Revised Final

Forest Certification Standard

For the Southeastern United States

Version 10.0
2/10/05

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Developed by
The Working Group for the Southeastern United States Initiative
Of the Forest Stewardship Council US Initiative
as part of the

Southeast Regional Forest Certification Standard Project
The Forest Management Trust
6124 SW 30 Avenue
Gainesville, FL 32608
Tel: 352-373-2377
Email: josh.foresttrust@earthlink.net
Contact: Josh Dickinson

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INTRODUCTION

This standard is being developed for The Forest Stewardship Council (FSC). FSC is a not-for-profit, non-governmental, membership-based organization. Since its inception in 1993 FSC has worked to promote responsible forest management and to ensure the credibility of third party, independent forest certification. FSC does not perform certifications but rather accredits certification bodies and endorses regional forest certification standards.

Why are regional forest certification standards being developed?
The Forest Stewardship Council believes certification standards should be developed at the regional level due to the differences in ecological, social, and economic circumstances in each of nine regions in the continental United States. The Southeast Region includes all of the state of Florida and parts of the states of Virginia, North Carolina, South Carolina, Georgia, Alabama, and Mississippi. It borders the Appalachian region on the North and the Mississippi Alluvial Valley region on the West. A complete description of the region, including a list of all counties where the standard applies is found in appendix E. The Southeast Regional Standard applies to the forests of the biogeographical regions of the Atlantic and Gulf Coastal Plains and the Piedmont as delineated on the map of the regional working groups of the FSC-US Initiative (www.fscus.org).

To serve as a guiding framework for the development of regional standards, the FSC developed global *Principles and Criteria for Forest Management*, an international standard for environmentally appropriate, socially beneficial, and economically viable forest management. Concepts and requirements expressed in the FSC Principles and Criteria are included in the proposed Forest Certification Standard for the Southeastern United States. Those Criteria are considered applicable standards which, during an assessment, certification bodies are expected to evaluate with respect to the degree each Criterion is met. Once the regional standards are complete, they are submitted to the FSC for endorsement. Currently, standards are being developed for nine regions in the United States.

In the United States, a national set of indicators and verifiers were completed in Spring 2001. Regional working groups use the FSC Principles and Criteria for Forest Management and the United States' National Indicators to develop regional standards that are appropriate to social, ecological, and economic conditions at regional levels. The National Indicators, approved by the FSC-U.S. Board as baseline standards for the development of all nine regional standards (see www.fscus.org/documents/) including the Forest Certification Standard for the Southeastern United States, are considered by the U.S Standards Committee to exemplify sufficient scientific and technical rigor for application to assessments of private, municipal, county, tribal, and state lands conducted by accredited certification bodies in the continental United States.

What is the process for developing regional forest certification standards?
The FSC has guidelines for developing regional standards that must be implemented before such standards will be endorsed. The guidelines require: standards to be compatible with the FSC *Principles and Criteria for Forest Management*; shared ownership of the standards-development process by a working group with multiple interests; fair and democratic decision-making procedures by the working group; adequate public participation and representation by diverse stakeholders in the standards-development process; and a clear and open procedure to air grievances.

What was the process for developing the Southeast Standard?
The Forest Management Trust (The Trust; formerly the Tropical Forest Management Trust) and Tall Timbers Research teamed in October 1996 for the development of the Forest Stewardship Council's Forest Certification Standard for the Southeastern United States. The standard development process began in December 1996 with the initiation of an intensive stakeholder identification process. Individuals

from across the region represented stakeholder groups including landowners, the forest industry, environmental groups, academia, state, and federal agencies, and consultants in the fields of forestry, ecology, wildlife biology, sociology, and economics. Approximately 3,600 stakeholders were identified from various sources and invited to three sub-regional information meetings. In addition, meetings were held with officers of state forestry associations and leaders in academia to familiarize them with the project and solicit their involvement.

The regional working group that developed the standard was formed from stakeholders elected at the sub-regional information meetings and others selected from under-represented interest groups and/or sub-regions based on results of the elections. The 15-member "Southeast Working Group," (SEWG, Appendix A) represents all seven states and includes non-industrial private landowners, consulting foresters, ecologists, social scientists, forestry professors, an environmental activist, a geographer, a soil scientist, and a representative of a certification body.

All three chambers, economic, social and environmental are represented in the working group membership. Some members represent more than one chamber. Five members represent the environmental chamber, ten the economic chamber and five the social chamber. The working group members comprise the following experience and represent the following interests: three members own managed timber land, five are consulting foresters, three are academic foresters, one is an anthropologist with experience in Native American issues and forestry, one is a social forester with southeastern and tropical forestry community experience, one member is a county commissioner and a former SmartWood representative, one member is an environmental activist on a local level, two members are ecologists and two others are forest ecologists.

During the formation of the SEWG, the industrial forestry community was contacted and invited to participate in the sub-regional meetings. They also were invited to participate as voting members of the SEWG. During the initial years of the SEWG meetings, the industrial forestry community declined to participate. In the spring of 2001 several industrial foresters submitted comments on the southeast regional standard. A representative of the Roy O. Martin Lumber Company and Steve Loveland, an employee of Georgia Pacific Corporation, attended a meeting of the SEWG and submitted written and verbal comments on the Southeast Standard.

Between September 1997 and August 1998, the SEWG met five times for multi-day meetings, and several drafts were developed during this period. The Southeast Working Group elected to use a simple majority-vote process for all decisions, and requires that a 51% quorum be present for all votes. The earlier drafts developed consisted of the FSC Principles and Criteria For Forest Management coupled with indicators and verifiers developed by the Southeast Working Group. The indicators and verifiers are developed to measure compliance with the Principles and Criteria in a manner appropriate to the Southeast. Each working draft has been distributed for review to stakeholders expressing an interest in the project. In addition, the second draft was subjected to a formal peer review and a field test. Comments from these exercises were used to revise the drafts.

In 1999, FSC-U.S. formed a U.S. Standards Committee that began the drafting of a set of National Indicators. The regional standards development process was put on hold until this was accomplished. During the comment period on the National Indicators (NI), the SEWG submitted comments on the NI. In January 2001 the FSC-US Board of Directors approved the US National Indicators as baseline levels for compliance with the Principles and Criteria across the nine FSC-U.S. regions. Each of the regional working groups then engaged in a process of harmonizing their indicators and verifiers with those of the National Indicators. For the Southeast, two meetings were held to produce the harmonized version, followed by a two-month public review period, a field test, and a review by the FSC-U.S. Standards Committee (SC). Following these reviews, the working group met to consider public review comments,

field test results, and SC recommendations. A final, revised draft was prepared following this meeting and submitted to the SC for a second review. This draft was again reviewed by the SC through a series of conference calls, and in conjunction with the SEWG final language was developed and approved by vote of the SEWG. A final draft was submitted by the SC to the US Board on June 7th, 2002 and approved by the US Board on June 10, 2002.

The SEWG will remain constituted for future revisions. The standard will be revised as necessary in response to new scientific information and/or changes in social-environmental circumstances. A review-and-revision process will be initiated in no less than five years following approval by FSC. - FSC-US will maintain a regional working group coordinator in the Southeast region.

NOTES ON THE USE OF THE STANDARD

Items in bold are the FSC *Principles and Criteria for Forest Management*, which served as the outline and minimum threshold for the regional standard. Items that are not in bold are either indicators or verifiers. Indicators have two numbers and a letter (e.g., 1.1.a) and are sometimes followed by bulleted items, which are verifiers. The indicators and verifiers were designed to work with the principles and criteria as a package. Occasionally an indicator will not follow a criterion. In this case the criterion will be followed by the phrase: Note: The working group considers this criterion sufficiently explicit and measurable. Indicators are not required. The roles of principles, criteria, indicators, and verifiers are as follows:

Principle: An essential element of forest stewardship.

Criterion: A specific means of judging whether a principle has been fulfilled.

Indicator: A variable that specifically tells whether a criterion is met in a regional context, and that specifically states desired management outcomes and processes. Quantitative indicators include amounts, volumes, numbers, and percentages; qualitative indicators are usually satisfied by a 'yes' or 'no' answer.

Verifier: An example of a way in which a forest or management condition or state can be easily assessed to determine whether an indicator has been met.

Compliance with the Southeast Standard will be decided by FSC-accredited, third party certification bodies through voluntary assessments of forest management operations. As mentioned above, the concepts and requirements expressed in the FSC Principles and Criteria are embodied in the Southeast Regional Certification Standard. The criteria are considered applicable standards, and during an assessment, certification bodies are expected to evaluate the degree to which each criterion is met in the same manner as they evaluate the regional indicators. However, not every item in the standards will be applicable to every forest management operation.

This standard is a tool that must be applied with professional discretion by certification bodies, so the SEWG elected not to establish any “fatal flaw” standards, preferring that certification bodies evaluate the cumulative weight of adherence to the overall body of the standard. The standard seeks to establish a rigorous performance bar that forest managers must clear to be certified, while providing managers latitude in selecting methods used to meet the performance objectives and giving certification bodies sufficient flexibility to exercise professional judgment.

Periodic Review Process
The FSC-US Board will periodically review this standard during the accreditation period. At a minimum a comprehensive review will be conducted no later than 6 months prior to the expiration of the endorsement period (e.g. no later than May 29, 2007). During the review period the FSC-US Board will solicit feedback from Regional Working Group members, certificate holders, certifying bodies, FSC members, interested individuals and the general public. Information from scoping will be reviewed by the FSC-US Board and incorporated into the standard as needed.

What is the FSC-US Federal Lands Policy?
The FSC-US Board recognizes that additional indicators of performance may be required on Federally managed public lands because of their particular public mandates**.** For information on the certification of federal lands and the applicability of these standards in that context see FSC-US federal lands certification policy at: http://www.fscus.org/documents/.

Working Group Process
Consensus will be used as the basis for decision-making in future deliberations. Voting will serve as a back-up procedure if consensus cannot be achieved.

Notes regarding conditions issued by FSC International.

On 11/28/02 FSC-IC accredited the SE standard with 13 conditions. On 6/16/03 FSC-IC issued ABU-REP-34-06-2003-FSS-ACC-C-USA-SE, which documented closure of conditions 2, 4, 5, 6, 9 and 11 as a result of the submission of the FSC-US condition closure report submitted on 5/16/03. The results of closing conditions4, 5, 6, 9 and 11 are incorporated into V9.0 and shown below. Closure of condition 2 (describing the procedure by which the US government approves treaties) was accomplished by FSC-US submitting the required documentation directly to FSC-IC and therefore the results of closing condition 2 need not be incorporated into this version of the SE standard. For further information on condition 2 refer to the closure report issued by FSC-IC above.

