	Annual	Moderate	Moderate	Engineering Staff
17	How do actual outputs and services compare with projected?	How do estimated and actual costs of plan implementation compare? [36 CFR 219.12(k)3]	98	Compare trends in operating budgets to the estimated costs of implementing the Forest Plan	Annually	Annual	Moderate	High	Forest Planning Staff
17	How do actual outputs and services compare with projected?	Is the Forest landline rotation schedule being accomplished	99	Review yearly landline rotation schedule and compare to District accomplishment records	Annually	Annual	Moderate	High	Forest Lands and Mineral Staff

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
17	How do actual outputs and services compare with projected?	Review range resources and grazing permits that are maintained, developed, or administered to protect range and forest resources. [36 CFR 222 subparts A and C]	100	Track administration of range program to assure adherence to Forest Plan, legal mandates, and forest resource management guidelines. Documentation, permits, and permittee compliance ensured.	Annual	Annual	Moderate	High	Forest Botanist
18	Are silvicultural requirements of the Forest Plan being met?	Are lands being adequately restocked within 5 years of regeneration treatments? [36 CFR 219.27(c)(3)]	101	Track reforestation reports	Annually	Annual	Moderate	High	Forest Silviculturist
18	Are silvicultural requirements of the Forest Plan being met?	Are lands not suited for timber production classified as such? [36 CFR 219.12(k)(5)(ii)]	102	Review suitability using Spectrum	5 Years	5 Years	Moderate	High	Forest Planning Staff
18	Are silvicultural requirements of the Forest Plan being met?	Have lands identified as not suitable for timber production become suitable? [36 CFR 219.14 (a)(d), 36 CFR 219.27(c)(1)]	103	Review suitability using Spectrum	5 Years	5 Years	Moderate	High	Forest Planning Staff
18	Are silvicultural requirements of the Forest Plan being met?	Are harvest unit sizes within the allowable limits? [36 CFR 219.12(k)(5)(iii)]	104	Review harvest reports in STARS	Annually	Annual	Moderate	Moderate	Forest Products Staff
18	Are silvicultural requirements of the Forest Plan being met?	Should maximum harvest unit size limits be continued? [36 CFR 219.27(d)]	105	Interdisciplinary review	5 Years	5 Years	Moderate	Moderate	Forest Planning Staff

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
18	Are silvicultural requirements of the Forest Plan being met?	Are silvicultural practices in compliance with Forest Plans? [36 CFR 219.27(c)]	106	Interdisciplinary review of practices in the field	Annually	Annual	Moderate	High	Forest Planning Staff
18	Are silvicultural requirements of the Forest Plan being met?	Are appropriate harvest methods used on the Forest. [36 CFR 219.27]	107	Interdisciplinary review of harvest units in the field	Annually	Annual	Moderate	High	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Are project plans and environmental analyses for projects effectively and consistently implementing objectives and standards (including state BMPs)?	108	Interdisciplinary review. Sample project activities related to BMPs to for implementation of standards and BMPs. Review project documents and related EAs/EISs for compliance with standards and BMPs. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Is vegetation being managed according to requirements and making progress toward achievement of DFC for vegetation? [36 CFR 219.15, 36 CFR 219.27]	109	Interdisciplinary review. Sample vegetation management projects to compare vegetation conditions with the Plan DFC. Review project documents and related EAs/EISs for consistency with the Fores Plan. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Evaluate how diversity is affected by planned activities and whether expected results are being achieved. [36 CFR 219.26, 36 CFR 219.27 g, 36 CFR 219.27 (a)(5)]	110	Interdisciplinary review. Sample projects to observe effects on diversity. Review project documents and related EAs/EISs and BEs. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Determine whether standards, guidelines, and management requirements are being met and are effective in achieving expected results. [36 CFR 219.27 (a)(6)]	111	Interdisciplinary review. Sample projects to observe effectiveness of implemented standards. Results reported annually in M&E Report.	Annually	Annual	Moderate	High	Forest Planning Staff

MONITORING SUMMARY TABLE: National Forests in Alabama									
MQ #	Monitoring Question	Element	Task #	Method of Collection	Duration/Frequency	Reporting Interval	Needed Precision	Needed Reliability	Responsibility
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Determine when changes in GPRA, policies, or other direction would have significant effects on Forest Plans. [36 CFR 219.10(g)]	112	Interdisciplinary review of Forest Plan in relation to agency policy and direction.	Annually	Annual	Moderate	Moderate	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Determine if planning information or physical conditions have changed. [36 CFR 219.10(g)]	113	Interdisciplinary review of Forest Plan for needed changes as new information becomes available and/or significant changes in conditions are observed.	As needed	Annual	Moderate	Moderate	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Identify changes in ability of the planning area to supply goods and services in response to society's demands. [36 CFR 219.10(g), 36 CFR 219.21(a)(2)]	114	Interdisciplinary review of Forest Plan for needed changes as new information becomes available and/or significant changes in conditions are observed.	As needed	Annual	Moderate	Moderate	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	Determine effects on NF management from management activities on nearby land. [36 CFR 219.7(f)]	115	Interdisciplinary review of Forest Plan for needed changes as changed conditions on nearby lands are observed.	As needed	Annual	Moderate	Moderate	Forest Planning Staff
19	Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?	During monitoring determine research needs. [36 CFR 219.28]	116	Interdisciplinary review of Forest Plan for information needs requiring scientific investigation.	Annually	Annual	Moderate	Moderate	Forest Planning Staff

APPENDIX G

Possible Outputs and Activities

Highlights of first decade outputs and activities include, but are not limited to, the following items.