Although condition 5 was issued on indicator 4.1.c, no change ultimately took place to this indicator after correspondence between FSC-US and FSC-IC clarified the language of this indicator.

In its response to condition 11, the FSC-US SEWG agreed to use consensus as a basis for decision-making in future deliberations. Voting will serve as a back-up procedure if consensus cannot be achieved.

Principle level failure
In the SE region, an FSC Principle level failure (which precludes award of certification until appropriately corrected, or necessitates revocation of certification) results from the fundamental inability to achieve the goal of an FSC Principle through a major non-compliance that

1. has continued for one year or longer,
2. is systematic throughout the management organization,
3. has created adverse effects over a wide area, which is defined as either the entire set of lands controlled by the forest owner or manager or a subwatershed, which ever is smaller (for definition of subwatershed see: http://watershed.org/news/fall_94/terminology.html.)

ACKNOWLEDGEMENTS

We offer our most sincere thanks to all who participated in the process of developing this standard, including the U.S.FSC National Initiative, its staff and Board, other regional working groups, meeting attendees, reviewers of the drafts, field test participants, peer reviewers, project interns, and especially the diligent Southeast Working Group. This process and its resultant Standard would not have been possible without the SEWG tireless efforts.

REVISED FINAL
FSC CERTIFICATION STANDARD FOR THE SOUTHEASTERN UNITED STATES

Applicability Note to Regional Standard regarding certification of federal lands. The process for certifying federal lands must comply with the FSC-US Board approved Federal Lands Policy and Federal Lands Findings, both of which are available at www.fscus.org. Certifiers should consult the Federal lands policy and findings to determine whether there are FSC-US approved indicators specific to the type of federal property being assessed, which must used in addition to these regional standards.

PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.

1.1. Forest management shall respect all national and local laws and administrative requirements.

1.1.a. Forest (see Glossary) management plans and operations comply with federal, state, county, municipal, and tribal laws, case law, and regulations.

For example, permits and/or authorization are obtained when required. (SE V10.0)

1.1.b. Forestry operations meet or exceed the current state forest practice regulations, best management practices for forestry, and other protective measures for water quality (see Glossary) that exist within the state(s) or other appropriate jurisdiction(s) in which the operations occur. *(SE V10.0)*

1.1.c. Forest owners or managers share public information, provide open records, and conduct procedures for public participation as required by law. *(SE V10.0)*

1.2. All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.

1.2.a. Taxes on forestland and timber, and other fees related to forest management, are paid in a timely manner and in accordance with federal, state, county, municipal and tribal laws.

For example:

- *Inquiries at local clerk's office verify that property taxes have been paid.*

Title to property is not jeopardized by delinquent taxes or loans. (SE V10.0)

1.3. In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA and Convention on Biological Diversity, shall be respected.

1.3.a. Forest owners or managers comply with treaties ratified by the U.S. Senate, including treaties with Native American tribes (note, see Appendix D for treaties which have been ratified and to which the US is a party as well as the following link: http://fletcher.tufts.edu/multilaterals.html). *(SE V10.0)*

1.4. Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case-by-case basis, by the certifiers and the involved or affected parties.

1.4.a. Where discrepancies between laws and FSC Principles and Criteria occur, they are referred to the appropriate FSC body. *(SE V10.0)*

1.5. Forest management areas should be protected from illegal harvesting, settlement, and other unauthorized activities.

1.5.a. Forest owners and managers implement measures to prevent illegal or unauthorized activities in the forest management area (see Glossary).

> *For example, by: painting and posting boundary notices, using gates, and making periodic inspections, etc. (SE V10.0)*

1.6. Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.

Applicability note to Criterion 1.6.: Assessment of this criterion is guided by both FSC Policy and Guidelines: Partial Certification for Large Ownerships (BM19.24). May 2000, (http://www.fsc.org/en/whats_new/documents/Docs_cent/2) and the FSC Guidelines for Certification FSC STD 20-001. (SE V10.0)

1.6.a. Forest owners or managers provide written statements of commitment to the FSC Principles and Criteria. The commitment is stated in the management plan [see 7.1], a document prepared for the certification process, or another official document. *(SE V10.0)*

1.6.b Forest owners or managers document the reasons for seeking partial certification*(SE V10.0)*.

PRINCIPLE #2: Tenure and Use Rights and Responsibilities

Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

2.1. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated. For definition of long term forest use rights see glossary.

2.1.a. Forest owners or managers make available information on legal and customary rights associated with the forest. These rights include both those held by the party seeking certification and those held by other parties.

> *For example, long-term leases, timber rights, or other assured rights of ownership, management, or use. (SE V10.0)*

2.2. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary, to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

For definition of legal or customary tenure see glossary.

2.2.a. Where customary and lawful uses of the forest are consistent with the conservation of the forest resource and the objectives stated in the management plan, forest owners or managers permit their continuance. *(SE V10.0)*

2.2.b. On ownerships, where customary use rights and traditional and cultural areas/sites exist, forest owners or managers consult with concerned groups in the management planning process and take precautions in the implementation of management operations in those areas.

For example, site preparation, harvesting, onsite processing. (SE V10.0)

2.3. Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.

2.3.a. Forest owners or managers maintain relations with community (see Glossary) stakeholders to identify disputes in their early stages. If disputes arise, forest owners or managers initially attempt to resolve them through open communication, negotiation, and/or mediation. If negotiation fails, federal, state, local, and/or tribal laws are employed to resolve land-tenure (see Glossary) claims. *(SE V10.0)*

2.3.b. Forest owners or managers provide information regarding unresolved and ongoing disputes over tenure and use rights to the certifying body. *(SE V10.0)*

PRINCIPLE #3: Indigenous People's Rights

The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.

Applicability Note: The terms "tribes", "tribal" or "American Indian groups" in indicators under Principle 3 include all groups and individual indigenous people in the US, who may be organized in recognized or unrecognized tribes, bands, nations, native corporations, or other native groups. (SE V10.0)

3.1. Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.

3.1.a. Forest management planning on tribal lands includes a process for input by tribal members in accordance with their laws and customs.

For example:
Documentation in the form of public notices, correspondence, or meeting minutes is provided.
Management plans reflect knowledge and consideration of tribal interests and concerns. (SE V10.0)

3.1.b. Forest management on tribal lands takes place only after securing the informed consent of tribes and individuals (such as allottees; see Glossary) whose forest is being considered for management. *(SE V10.0)*

3.1.c. When requested to do so by the tribal landowner(s), forest owners or managers utilize tribal experience, knowledge, practices, and insights in forest management planning and operations on tribal lands. *(SE V10.0)*

3.2. Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

3.2.a. Forest owners or managers identify and contact indigenous groups that have current legal or customary rights to use the management area, and invite their input on the forestry operations that affect their resources and/or their resource rights. *(SE V10.0)*

3.2.b. On lands adjacent to tribal lands or falling within watersheds that affect tribal lands, safeguards are implemented to ensure that forest management does not adversely affect tribal resources. *(SE V10.0)*

3.3. Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.

3.3.a. Forest owners or managers request the participation of tribal representatives in culturally appropriate identification of sites of current or traditional significance within the property proposed for certification.

For example:

- *Ceremonial, burial, or village sites;*
- *Areas used for hunting, fishing, or trapping;*
- *Current gathering areas for culturally important or ceremonial materials, such as basket materials, medicinal plants, or plant materials used in dances;*
- *Current gathering areas for subsistence uses, such as mushrooms, berries, acorns, etc;*
- *Unique historical, or archeological sites. (SE V10.0)*

3.3.b. Forest owners or managers, and tribal representatives jointly develop measures to protect or enhance sites of special significance.

For example:

- *The management plan outlines appropriate management of such sites and references appropriate legislation (e.g., Native American Graves Protection and Repatriation Act).*
- *Interviews and/or field inspections verify appropriate management and protection of such sites.*
- *Evidence exists of consultation with appropriate tribal authorities. (SE V10.0)*

3.3.c. Confidentiality of disclosure is maintained in keeping with custom, laws, and the requirements of tribal representatives.

3.4. Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation is formally agreed upon with their free and informed consent before forest operations commence.

3.4.a. Forest owners or managers respect the confidentiality of tribal knowledge and assist in the protection of tribal intellectual property rights. *(SE V10.0)*

3.4.b Where indigenous intellectual property is commercially utilized, a written agreement with individuals and/or tribes is reached prior to commercialization that states how they will be compensated for the use of their traditional knowledge *(SE V10.0)*

3.4.c. Protocols are jointly developed with local tribes to protect their intellectual property rights when traditional knowledge is requested for use in forest management. *(SE V10.0)*

PRINCIPLE #4: Community Relations and Workers' Rights

Forest management operations shall maintain or enhance the long-term social and economic well being of forest workers and local communities.

4.1. The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.

4.1.a. Forest work is packaged and offered in ways that create quality work opportunities for employees, contractors and their workers.

For example, quality work can include the following attributes:

- *Employee and contractor relationships that are long term and stable*
- *A mixture of diverse tasks requiring varying skill levels*
- *Opportunities for advancement*
- *A comprehensive package of benefits*
- *Opportunities for employee and contractor participation in decision-making(SE V10.0)*

4.1.b. Employment conditions (e.g., remuneration, benefits, safety equipment, training, and workman's compensation) are comparable for both non-local and local workers doing equivalent work. *(SE V10.0)*

4.1.c. Forest owners or managers give preference to the local procurement of goods and services.

For example, forest owners or managers make an effort to employ foresters, loggers, and contractors from within the area of operation. (e.g., work opportunities are advertised in area newspapers). (SE V10.0)

4.1.d. Workers and contractors have the skills to perform their assigned duties. Forest owners or managers provide work opportunities for qualified, local workers. *(SE V10.0)*

4.1.e. Forest owners or managers contribute to public education about forestry practices, forest values (e.g., watershed protection, habitat), and preservation of local heritage in conjunction with schools, community colleges, and/or other providers of training and education. *(SE V10.0)*

4.1.f. Employee compensation and hiring practices meet or exceed the prevailing local norms for work requiring equivalent education, skills, and experience. *(SE V10.0)*

4.1.g. Forest owners or managers provide and/or support training opportunities for workers to improve their skills. *(SE V10.0)*

4.1.h. Forest owners or managers, and their contractors comply with the letter and intent of applicable state and federal labor laws and regulations (see also 1.1.a). *(SE V10.0)*

4.2. Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.

4.2.a. Forest owners or managers and their contractors develop and implement safety programs and procedures that include:

- Well-maintained and safe machinery and equipment
- Use of safety equipment appropriate to each task
- Documentation and posting of safety procedures in the workplace
- Educational efforts (such as Forest Industry Safety Training Alliance and Game of Logging)
- Contracts that include safety requirements
- Safety records, training reports, and certificates. *(SE V10.0)*

4.3. The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labor Organization (ILO).

*Applicability Note: Compliance with this criterion can be accomplished with guidance from: FSC Certification and ILO Conventions:.(**http://fsc.org/fsc/whats_new/documents/Docs_cent/2**). Full texts of Conventions 87 (Freedom of Association and Protection of the Right to Organize) and 98 (Right to Organize and Collective Bargaining) can be read at the ILO website (www.ilo.org).* ***(SE V10.0)***

4.3.a. Forest owners or managers and their contractors develop mechanisms to resolve disputes between workers and management that take into consideration the cultural diversity of the southeast region.

For example:

- *Language translation and cultural interpretation are employed when needed.*
- *Cross-cultural training is employed when needed to integrate the workforce. (SE V10.0)*

4.4. Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.

Applicability Note: People and groups directly affected by management operations may include: employees and contractors of the landowner, neighbors, fishers and hunters, recreational users, local water users, and forest products processors. (SE V10.0)

4.4.a. Forest owners or managers contribute to designing and achieving goals for use and protection of forest and natural resources as articulated in local and regional plans. Examples of organizations working on these plans include watershed protection groups, BMP committees, and prescribed fire councils.

4.4.b. Through a process that includes outside consultation (e.g., state archaeological offices, tribes, universities, and local experts), all sites and features of special cultural significance are identified and protected, such as:

- historic and other significant trails
- prominent viewing points
- landscape features
- champion or other notable trees
- prehistoric and historic features. *(SE V10.0)*

4.4.c. Prior to the commencement of operations with off-site impacts, forest managers inform potentially affected adjacent landowners and/or communities (e.g., downstream water users, municipalities) of proposed forestry activities. These impacts are addressed during project implementation.

For example:
- *Interviews with adjacent landowners verify notification of relevant management activities*
- *Documentation of notification is provided.*
- *Management plan addresses neighbor and surrounding community smoke management concerns. (SE V10.0)*

4.4.d. Forest owners or managers of large-scale operations provide opportunities for people affected by management operations to provide input into management planning. *(SE V10.0)*

4.5. Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihood of local peoples. Measures shall be undertaken to avoid such loss or damage.

Applicability Note: Provisions of Criterion 4.5 do not evoke protections or liabilities beyond those provided by U.S., state, and local laws. (SE V10.0)

4.5.a. Forest owners or managers attempt to resolve grievances and mitigate damage resulting from forest management activities through open communication and negotiation prior to legal action.

4.5.b. Forest owners, managers, and their contractors have liability insurance or other forms of financial protection (e.g., monetary assets). *(SE V10.0)*

PRINCIPLE #5: BENEFITS FROM THE FOREST

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.

5.1. Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

5.1.a. Forest owners or managers are financially able to support long-term (i.e., decades rather than quarter-years or years) forest management (e.g., planning, inventory, resource protection, post-harvest management activities).

For example:
- *A budget shows that projected revenues and/or investments are sufficient to cover itemized activities and long-term management objectives with detail appropriate to scale. Such records can be considered proprietary.*
- *Adequate revenues from timber sales are reserved for budgeted expenditures. (SE V10.0)*

5.1.b. Increases in harvests or debt load as responses to short-term financial factors, such as fluctuations in the market, requirements for cash flow, need for sawmill equipment and log supplies, are limited to levels that enable fulfillment of the management plan. *(SE V10.0)*

5.1.c. Investment and reinvestment in forest management are sufficient to fulfill management objectives and maintain and/or restore forest health and productivity. *(SE V10.0)*

5.1.d. Forest owners or managers reinvest in the local economy and the community through both active civic engagement and ongoing capital investment.

For example:

- *Facilities and equipment are regularly maintained and updated.*
- *Out-of-area owners maintain a local office.*
- *The owner or manager supports local business development by working with organizations, such as chambers of commerce. (SE V10.0)*

5.1.e. Forest management activities produce an economic return as described in the primary objectives of the management plan. *(SE V10.0)*

5.1.f. Marketing strategies are designed to maintain the economic efficiency of forest operations.

For example, a competitive bidding process is used. (SE V10.0)

5.2. Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.

5.2.a. Products from timber sales are sorted and sold for the highest value and use.

For example, records of timber sales document optimum use by providing a product's destination(s) and category (e.g., veneer logs, saw timber, poles, and/or pulpwood). (SE V10.0)

5.2.b. Opportunities are given for local, financially competitive, value-added processing and manufacturing facilities. *(SE V10.0)*

5.2.c. New markets are explored and developed for common but less-used species, grades of lumber, or an expanded diversity of forest products. *(SE V10.0)*

5.2.d. When non-timber products (e.g., saw palmetto berries; Spanish moss; lichens; mistletoe; turkey; quail; deer; deer tongue, *Carphephorous odoratissima*) are harvested, the management and use of those products are incorporated into the management plan. *(SE V10.0)*

5.3. Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.

5.3.a. Merchantable by-products of harvest and in-field milling operations are used or sold as feasible, after leaving adequate woody debris (see Glossary) on site to provide nutrient cycling and habitat.

For example:
- *Chips and sawdust are used for mulch, filler, or fuel.*
- *Small diameter boles are used for fence posts, flooring, and furniture stock. (SE V10.0)*

5.3.b. Harvesting, sorting, and handling operations are carried out in a way that maximizes utilization of forest resources, while minimizing merchantable log loss and waste.

For example:
- *Merchantable wood is not left in the forest or the log yard.*
- *Care is demonstrated in felling trees to prevent broken tops or logs. (SE V10.0)*

5.3.c. Management operations are implemented in a way that protects the integrity of the residual stand (see Glossary). Provisions concerning acceptable levels of residual damage are included in operational contracts.

For example:
- *Bumper trees are utilized, and equipment is selected and used in a way that minimizes unintentional damage to crop trees.*
- *Residual damage is minimal. (SE V10.0)*

5.4. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.

5.4.a. Forest managers diversify the long-term production of forest products and services (e.g., timber and non-timber forest product harvesting, ecotourism, hunting leases, watershed protection), while maintaining forest composition, structures, and functions.

For example:
- *The forest manager provides a list of products and benefits being managed in the forest.*
- *The management objectives include a mix of forest products and services. (SE V10.0)*

5.5. Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries. See also 6.5.h.and i.

Note: The working group considers this criterion sufficiently explicit and measurable. Indicators are not required. (SE V10.0)

5.6 The rate of harvest of forest products shall not exceed levels that can be permanently sustained.

5.6.a. The rate of harvest (annual or periodic) does not exceed levels that can be permanently sustained. The harvest rate is based on the management objectives, growth and yields estimates (as derived from stand table projections and/or published growth models), and harvest records.

For example:

- *Stocking rates and volumes conform to projections of the management plan.*
- *The age-class distribution (see Glossary) required for sustainability and predicted yields in volume is justified by empirical data. (SE V10.0)*

5.6.b. Once the age-class distribution (see Glossary) is commensurate with long-term sustainability, harvest levels maintain growth levels over a ten-year period. Exceptions to this constraint may be granted to forest owners or managers whose periodic re-entry cycle is longer than 10 years. In such cases, allowable harvest is determined by examining the volume of re-growth since the previous harvest as evidence of the owner or manager's commitment to allow an equivalent amount of re-growth before additional harvests.

For example, records show that rates of tree growth meet or exceed harvest rates over a period of ten years or less. (SE V10.0)

PRINCIPLE #6: ENVIRONMENTAL IMPACT

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

Applicability Note: Small landowners who practice low intensity forestry may meet this requirement with brief, informal assessments. More extensive and detailed assessments (e.g., formal assessments by scientists) are expected by large landowners and/or those who practice more intensive forest management. (SE V10.0)

6.1. Assessment of environmental impacts shall be completed – appropriate to the scale, intensity of forest management and the uniqueness of the affected resources – and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.

6.1.a. Using available science and local expertise, an assessment of current conditions is completed that includes:

- ecological processes, such as disturbance regimes;
- unique, vulnerable, rare, and threatened ecosystems/natural communities;
- common plants, animals, and their habitats;
- sensitive, rare, threatened, and endangered species (see Glossary) and their habitats;
- wetlands and water resources; and
- soil resources. (see also 7.1.a and b).

For example:

- *Appropriate inventories and literature are on file.*
- *Field inspection verifies inventory information. (SE V10.0)*

6.1.b. Using available science and local expertise, current ecological conditions are compared to the historical conditions within the landscape context, using the baseline factors identified in 6.1.a. *(SE V10.0)*

6.1.c. Prior to the commencement of management activities, anticipated short-term and cumulative effects are considered in the development of specific forest management prescriptions. Potentially significant negative impacts are evaluated.

For example, resources that are potentially affected include:

- *ground cover*
- *residual trees*
- *regeneration*
- *wildlife and its habitat*
- *water quality and quantity*
- *soil compaction, structure, and fertility*
- *native communities/ecosystems*
- *biodiversity*
- *fragmentation. (SE V10.0)*

6.1.d. Using assessments derived from the above information, options are developed and implemented to maintain and/or restore the long-term ecological functions of the forest (see also 7.1.c). *(SE V10.0)*

6.2. Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.
For a definition of conservation zones see glossary.

Applicability Note: The following lists provide information on the identification of threatened, rare, locally endemic, or endangered species of plants and animals and their habitats: federal, state, and county/local lists produced by government agencies, Natural Heritage Programs, state Natural Areas Inventories, and/or the World Wildlife Fund's classification of forest communities. (SE V10.0)

6.2.a. If state or federal listings and species databases indicate the likely presence of a sensitive, rare, threatened, or endangered species, either a survey is conducted prior to management activities being carried out (to verify the species' presence or absence) or the forest owner or manager manages as though the species were present. Any such species are noted on a map of the forest management area. Management activities are compatible with the maintenance, improvement, or restoration (see Glossary) of the species and its habitat.