Output or Activity	Estimated Accomplishment
Forest Management	
Thinning	27,842 acres
Regeneration in suitable acres	13,093 acres
Regeneration in unsuitable acres	1,679 acres
Prescribed Fire	
Fuel reduction prescribed fire	900,000 acres
Site preparation prescribed fire	44,040 acres
Red-cockaded Woodpecker Management	
Population goals	241 clusters
Foraging acres to be restored	35,000 acres

- Road reconstruction and trail construction are expected to be important aspects of the National Forests in Alabama should funding for construction and maintenance be available.
- Facility improvements are expected to be important aspects of the National Forests in Alabama should funding for construction and maintenance be available.
- New road construction is not anticipated to be a significant factor during the life of this plan.
- New recreation areas/facilities will be driven by the availability of funds for construction and maintenance and citizen/customer demand all tempered by the carrying capacity of the resources.

APPENDIX H

Research Needs

A key element of adaptive management is monitoring. Another element is that of research. Ongoing monitoring will identify needs for further research as the plan is implemented. At its inception; however, the plan can identify areas of concern that can be the subject of “research needs”.

There is a need for more information on the appropriate buffer corridor for a physiographic area or zone given the goals and objectives of managing riparian areas. We need to know more about how we can best determine the effectiveness of riparian corridor buffers to meet the intent of management. Research is extant relative to sediment and nutrient loading/temperature but other functions and values in the riparian area are not as well studied. Recreation impacts on water quality and riparian areas, specifically OHVs and equestrian use, are topics for which more information is needed.

Forest management actions have also been studied for years and will be the subject of monitoring and evaluation under this plan. Specifically; however, the effects of tree cutting and the use of prescribed burning on some Threatened and Endangered species habitat use and their distribution and abundance could bear further research. Effects of prescribed burning, particularly growing season burns, on invertebrate diversity and abundance should be researched.

Biological Research Needs

- Avifauna productivity on National Forest Units and relationship of avifaunal productivity on National Forest Units to surrounding landscapes.
- Woodland and savanna complex herbaceous component composition and character outside of the Lower Coastal Plain, in both oak and pine forest types on each National Forest Unit in Alabama.
- Effects of restoration of native fire regimes to herbaceous layer character, ground-nesting bird populations, and other ecosystem components.
- General inventory of bat fauna on all management units of National Forests in Alabama, with emphasis on cave locations and surveys, summer distributions of bat species, and roosting characteristics of summer bat populations.
- Effects of early-successional riparian habitat limitations on species dependant on herbaceous, shrubby, and/or mixed seral stage, riparian habitats.
- Landscape-scale analyses of dominant habitats, limited habitats, and their distributions within ecoregions.

- Effects of fire on selected rare community occurrences, distribution, structure and plant species diversity
- Non-vascular diversity and occurrence on National Forests in Alabama.
- Rate of spread of noxious or invasive non-native plant species relative to road density or proximity to travel corridors.
- Forest Community CISC types cross-walked with TNC National Community Classification.
- Cumulative watershed effects on mussels.
- Distribution and effects of invasive aquatic species.
- Effects of aquatic habitat fragmentation.
- Data needs for biology, distribution, and status for snails, mussels, crayfish, and aquatic insects.

Recreation Research Needs

- Forest wide recreation demand and market assessment.
- Forest wide trails needs/capability assessment.
- Recreation visitor information and education needs assessment.

APPENDIX I

Locational Criteria Checklist for New OHV

As a minimum, an area must meet all criteria on the checklist to be considered for further analysis.

Refer also to 36CFR 295 (Checklist is a summary of this direction), Forest Service Manual/Handbooks, State/Federal Laws, and any specific direction for each National Forest.