Note: The landowner has the discretion to keep the specific location of rare populations or communities confidential.

For example:

- *Execution of the activities described in the management plan is verified in the field.*
- *Reference to relevant literature (e.g., endangered species lists, recovery plans, habitat conservation methods, state and local laws) is noted in the management plan.*
- *Qualified individuals survey for such species.*

- *When such a species is found on site, modifications are made in both the management plan and its implementation. (SE V10.0)*

6.2.b. Conservation zones are established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources, to protect rare, threatened, locally endemic, or endangered species and their habitats, and their connectivity within the landscape.

For example:
- *Forest owners or managers implement management practices necessary to protect the species and their habitats.*
- *Forest owners or managers consult outside experts on planned activities. (SE V10.0)*

6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including: a) Forest regeneration and succession; b) Genetic, species, and ecosystem diversity; c) Natural cycles that affect the productivity of the forest ecosystem.

Applicability Note: See Appendix B for a summary of the Southeast Working Group's development of indicators 6.3.a.6, 6.3.a.7, and 6.3.a.8.
APPLICABILITY TO PRIMARY AND OLD-GROWTH FORESTS:

Due to the scarcity of old-growth forests in the Southeast states, they are normally designated as High Conservation Value Forests (see Principle 9). Certified old-growth forests <u>not</u> designated as High Conservation Value Forest are managed to maintain or recruit: (1) the existing abundance of old-growth trees, and (2) the landscape and stand-level structures of old-growth forests, consistent with the composition and structures produced by natural processes. Limited timber harvest is permissible, provided these characteristics are retained or enhanced.

Although old-growth trees and old-growth forests can be characterized ecologically, no practical nationwide definition of "old growth" can be objectively devised because old-growth characteristics differ by species and forest type, within and among regions. Regional working groups have determined which ecological characteristics (e.g., ages, structures, species composition, effective core area) describe old growth in the forests of their regions. See the Glossary for the Southeast definition of old-growth.

When forest management activities (including timber harvest) create and maintain conditions that emulate an intact, mature forest or other successional phases that may be under-represented in the landscape, the management system that created those conditions may be used to maintain them. (SE V10.0)

6.3.a. Forest regeneration and succession

6.3.a.1. Forest owners or managers use the following information to make management decisions: landscape patterns (e.g., land use/land cover, non-forest uses, habitat types); ecological characteristics of adjacent forested stands (e.g., age, productivity, health); species' requirements and frequency; distribution and intensity of natural disturbances.

For example:
- *Ecological connections and/or corridors to adjacent properties are maintained or improved.*
- *Cooperation with adjacent landowners is in place when and where possible.*

Note: This indicator may have limited applicability for managers of small and mid-sized forest properties because of their limited ability to coordinate their activities with other owners within the landscape, or to

significantly maintain and/or improve landscape-scale vegetative patterns. (SE V10.0)

6.3.a.2. Forest owners or managers maintain or restore portions of the forest to the range and distribution of age classes of trees (including old/large trees) that result from processes that would naturally occur on the site. *(SE V10.0)*

6.3.a.3. Silvicultural practices generate conditions, including species composition, habitat types, and forest structures, that would naturally occur on the site. *(SE V10.0)*

6.3.a.4. Natural regeneration is used to sustain, enhance, or restore forest cover that is consistent with management objectives. *(SE V10.0)*

6.3.a.5. When natural regeneration is insufficient, practices (e.g. supplemental planting, burning, thinning) are employed to achieve desired stocking levels and contribute to species or genetic diversity and/or restore ecosystem structure and function.

For example:
- *Inventory of natural regeneration justifies enrichment planting (see 8.2.b).*
- *Planted species and spacing are ecologically appropriate.*
- *Records of numbers of trees and species planted are provided.*
- *Site preparation techniques, if required, minimize damage to residual stands, soils, and desirable understory and ground cover.*
- *Seed source is documented. (SE V10.0)*

6.3.a.6. Well-distributed quality seed trees are retained, and a desirable seedbed is created for all affected species for which natural regeneration is desired.

For example:
- *Adequate regeneration exists.*
- *Desirable species (see Glossary) present at low frequency are not harvested unless sufficient regeneration can be secured through natural or artificial means.*
- *The number of seed trees retained is sufficient to produce a well-stocked stand.*
- *Professional literature or experience is referenced to determine appropriate numbers of trees and their required distribution. (SE V10.0)*

6.3.a.7. When uneven-aged management (see Glossary) is employed, canopy (see Glossary) openings are created in sizes that facilitate the regeneration of the species of tree being managed. Canopy openings are created using single-tree or group selection (see Glossary) and are within the range of non-catastrophic, natural openings common for each particular forest type and sufficiently large to regenerate desirable tree species.

For example, justification is provided, based on professional literature or experience, for the size of canopy openings used in each forest cover type. (SE V10.0)

6.3.a.8. When even-aged management (see Glossary) is employed, live trees and native vegetation are retained within the harvest unit in a proportion and configuration that is consistent with the characteristic natural disturbance regime in each community type (see Glossary), unless retention at a lower level is necessary for purposes of restoration or rehabilitation. The level of retention increases proportionally to the size of the harvest unit and is based on professional literature and/or experience. *(SE V10.0)*

6.3.a.9. Primary and uneven-aged natural and semi-natural stands (see Glossary for definitions of forest types) are retained as such. Degraded semi-natural stands (see Glossary) may be converted to even-aged stands (see Glossary) for the purpose of restoration. *(SE V10.0)*

6.3.b. Genetic, species, and ecosystem diversity

6.3.b.1. Forest management activities maintain a diversity of groundcover and a mix of mid story and canopy species that are found in the natural communities so as to maintain or enhance the productive capacity of the site being managed, as well as genetic, species, and community diversity. *(SE V10.0)*

6.3.b.2. A diversity of habitats for native species is protected, maintained, and/or enhanced, such as:

- Declining trees and snags (see Glossary);
- Vertical and horizontal structural complexity;
- Understory species diversity;
- Well-distributed, large woody debris;
- Habitats and refugia (see Glossary) for sedentary species and those with special habitat requirements.
- Riparian areas on rivers, streams, springs, bogs, and seeps. *(SE V10.0)*

6.3.b.3. Locally threatened ecosystems or communities (e.g., pitcher plant bogs, savannahs, prairies, and isolated wetlands) and fragile or unique areas (e.g., isolated ephemeral wetlands, sinkholes, endangered endemic populations (see Glossary), and other rare and threatened habitats) are identified, mapped, and maintained for their ecological functions.

For example:
- *Forest owners or managers have a copy of or have access to relevant Natural Heritage Inventory, Natural Areas Inventory, or other inventories.*
- *No evidence of significant alterations to these areas exists. (SE V10.0)*

6.3.b.4. Naturally non-forested land and forest gaps that provide a diversity of wildlife habitat are maintained. *(SE V10.0)*

6.3.b.5. High grading (see glossary) is not practiced. *(SE V10.0)*

6.3.c. Natural cycles that affect the productivity of the forest ecosystem

6.3.c.1. Coarse woody debris, in the form of large fallen trees, large logs, and snags of various sizes, is maintained. *(SE V10.0)*

6.3.c.2. Forest owners or managers maintain natural nutrient cycles, soil fertility, and structure by leaving residues in the forest and minimizing soil disturbance.

For example:
- *Slash is left distributed or redistributed into the forest.*
- *Burning is used when and where it is appropriate to the natural disturbance regime. (SE V10.0)*

6.3.c.3. If soil degradation occurs, as indicated by declining fertility or forest health, forest owners or managers modify soil management techniques.

For example:
- *Primary management objectives shift from commercial production to restoration.*
- *Site preparation is minimized.*
- *Road system design and construction is upgraded.*
- *The lightest practical equipment with the lowest ground pressure is used.*
- *Whole-tree harvesting is discontinued, and tops are left in the forest.*
- *Longer rotations and a diversity of species are used in lieu of artificial fertilization.*
- *Natural, early successional processes are allowed or encouraged. (SE V10.0)*

6.3.c.4. Hydrological functions, including those of wetlands and other sensitive areas, are maintained, enhanced, and/or restored. *(SE V10.0)*

6.3.c.5. Prescriptions for salvage harvests balance ecological and economic considerations.

For example:

- *Coarse woody debris is maintained.*
- *Den trees and snags are maintained.*
- *Background levels of native pest populations are allowed.*
- *Potentially devastating pest outbreaks are controlled expeditiously. (SE V10.0)*

6.3.c.6. Prescribed burning reflects the natural fire regime, including its periodicity, intensity, variability, seasonality, and timing. Prescribed burning is documented and implemented by qualified personnel in accordance with a burn prescription.

For example:

- *Documentation for the history of natural and prescribed fires in the forest management area is provided.*
- *A prescription is prepared for each burn. Prescriptions include burn-unit maps, desired wind direction, smoke-sensitive areas, locations of fire breaks, and other relevant information in the plan and on the map.*
- *Burning is implemented in accordance with the fire management plan. (SE V10.0)*

6.4. Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

Applicability Note: When forest management activities (including timber harvest) create and maintain conditions that emulate an intact, mature forest or successional phases that are under-represented in the landscape, the management system that created those conditions is used to maintain them, and the area may be considered a representative sample for the purposes of meeting this criterion.

Ecologically viable representative samples are designated to serve one or more of three purposes: (1) to establish and/or maintain an ecological reference condition, (2) to create or maintain an under-represented ecological condition (e.g., successional phases of a forest type or plant community (see Glossary), and (3) to protect a feature that is sensitive, rare, or unique in the landscape. Areas serving the purposes of (1) and (2) may move across the landscape as under-represented conditions change, or may be fixed in area and manipulated to maintain the desired conditions. Areas serving the purposes of (3) are fixed in location.

Forests of all sizes may be conducive to protection of fixed features, such as rock outcrops and bogs. Medium- sized and large forests may be more conducive to the maintenance of successional phases and disturbance patterns than small forests.

While public lands (see Glossary) are expected to bear primary responsibility for protecting representative samples of existing ecosystems, FSC certification of private lands can contribute to such protection.

Representative samples may be protected solely by the conditions of the certificate and/or through the use of conservation easements or other instruments of long-term protection. (SE V10.0)

6.4.a. Fragile and/or unique ecosystems present in the forest management area are identified and described in the management plan. The location of such ecosystems is noted on a map of the forest management area. *(SE V10.0)*

6.4.b. Forest owners or managers assess the adequacy of representation of their forest types in conservation zones across the landscape. This assessment will entail collaboration with state natural heritage programs; public agencies; regional, landscape, and watershed planning efforts; universities; and/or local conservationists and can include gap analysis. *(SE V10.0)*

6.4.c. Where existing protected areas within the landscape are not of a size and configuration to serve the above purposes, forest owners or managers, whose properties are conducive to the establishment of such areas, designate ecologically viable areas that serve the three purposes described in the above applicability note. *(SE V10.0)*

6.4.d. In the certification of public lands, large, contiguous public forests under the management of one agency (see Glossary) create and maintain representative conservation zones sufficient in size to allow natural disturbances to occur at their natural rate. The size and extent of representative samples on public lands is determined through a transparent planning process that is accessible and responsive to the public; in addition, the process and rationale are explicitly described in the public summary. *(SE V10.0)*

6.5. Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

For a definition of erosion see glossary.

6.5.a. Logging operations and construction of roads and skid trails are carried out only during periods of weather when soil compaction, surface erosion, or sediment transport into streams and other bodies of water can be kept to a minimum. There are provisions in sales contracts to interrupt harvest operations under adverse environmental conditions.

For example, there is no evidence of significant degradation to soil or water quality. (SE V10.0)

6.5.b. Implementation of harvesting, road construction, and other mechanical operations follow the management plan and meet or exceed state Best Management Practices (BMPs) and applicable water quality regulations. Silvicultural techniques and logging equipment vary with slope, erosion-hazard rating, and/or soil instability in order to minimize soil disturbance. Areas that exhibit an extreme risk of landslide are excluded from logging.

Note: "Extreme risk" is a legally binding term in some states; see respective state BMP's.

For example, a logging contract contains requirements to conform to state BMPs and a damage liability clause. (SE V10.0)

6.5.c. Logging operations avoid damage to residual trees, regeneration, ground cover, soils, waterways, and wetlands.

For example, post-harvest inspection of the site indicates no significant damage to residual trees, ground cover, wildlife and/or their habitats, and soils (including erosion, rutting, and compaction). (SE V10.0)

6.5.d. Plans for site preparation specify the following mitigations to minimize impacts to the forest resource:

- Slash is concentrated only as much as necessary to achieve the goals of site preparation and the reduction of fuels to moderate or low fire hazard levels.
- Scarification of soils is limited to the minimum necessary to achieve successful regeneration of desired species.
- Topsoil is minimally disturbed. *(SE V10.0)*

6.5.e. The transportation system is designed, constructed, maintained, and/or reconstructed to minimize the extent of the road network and its potential adverse cumulative effects.

For example:

- *Road density is minimized.*
- *Displacement of soil and the sedimentation of streams, as well as impacts to water quality, are minimized.*
- *Patches of habitat and migration corridors are conserved as much as possible.*
- *The integrity of riparian management zones (see Glossary) and buffers (see Glossary) surrounding other valuable ecological elements (e.g., wetlands, habitat for sensitive species, and interior old-growth forest) is conserved.*
- *To avoid damage, log landings are on level areas away from streams, and skid trails and roads avoid steep grades and have adequate water control structures. (SE V10.0)*

6.5.f. Access to temporary and permanent roads is controlled to minimize impacts to soil, biota, and public roads while allowing legitimate access as addressed by Principles 3 & 4 and identified in the management plan.

For example:

- *Roads without a weather resistant surface (e.g., soil, dirt, or native-surfaced roads) are used only during periods when conditions are favorable to minimize road damage, surface erosion, and sediment transport.*
- *Access to roads not immediately necessary for management purposes is restricted. (SE V10.0)*

6.5.g. Failed drainage structures or other areas of active erosion caused by roads and skid trails are identified, and measures are taken to correct the drainage problems and stabilize erosion. *(SE V10.0)*

6.5.h. Streamside or special management zones (SMZs) are specifically described and/or referenced in the management plan, included in a map of the forest management area, and designed to protect and/or restore water quality and aquatic and riparian populations and their habitats (including river and stream corridors, steep slopes, fragile soils, wetlands, vernal pools, seeps and springs, lake and pond shorelines, and other hydrologically sensitive areas).

At a minimum, management of SMZs has the following characteristics:

- Management meets or exceeds state BMPs.
- SMZ width reflects changes in forest condition, stream width, slope, erodibility of soil, and potential hazard from windthrow along the length of the watercourse.

- SMZs provide sufficient vegetation and canopy cover to filter sediment, limit nutrient inputs and chemical pollution, moderate fluctuations in water temperature, stabilize stream banks, and provide habitat for riparian and aquatic flora and fauna.
- Characteristic diameter-class distributions, species composition, and structures are adequately maintained within the SMZs. *(SE V10.0)*

6.5.i. Wetlands in the forest management area are classified in the management plan, mapped, and their ecological and hydrological qualities are maintained or improved.

For example, all wetlands, including isolated wetlands, are protected from adverse changes in hydrology caused by ditching, dyking, draining, and filling. (SE V10.0)

6.5.j. Stream crossings are located and constructed to minimize fragmentation of aquatic habitat and maintain water quality.

For example:

- *Riparian management zone crossings are kept to a minimum.*
- *Stream crossings are installed at an angle that causes least damage.*
- *Culverts allow free passage of aquatic organisms*. *(SE V10.0)*

6.6. Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.
For a definition of chlorinated hydrocarbons see glossary.

6.6.a. Forest owners or managers employ silvicultural systems, integrated pest management, and strategies to control vegetation that minimize adverse environmental impact. Techniques, other than chemical applications, are emphasized in the implementation of these strategies. Components of silvicultural systems, integrated pest management, and strategies to control vegetation include several or all of the following:

- Creation and maintenance of habitat that discourages pests;
- Creation and maintenance of habitat that encourages natural predators;
- Evaluation of pest populations and establishment of action thresholds;
- Diversification of species composition (see Glossary) and structure;
- Use of mechanical methods to control pests;
- Use of prescribed fire to control pests;
- Selection and application of proper pest control methods to avoid negative impacts on non-target organisms;
- Modification of stand structure to improve forest health (e.g., thinning). *(SE V10.0)*

6.6.b. Forest owners or managers develop written pest control strategies as a component of the management plan (criterion 7.1).

For example:

- *Forest management plan includes a description, evaluation, and comparison of integrated pest management (see Glossary) practices that might be used for common problems.*
- *Forest management plan or other documents contain detailed justification, in terms of forest health and growth, for any use of insecticides, fungicides, or herbicides.*
- *Forest owners or managers are aware of the more significant potential pest problems typical for the region and have some knowledge of control procedures.*
- *Pest (e.g., insects, disease, animals) surveys or observations are periodically conducted.*
- *Cost/benefit estimates and environmental impacts are evaluated prior to implementing any pest control methods. (SE V10.0)*

6.6.c. When chemicals are being used, a written prescription is prepared that describes application objectives, rates and methods of their application, risks and benefits of their use, methods to reduce dependence on chemicals, and the precautions that must workers employ. Records are kept of pest occurrences and control measures taken.

For example:

- *Pest control methods are applied by trained personnel, following a written prescription.*
- *Records of location, application rates, and weather conditions are on file for each application. (SE V10.0)*

6.6.d. The use of pesticides (e.g., herbicides, insecticides, fungicides, fumigants, rodenticides, and algaecides) does not harm employees, neighbors, the public at large, or sensitive areas as per 6.3.b.3, 6.3.c.4, or 6.5.h. All applicable laws and label requirements for chemical use are followed. Records are kept that identify incidences of worker exposure to chemicals.

For example:

- *There are no records of violations.*
- *All equipment for transport, storage, and application of chemicals is safe and leak proof, and complies with all federal and state safety standards.*
- *The current labels and Materials Safety Data Sheets (MSDS) are present for pesticides on site. (SE V10.0)*

6.6.e. Application of pesticides and their effects are confined to the target area and species.

For example:

- *There is no evidence that non-target flora or fauna have been significantly damaged by pesticide applications.*
- *There is no evidence of off-site damage from pesticide applications. (SE V10.0)*

6.6.f Forest owners and managers demonstrate compliance with FSC Policy paper: "Chemical Pesticides in Certified Forests, Interpretation of the FSC Principles and Criteria, July 2002. *(SE V10.0)*

6.7. Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

6.7.a. Operational procedures for the proper management of all waste oil, filters, containers, litter, and other forms of waste created during harvest and other management operations are established and followed.

For example, written procedures are in or attached to the management plan, meet or exceed legal requirements, and are followed. (SE V10.0)

6.7.b. In the event of a spill of hazardous material, forest owners or managers immediately contain the material, report the spill as required by applicable regulations, and engage qualified personnel to perform the appropriate removal and remediation. *(SE V10.0)*

6.7.c. Waste materials are disposed of in a timely manner.

For example:

- *Broken and leaking equipment and parts are repaired or removed from the forest; discarded parts are taken to a designated disposal facility.*
- *There is no evidence of waste materials on past operational sites. (SE V10.0)*

6.7.d. Fuel tanks are located, and equipment is parked, outside of riparian management zones and away from sinkholes.

For example, there is no evidence of ground- or surface-water contamination. (SE V10.0)

6.7.e. Employees and contractors are trained in the proper handling, storage, and disposal of chemicals, and protective equipment is available and used.

For example:

- *Training records for employees exist, and contracts contain clauses that require such training as required by the Federal Worker Protection Standards Law.*
- *Personal protective equipment and spill containment materials are available on all operational sites. (SE V10.0)*

6.7.f. Waste from on-site processing plants (e.g., portable sawmills, chippers) is disposed of according to legal or label requirements.

For example, disposal follows legal and/or label requirements. (SE V10.0)

6.8. Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national and state laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.
For a definition of genetically modified organisms see glossary.

Applicability note: Genetically improved organisms (e.g., Mendelian crossed) are not considered to be genetically modified organisms and may be used. The prohibition of genetically modified organisms applies to all organisms, including trees. This Criterion is guided by FSC guidelines on GMO's http://fsc.org/fsc/whats_new/documents/Docs_cent/2).
(SE V10.0)

6.8.a. Biological controls are only used for pest problems, as part of integrated pest management (IPM) programs, and when the biological control agents, methods, and effects have been subjected to peer reviewed scientific research that demonstrates there are no significant negative impacts on native flora and fauna.