Proposed OHV areas:

- Must be compatible with Management Prescription Direction (Explanation: Some Management Prescriptions limit OHV or motorized use in various degrees, others do not. Rx's such as 7E, 7C, 9H and 8B allow for OHV systems assuming all screening criteria can be met and specific areas go thru NEPA analysis. Where OHV use is appropriate, there should be a goal to develop a system of a minimum of 25 miles or more. Short routes do not generally provide an adequate user experience and tend to create illegal use in adjacent areas.)
- Must be compatible with Special Area Management Direction when proposed in or near Special Areas.
- Must be compatible with the Management Direction of Inventoried Roadless Areas when proposed in or near Roadless Areas.
- Must minimize conflict with Wildlife Habitat. (Explanation: This relates to conflicts with the habitat needs of PETS species or the species being emphasized for the area in question. The use would not occur if any identified conflicts could not be reasonably mitigated.)
- Must minimize conflict with Riparian/Fisheries Habitat. (Explanation: This relates to concerns for proposed areas in sensitive watersheds or riparian areas or with significant fish species [native trout], etc.)
- Must minimize impacts to Steep Areas/Highly Erodible Soils. (Explanation: This is measurable in terms of soil erosion hazard rating from SRI - severe, moderate, slight. Significant amount of severe acreage would result in not passing the screen. Steep slopes greatly increase construction cost and maintenance problems.)

- Must minimize conflicts with Private Land. (Explanation: The use would not occur if identified conflicts with adjacent private landowners could not be adequately addressed.)
- Must minimize conflicts with Other Recreation Users. (Explanation: This would include recreation users such as hikers, horseback riders, etc., that are already using the area to a significant extent. A new OHV route/trail would not be developed if it would create a high level of conflict with other recreation users with established use patterns unless it was deemed appropriate to displace the existing recreation use.)
- Must be operationally feasible and provide desirable OHV user experiences. (Explanation: Potential OHV areas should be accessible to main roads, have enough room to provide staging areas and suitable camping areas, and be large enough to provide at least 25 miles of route in the future. A logical distribution of areas should also be considered.)
- Must minimize conflict with cultural resource sites.
- Must consider any health and safety issues in trail layout and design.

APPENDIX J

SCENIC INTEGRITY OBJECTIVES & LANDSCAPE CHARACTER BY PRESCRIPTION

Prescription	Landscape Character	Scenic Class						
		1	2	3	4	5	6	7
0 Custodial	Natural Appearing Moving towards Natural Evolving	VH	VH	VH	VH	VH	H	H
1A Designated Wilderness	Natural evolving	VH	VH	VH	VH	VH	VH	VH
1B Recommended Wilderness	Natural evolving	VH	VH	VH	VH	VH	VH	VH
2A1 Designated Wild River	Natural evolving	VH	VH	VH	VH	VH	VH	VH
2A2 Designated Scenic River	Natural evolving Natural appearing pastoral	H	H	H	H	H	H	H
2C Eligible Scenic River	Natural evolving Natural appearing pastoral	H	H	H	H	H	H	H
4B1 Research Natural Area	Natural evolving	VH	VH	VH	NA	NA	NA	NA
4C Geological Area	Natural appearing	H	M	M	M	M	M	M
4D Botanical Area	Natural appearing	H	H	M	M	M	M	M
4E1 Cultural/Heritage Area	Natural evolving Natural appearing Cultural, Historic	H	H	M	M	M	M	M
4E2 National Register Districts as Special Areas	Natural appearing Pastoral, Cultural Historic	H	H	M	M	M	M	M
4I Natural Areas	Natural evolving Natural appearing	VH	H	M	M	M	M	M
4L Canyon Corridor	Natural evolving Natural appearing	H	H	H	H	H	H	H
5A Administrative Sites	Natural appearing Cultural, Urban	H	M	M	M	M	M	M
5B Communication Site	Cultural node in Natural appearing	M	M	L	L	L	L	L

Prescription	Landscape Character	Scenic Class						
		1	2	3	4	5	6	7
7A Scenic Byway	Natural appearing pastoral	H	H	NA	NA	NA	NA	NA
7B Gateway Forest	Natural appearing	H	H	M	M	M	M	M
7C OHV Use Area	Natural appearing	H	M	L	L	L	L	L
7D Concentrated Recreation	Natural appearing With cultural nodes	H	M	M	M	M	M	M
7E2 Dispersed Recreation	Natural appearing	H	M	M	M	M	M	M
8B Early Successional habitat	Natural appearing	H	M	L	L	L	L	L
8D1 Red-cockaded Woodpecker mgt. area	Natural appearing	H	M	L	L	L	L	L
9C3 Southern Cumberland Plateau Native Ecosystem	Natural appearing	H	M	L	L	L	L	L
9D Restoration of Coastal Plain Longleaf Pine Forests	Natural appearing	H	M	L	L	L	L	L
9D1 Southern Ridge & Valley Native Ecosystems	Natural appearing	H	M	L	L	L	L	L
10D Grazing Emphasis Area	Natural appearing	H	M	L	L	L	L	L
12A Remote Backcountry Recreation – Few Open Roads	Natural appearing	H	H	H	H	H	H	H
12B Remote Backcountry Recreation – Nonmotorizd	Natural appearing Natural evolving	VH	VH	VH	VH	VH	VH	VH

LEGEND:

- VH = very high scenic integrity
H = high scenic integrity
M = moderate scenic integrity
L = low scenic integrity
VL = very low scenic integrity