For example:

- *Forest management records document the justification and use of biological control agents.*
- *Records include location, application rates, and weather conditions for each application.*
- *Only narrow-spectrum biological control agents are used.*
- *Exotic biological control agents are used only as a last resort and then only for the control of invasive exotic species. (SE V10.0)*

6.9. The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

Applicability Note: For the Forest Certification Standard for the Southeastern United States, terrestrial exotic species are further defined as "Species not native or endemic to the Southeastern United States."

6.9.a. Exotic species (see Glossary) are not planted or otherwise introduced, with the possible exception of exotic biocontrol agents (see 6.8.a). *(SE V10.0)*

6.9.b. Planted exotic species are monitored to ensure they do not spread beyond their originally planted site (see 8.2.c). If they spread, control or eradication measures are taken. *(SE V10.0)*

6.10. Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: a) entails a very limited portion of the forest management unit; and b) does not occur on high conservation value forest areas; and c) will enable clear, substantial, additional, secure, long term conservation benefits across the forest management unit.
For a definition of plantations see glossary.

6.10.a. Primary, natural, and semi-natural stands are not converted to plantations. Degraded semi-natural stands can be converted to restoration plantations (see Glossary). *(SE V10.0)*

6.11. Invasive exotic species of plants should be eradicated from the property if biologically possible and economically feasible. Otherwise, invasive exotic species should be controlled to limit their expansion and ecological damage.

Note: Criterion 6.11 was added by the working group for the Southeastern U.S.

Applicability Note on "if biologically possible": Sometimes it is not biologically possible to eradicate an organism. For example, multi-million dollar efforts to eradicate hydrilla, melaleuca, kudzu, water hyacinth, and Brazilian pepper have proven that sometimes it is not possible to eradicate well-established invasive exotic species. Thus, in some cases, efforts can only reduce the species to an economically and ecologically acceptable threshold. (SE V10.0)

6.11.a. Periodic assessments for location and severity of invasive exotic species are carried out, including searches for new infestations of additional invasive species. *(SE V10.0)*

6.11.b. Locations of invasive exotic species are both described and mapped in the management plan. *(SE V10.0)*

6.11.c. The forest owners or managers specify measures to eradicate or control invasive exotic species and implement them in the field.

For example,
Measures to control invasive exotic species are evident on site. (SE V10.0)

6.11.d. Periodic monitoring is conducted to assess the effectiveness of the control measures, including the economic feasibility. *(SE V10.0)*

PRINCIPLE #7: MANAGEMENT PLAN

A management plan—appropriate to the scale and intensity of forest management—shall be written, implemented, and kept to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.

7.1. The management plan and supporting documents shall provide:
a) Management objectives.
b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.
c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.
d) Rationale for rate of annual harvest and species selection.
e) Provisions for monitoring of forest growth and dynamics.
f) Environmental safeguards based on environmental assessments.
g) Plans for the identification and protection of rare, threatened and endangered species.
h) Maps describing the forest resource base including conservation zones, planned management activities and land ownership.
i) Description and justification of harvesting techniques and equipment to be used.

Applicability note: The management plan may consist of a variety of documents not necessarily unified into a single planning document, but which represents an integrated strategy for managing the forest. (SE V10.0)

7.1.a. Management objectives

7.1.a.1. A written management plan is prepared that includes the landowner's short-term and long-term vision, goals, and objectives (ecological, silvicultural, social, and economic). The objectives are specific, achievable, and measurable. *Appropriate to the scale, intensity, and context of management*, the plan includes description and rationale for:

Silvicultural systems:
- *Regeneration strategies*
- *Maintenance of structural and species diversity, including rare, threatened, and endangered species*
- *Pest control (disease, insects, invasive species, and vegetation)*
- *Soil and water conservation*
- *Methods and annual rates of harvest, by species and products*
- *Equipment and personnel needs*

- *Transportation systems*

Fire management:

- *Prescribed fires*
- *Wildfires*

Fish and wildlife and their habitats (including non-game species)

Non-timber forest products:

- *Methods and annual rates of harvest, by species and products*
- *Regeneration strategies*

Socioeconomic issues:

- *Public access and use*
- *Conservation of historical and cultural resources*
- *Protection of aesthetic values*
- *Employee and contractor policies and procedures*
- *Community relations*
- *Stakeholder notification*
- *Public comment process*

Indigenous peoples' issues:

- *Protection of legal and customary rights*
- *Procedures for integrating tribal concerns into forest management*
- *Management of sites of special significance*

Special management areas:

- *Riparian management zones*
- *Set asides of sample representative ecosystems*
- *Protection of sensitive, rare, threatened, and endangered species n*
- *Other conservation zones and/or ecologically sensitive features in the forest*
- *Landscape level analyses and strategies (SE V10.0)*

7.1.b. Description of forest resources to be managed, environmental limitations, status of land use and ownership, socio-economic conditions, and a profile of adjacent lands

7.1.b.1. Descriptions of the following forest resources at the stand level and summarized at the total forest level are included in the forest management plan:

- Acreage
- Timber inventory
- Forest type
- Soil type
- Natural communities
- Water resources
- Fragile and unique areas
- Fish, wildlife, and their habitats
- Harvested non-timber forest products (e.g., botanical and mycological)
- Non-economic natural resources (e.g., ground cover) *(SE V10.0)*

7.1.b.2. A general description of the history, including ownership and use, of the forest management area is included in the forest management plan. *(SE V10.0)*

7.1.b.3. A general description of landowner and the forest management area includes:

- the landowner's name and address;
- socio-economic context and conditions of the forest management area;
- other interests in the property (e.g., conservation easements, hunting leases, usufruct rights and treaty rights, mineral rights, utility rights of ways);
- significant plans to change ownership status or size of the forest management area;
- the location, size, environmental limitations, and legal description of the forest management area and a profile (including ownership and use) of adjacent lands. *(SE V10.0)*

7.1.b.4. The management plan identifies relevant cultural and socioeconomic issues (e.g., traditional and customary rights of use, access, recreational uses, and employment), conditions (e.g., composition of the workforce, stability of employment, and changes in forest ownership and tenure), and areas of special significance (e.g., ceremonial and archeological sites). *(SE V10.0)*

7.1.b.5. The management plan incorporates landscape-level considerations within the ownership and among adjacent and nearby lands, including major water bodies, critical habitats, and riparian corridors shared with adjacent ownerships. *(SE V10.0)*

7.1.c. Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.

7.1.c.1 Silvicultural system(s) and prescriptions are based on the integration of ecological and economic characteristics (e.g., successional processes, soil characteristics, existing species composition and structures, desired future conditions, and market conditions). (see also 6.3.a) *(SE V10.0)*

7.1.c.2. Prescriptions are prepared prior to harvesting, site preparation, pest control, burning, and planting and are made available to people who carry out the prescriptions. *(SE V10.0)*

7.1.d. Rationale for the rate of annual harvest and species selection

7.1.d.1. The management plan includes reliable data on growth, yield, stocking, and regeneration (see also 5.6.b). *(SE V10.0)*

7.1.d.2. Species selection meets the economic goals and objectives of the forest owner or manager, while maintaining or improving the ecological composition and structure and functions of the forest. *(SE V10.0)*

7.1.d.3. A time line that includes a schedule for program level forest management activities to be implemented over a five-year planning horizon is included in the forest management plan. Items to be addressed in the schedule include such activities as silviculture, monitoring, and assessment. *(SE V10.0)*

7.1.e. Provisions for monitoring forest growth and dynamics (see also Principle 8).

7.1.e.1. Monitoring goals and objectives are stated in the management plan. *(SE V10.0)*

7.1.f Environmental safeguards based on environmental assessments.

7.1.f.1. Written safeguards are based on the results of environmental assessments (see 5.3, 6.1 and 2, and 8.2.d). *(SE V10.0)*

7.1.g. Plans for the identification and protection of rare, threatened, and endangered species.
Note: also see Criterion 6.3.

7.1.g.1. The management plan provides descriptions of activities for maintaining sensitive, rare, threatened, or endangered species and their habitat(s). *(SE V10.0)*

7.1.h. Maps describing the forest resource base, including protected areas, planned management activities, and land ownership.

7.1.h.1. The management plan includes maps of the forest's characteristics, such as:

- relevant landscape-level factors;
- property boundaries and roads;
- timber production areas;
- forest types by age and/or structure;
- forest tracts mapped by community types;
- topography;
- soils, riparian zones (see Glossary) and springs and wetlands;
- archaeological sites and cultural and customary use areas;
- locations of and habitats for sensitive, rare, threatened, and endangered species; and
- designated High Conservation Value Forests. *(SE V10.0)*

7.1.i. Description and justification of harvesting techniques and equipment to be used (see also Criterion 6.5).

Note: The working group considers this sub-criterion sufficiently explicit and measurable. Indicators are not required. (SE V10.0)

7.2. The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

7.2.a. The management plan is current and is reviewed and revised as necessary (at least every five years to coincide with certification re-assessments) to accommodate new research findings and the observed effects of previous practices, as well as changes in the resource base. *(SE V10.0)*

7.2.b. Relevant provisions of the management plan are modified in response to detrimental environmental effects of illegal and/or unauthorized activities, as documented by monitoring (e.g., road damage, depletion of timber and non-timber resources). *(SE V10.0)*

7.2.c. Relevant provisions of the management plan are modified in response to changes in the forest due to unplanned disturbances (e.g. hurricanes, ice storms, floods, wildfire, pest outbreaks). (SE V10.0)

7.3. Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

Note: The working group considers this criterion sufficiently explicit and measurable. Indicators are not required. (SE V10.0)

7.4. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.

Applicability Note: Forest owners or managers of private forests may withhold proprietary information (e.g., the nature and extent of timber volumes by species, timber quality, size and age class, marketing strategies, and other financial information) (see also Criterion 8.5).

Note: The working group considers this criterion sufficiently explicit and measurable. Indicators are not required. (SE V10.0)

PRINCIPLE #8: MONITORING AND ASSESSMENT

Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

Applicability Note: On small and medium-sized forests, an informal, qualitative assessment may be appropriate. On large forests and intensively managed forests, formal, quantitative monitoring is probably required. (SE V10.0)

8.1. The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

8.1.a. Implementation and effectiveness of the management plan are periodically monitored to assess:

- The degree to which management the vision, goals, and objectives have been achieved;
- Deviations from the management plan;
- Unexpected effects of management activities;
- Social and environmental effects of management activities. *(SE V10.0)*

8.1.b. When sampling is needed, designs and procedures are clearly defined and provide results with levels of confidence appropriate to the scale and intensity of management. *(SE V10.0)*

8.2. Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

a) Yield of all forest products harvested.
b) Growth rates, regeneration, and condition of the forest.
c) Composition and observed changes in the flora and fauna.
d) Environmental and social impacts of harvesting and other operations.
e) Cost, productivity, and efficiency of forest management.

For a definition of social impacts see glossary.

8.2.a. Yield of all forest products harvested

8.2.a.1. Forest owners or managers maintain records of standing timber and timber harvest volumes by species, volume, and product class (e.g., saw timber, chip and saw, and pulp wood). *(SE V10.0)*

8.2.a.2. Forest owners or managers maintain records of the yield of harvested non-timber forest products. *(SE V10.0)*

8.2.a.3. Significant, unanticipated removal of forest products (e.g., theft and poaching) is monitored and recorded. *(SE V10.0)*

8.2.b. Growth rates, regeneration, and condition of the forest

8.2.b.1. Species composition, regeneration, growth rates, stocking, stand structure, and age-class distribution are monitored and recorded through a forest inventory system that includes:

- Growth and mortality rates of the dominant and/or important species are estimated for each forest and site type.
- Stand structure and composition are monitored periodically by estimating the number of trees in each age or size class by species or species group.
- The number of stems per acre of regeneration is estimated, by species or species group.
- The impacts of natural disturbances (e.g., disease, wind, fire, damage by insects and/or mammals) are periodically monitored.
- Stands are monitored to assess their vulnerability to natural disturbances. *(SE V10.0)*

8.2.c. Composition and observed changes in the flora and fauna

8.2.c.1. Forest owners or managers periodically monitor the forest for changes in major habitat elements; in the occurrence of sensitive, rare, threatened, or endangered species; and of invasive exotic species. *(SE V10.0)*

8.2.d. Environmental and social impacts of harvesting and other operations

8.2.d.1. The environmental impacts of site-disturbing activities are assessed after their completion.

Examples include impacts on:

- *residual trees*
- *ground cover*
- *regeneration*
- *wildlife habitat*
- *wetland hydrology*
- *water quality and quantity*
- *soil compaction, structure, and fertility*
- *native communities/ecosystems*
- *biodiversity*
- *fragmentation(SE V10.0)*

8.2.d.2. A monitoring program is in place to assess the condition of and the environmental impacts of the forest road system. *(SE V10.0)*

8.2.d.3. Creation and/or maintenance of local jobs and public responses to management activities are documented. *(SE V10.0)*

8.2.d.4. On tribal lands, management of sites of special significance (see indicators 3.2 and 3.3) is jointly monitored with tribal representatives to determine the adequacy of management prescriptions. *(SE V10.0)*

8.2.e. Costs, productivity, and efficiency of forest management

8.2.e.1. Forest owners or managers monitor the costs of and revenues from management activities in order to assess forest productivity and efficiency over the long term. *(SE V10.0)*

8.3. Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain-of-custody."

8.3.a. While certified forest products are in the landowner or manager's possession, they are clearly identified through marks or labels and/or stored separately from non-certified products. *(SE V10.0)*

8.4. The results of monitoring shall be incorporated into the implementation and revision of the management plan.

8.4.a. Information is collected through monitoring to enable adjustment of management plans and strategies. Deficiencies in information are identified and procedures initiated to remedy them. *(SE V10.0)*

8.4.b. Discrepancies between outcomes (i.e., yields, growth, ecological changes) and expectations (i.e., plans, projections, anticipated impacts) are appraised and taken into account in the subsequent management plan. *(SE V10.0)*

8.5. While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

Applicability Note: Owners and managers of private forests may withhold proprietary information (e.g., timber volumes by size and age class, marketing strategies, and other financial information).

8.5.a. An up-to-date summary of monitoring information is maintained and is available upon request at either no cost or at a reasonable price. *(SE V10.0)*

PRINCIPLE #9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS

Management activities in high conservation value forests shall maintain or enhance the attributes that define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

High Conservation Value Forests are those that possess one or more of the following attributes:

- Forest areas containing globally, regionally, or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia) and/or large, landscape-level forests that are either contained within the management unit or contain the management unit,

wherein viable populations of most, if not all, naturally occurring species exist in natural patterns of distribution and abundance;
- Forest areas that are in or contain rare, threatened or endangered ecosystems;
- Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control); see Glossary for definition of Critical Situations.
- Forest areas that are fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional, cultural identity (areas of cultural, ecological, economic, or religious significance identified in cooperation with such local communities).
- Forests that fall under the definition of primary ("old-growth") and natural forests (see Glossary), as defined in the Forest Certification Standard for the Southeastern United States *(SE V10.0)*

9.1. Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.

Applicability Note: Small landowners who practice low intensity forestry may meet this requirement with brief, informal assessments. More extensive and detailed assessments (e.g., formal assessments by scientists) are expected by large landowners and/or those who practice more intensive forest management. (SE V10.0)

9.1.a. Attributes and locations of High Conservation Value Forests (HCVF) are determined (in consultation with stakeholders and scientists) by:

(1) Identification of globally scaled HCVF attributes that are present in the forest;
(2) Identification and description of regionally and locally scaled HCVF attributes and areas that are in the landscape and/or certified forest;
(3) Delineation by maps and habitat descriptions. *(SE V10.0)*

9.2. The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof (see 9.1.a and Note for 6.2).

Note: FSC understands that Criterion 9.2 is an instruction to FSC –accredited certification bodies and that no indicators are required. (SE V10.0)

9.3. The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.

Applicability Note: The applicability of the precautionary principle and the consequent flexibility of forest management vary with the size, configuration, and tenure of the HCVF:

a) <u>More flexibility</u> is appropriate where HCVF is less intact, larger in area, has a larger area-to-perimeter ratio, and its tenure is assured over the long term.
b) <u>Less flexibility</u> is appropriate where HCVF is more intact, covers a smaller area, has a smaller area-to-perimeter ratio, and future tenure is uncertain based on social considerations, and is consistent with Principle 3.

In forests that take on the characteristics of a primary ("old-growth") forest (see Glossary) as a result of management practices, harvesting is permitted, provided HCVF characteristics are maintained. (SE V10.0)

9.3.a. In intact old-growth forests (see Glossary) and unentered old-growth stands (see Glossary), the precautionary principle requires that no active management is conducted unless it is ecologically necessary to maintain or enhance HCVF values, which includes old-growth attributes. *(SE V10.0)*

9.3.b. Management of HCVFs maintains or enhances their defining characteristics, their extent, and is implemented according to the management plan. A summary of the management activities planned for these forests is included in the publicly available summary of the management plan (see 7.4.1). *(SE V10.0)*

9.3.c. Forest owners or managers of HCVFs (forests and/or stands) coordinate conservation efforts with owners and managers of other HCVFs within their landscape. *(SE V10.0)*

9.3.d Conservation zones are established to protect and/or maintain all managed, HCV old-growth forests (see Glossary). In these forests, the precautionary principle requires that no active management is conducted unless it is ecologically acceptable and maintains or enhances HCVF values. Management of the conservation zones is described in the management plan and their locations are mapped. *(SE V10.0)*

9.4. Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain and enhance the applicable conservation attributes.

Note: The working group considers this criterion sufficiently explicit and measurable. Indicators are not required. (SE V10.0)

PRINCIPLE #10: PLANTATIONS

Plantations shall to be planned and managed in accordance with Principles and Criteria 1 - 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

Applicability Note: See Appendices 3 and 4 for summary and clarification of concerns about and positions on plantation management (Appendix 3) and the conversion of natural forests to plantations (Appendix 4). (SE V10.0)

10.1. The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.

10.1.a. The forest management plan contains sections specific to the objectives and management of each plantation. See Applicability note under 7.1.

For example:

- *Objectives and justification for establishing a plantation are included in the management plan.*
- *Commercial and restoration plantations are each identified in the management plan.*
- *Planned management practices and rotation age are identified for each plantation. (SE V10.0)*

10.2. The design and layout of plantations promote the protection, restoration, and conservation of natural forests, and should not increase pressures on natural forests. Wildlife corridors, streamside zones, and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.

10.2.a. Plantation establishment does not replace, endanger, or otherwise diminish the ecological integrity of any existing primary, natural, or semi-natural forests (see Glossary) on the property. Commercial plantations (as opposed to those for restoration; see Glossary) can be established on the following sites: former plantations; abandoned agricultural lands; non-forested lands that were historically forested; and forest sites lacking most of the native forest ecosystem components, such as native ground cover (see 6.10 and 10.9; see Glossary). *(SE V10.0)*

10.2.b. Primary, natural, and semi-natural forests are not converted to commercial plantations. *(SE V10.0)*

10.2.c. Plantations, consistent with the scale of the operation, are designed to be compatible with landscape features and functions. See 7.1.b.5.

For example:

- *Plantation boundaries follow land contours and, wherever possible, avoid intersecting stream channels and hillsides with straight lines.*
- *Plantations are established in a way that supports functional habitat for native flora and fauna.*
- *All provisions for streamside management zones are applied in the establishment of plantations.*
- *Wildlife corridors that connect natural or secondary forests are designed to be functional. (SE V10.0)*

10.2.d The design and layout of restoration plantations move the stand to recover most of the principle characteristics of the target native ecosystem described in the restoration objectives. *(SE V10.0)*

10.2.e On areas already converted to plantations, even-aged harvests lacking within-stand retention are limited to forty acres or less in size, unless a larger opening can be justified by scientifically credible analyses.

Note: Credible scientific analyses are defined as scientific opinions supported by data and explanations in articles published in peer-reviewed professional journals that deal with the natural or social sciences and judged to be relevant to the matter in question. Scientific credibility, as it applies to this criterion, is, based on a body of scientific work and on the judgment of experienced professionals. (SE V10.0)

10.2.f. Harvest units are arranged to support viable populations of native species of flora and fauna. For *hardwood* ecosystems, regeneration in previously harvested areas reaches a mean height of at least ten feet or achieves canopy closure before adjacent areas are harvested. For *southern pine* ecosystems, (e.g. upland pine forests, pine flatwoods forests, sand pine scrub), harvest areas are located, if possible, adjacent to the next youngest stand to enable early succession or groundcover-adapted species to migrate across the early successional continuum. *(SE V10.0)*

10.3. Diversity in the composition of plantations is preferred, so as to enhance economic, ecological, and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes, and structures.

10.3.a Forests containing plantations are managed to create and maintain structural and species diversity that results in viable wildlife habitat and long-term soil maintenance and replenishment.

For example:

- *Thinning provides light to the forest floor that enhances the diversity of understory species.*
- *Prescribed burning promotes the diversity of groundcover.*
- *The use of mechanical and chemical site preparation is minimized when establishing and managing plantations. (SE V10.0)*

10.3.b. Prescribed burning is periodically carried out in plantations of fire-tolerant species (e.g., loblolly, slash, shortleaf, and longleaf pines) to promote forest health and species diversity.

For example, the frequency, seasonality, and intensity of burning are such that native fauna and flora are promoted and the dominant tree species protected. (SE V10.0)

10.3.c. Plantation management activities are planned to generate and maintain opportunities for employment over the long term. *(SE V10.0)*

10.4. The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.
For a definition of native species see glossary.

10.4.a. Species, planting stock, and seed sources are appropriate for the site based on ecological and economic criteria compatible with the landowner's management objectives and published guidelines for species selection. (see also 6.3).

For example:

- *The selection of hardwood and/or conifer species is based on ecological and economic criteria compatible with the landowner's management objectives and published guidelines for species selection.*
- *Planting stock is selected based on the best information available relative to genetics and seed source. (SE V10.0)*

10.4.b Only native species (see Glossary) are used to establish or re-establish tree plantations. *(SE V10.0)*

10.5. A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.

Applicability Note: The forest management area is defined as the portion of total property being assessed for certification (e.g., agricultural land is not included).

Protected forest areas may be included as part of the natural forest cover required to be maintained or restored. A forest management area that has more than these minimum designated percentages in natural or semi-natural forests, may not convert these areas to plantations (see 6.3.a.8). (SE V10.0)

10.5.a A percentage of the total forest management area is maintained as and/or restored to natural and semi-natural forest cover. The minimum required percentage are:

- for 100 acres or less, at least 10 percent.
- for 101 - 1,000 acres, at least 15 percent.
- for 1,001 to 10,000 acres, at least 20 percent.
- for > 10,000 acres, at least 25 percent

For example, restoration plans are included in the management plan. (SE V10.0)

10.5.b Areas of forest and/or plantation to be maintained in and/or restored to natural conditions are chosen through a landscape analysis that focuses on enhancing ecological integrity and habitat connectivity.

For example:

- *Forest owners or managers designate site(s) for natural forest maintenance and restoration.*
- *The management plan includes a prescription for restoring and maintaining these sites. (SE V10.0)*

10.5.c. The areas of natural forest cover to be maintained or restored are identified on the ownership map. *(SE V10.0)*

10.5.d. Areas of forest and/or plantation to be maintained as natural or semi-natural forests are managed to provide the diversity of community types, wildlife habitats, and ecological functions native to the site. *(SE V10.0)*

10.6. Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long-term soil degradation or adverse impacts on water quality, quantity, or substantial deviation from stream course drainage patterns.

Note: see criterion 6.5 and its indicators.

10.6.a. Site preparation on commercial plantations is conducted according to the management plan while balancing economic and environmental concerns (see 6.5). Methods are used that encourage survival of regeneration and improve yields while conserving the environmental integrity (e.g., ground cover, hydrology, nutrient cycles) of the site.

For example:

- *The decision to use fire, mechanical, or chemical site preparation methods for plantation establishment is made based on terrain, soil conditions, native ground cover, intensity of vegetative competition, anticipated response of the planted trees, and is justified in the forest management plan.*
- *Mechanical site preparation is done with the minimal soil movement necessary to achieve the planned site preparation objectives and in accordance with Best Management Practices (see 6.5).*
- *Chemical site preparation is conducted following a prescription consistent with the methodology of integrated pest management (see 6.6).*
- *Non-target areas are minimally disturbed by machine damage, movement of sediment, or drifting herbicides.*
- *Intensive site preparation such as windrowing and/or bedding, are used only when absolutely necessary and justified. (SE V10.0)*

10.6.b. Tree planting minimizes soil damage while maximizing seedling survival.

For example:

- *The decision to use hand or machine planting is based on slope, soil conditions, amount of debris on the site, local experience, cost, and available labor and is justified in the management plan.*
- *Planting tools and equipment are selected to avoid soil damage while benefiting seedling survival.*
- *Recently established plantations have no evidence of soil erosion channels that originated in planting rows.*
- *On slopes greater than five percent, tree planting with a furrow type machine is/was done on the contour.*
- *There is no evidence of on-site soil erosion or sedimentation of waterways.*
- *The planting surface is sufficiently clear to allow planting in mineral soil. (SE V10.0)*

10.6.c Thinning is implemented according to the management plan and state or regional BMPs and published guidelines in a fashion that avoids site disturbance and damage to the residual stand.

For example:

- *Slash and other debris are left dispersed in the stand, when possible.*
- *Thinning is avoided during wet soil conditions and/or specialized equipment is used to minimize impact.*
- *Appropriate equipment and harvesting procedures are used.*
- *Damage to residual trees is minimal.*
- *There is no evidence of on-site erosion or sedimentation of waterways. (SE V10.0)*

10.6.d Fertilizer is applied only when justified by soil type, soil or foliar analysis, indicator plant species from the plantation, and/or scientific literature; when it improves the general nutrient balance of the site; when it is economically justified; and when adverse on- or off-site environmental impacts are minimal. If used, a prescription for fertilizer application is followed.

For example:

- *Soil classification or foliar analysis from the plantation indicates one or more nutrients have limited crop productivity.*
- *Fertilizer is applied according to a prescription and application records are on file.*
- *Data or scientific literature confirms that the response to fertilization is economically justified.*
- *If fertilizer is used, there is no runoff or leaching of the fertilizer into inherently low-nutrient systems, such as pitcher plant bogs and other such nutrient limited ecosystems. (SE V10.0)*

10.7. Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire, and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.

10.7.a Plantation vigor and growth is maintained and monitored to prevent outbreaks of pests and diseases.

For example:

- *Periodic inventories measure survival and growth rates (see 8.2).*
- *Silvicultural practices, such as thinning and harvesting, are scheduled and conducted to maintain plantation vigor and health.*
- *The landowner or manager is aware of the more significant potential pest problems typical for the plantation species and region, and has some knowledge of control procedures.*

- *Pest (e.g., insects, disease, animals, invasive species) surveys or observations are periodically conducted (see 8.2). (SE V10.0)*

10.7.b. A strategy is in place to prevent and control wildfire.

For example:

- *Natural breaks and/or fire lanes are present and functional.*
- *Periodic prescribed burning keeps plantation fuel loads low.*
- *Personnel are adequately trained and are aware of available assistance. (SE V10.0)*

10.7.c. Invasive exotic plant species (see Glossary) are kept out of plantations and treated as described in 6.11. Otherwise, invasive exotic species are controlled to limit their expansion and ecological damage.

For example:

- *Populations of invasive exotic plants in plantations are controlled, minimized, or eliminated.*
- *Records of efforts to control invasive exotic species are on file. (SE V10.0)*

10.8. Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessments of potential on-site and off-site ecological and social impacts (e.g., natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 4, 8, and 6. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

10.8.a. Monitoring of the impacts of plantations, both on and off-site, is conducted in the same manner as the monitoring of natural forests, in accordance with Principles 4, 6, and 8. *(SE V10.0)*

10.9. Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly for such conversion.

Applicability Note: The vast majority of landowners and managers in the Southeast United States have very little awareness of FSC and its Principles and Criteria. At the same time most landowners have been exposed to the prevailing ethos of plantation forest conversion and management. The exception to Criterion 10.9 embodied in Indicator 10.9.a is designed to deal realistically with plantations so as to encourage their restoration and a management approach that is more ecologically based, and to avoid having an owner or manager denied certification for something that occurred because of their lack of awareness or access to information. Indicator 10.9.1 allows landowners who have converted stands after 1993 to qualify for certification if they can demonstrate that they are actively pursuing restoration of the converted stand(s) toward natural forest conditions(SE V10.0)

10.9.a Plantation stands established through conversion between 1994 and 2001 may be considered for certification if a restoration plan covering all such stands is being implemented. Examples of activities that are carried out in restoration plantations include:

- Modification of the management plan from commercial to restoration;
- Enrichment plantings of native species;
- Management of soils and coarse woody debris to restore or enhance soil fertility;

- Restoration and/or enhancement of native wildlife habitats;
- Restoration and/or enhancement of structural diversity (see Glossary), by recruiting mid-story and/or understory components;
- Control of unwanted vegetation is limited to levels that allow restoration of native species;
- Restoration of the fire regime common to natural stands is implemented." *(SE V10.0)*

Note: Principle 10 was approved by the international FSC membership in November 1994. See Appendix C for further information on the Southeast Working Group's position on plantations and plantation management.

APPENDICES

Appendix A--Southeast Working Group Members

Name	State	Affiliation
Dr. Anne Barkdoll	Florida	Full Circle Solutions, Inc.
Britt Boucher	Virginia	Foresters, Inc.
Dr. Josh Dickinson	Florida	The Forest Management Trust
Don Handley	South Carolina	Handley Forestry Services
Edward Hicks	North Carolina	Hicks, Jowett & Wood, Inc.
Shoana Humphries	Florida	Social Forester
Robert Hutchinson	Florida	County Commissioner
Dr. James Johnson	Virginia	Extension Forester
Stephen Lindeman	Virginia	The Nature Conservancy
Dr. Alan Long	Florida	Cooperative Extension
Cheryl McClary	Georgia/North Carolina	Dept. Anthropology, UGA
Dr. Kenneth McNabb	Alabama	School of Forestry, Auburn
Bob Simons	Florida	Consulting Forester
Jonathan Streich	Georgia	Science Teacher
Caron Thorton	Mississippi	Treeland Products, Inc.

Southeast Working Group Coordinator:

The Forest Management Trust
PO Box 110760
University of Florida Campus
Gainesville, FL 32611
Tel: 352-846-2240
Fax: 352-846-1332
Contact: Stephen Taranto
Email: staranto@foresttrust.org

Name	Chamber	Address	E-mail
Dr. Anne Barkdoll	EN	Full Circle Solutions, Inc. 3931 SE 37th Street Gainesville, FL 32641	flcircle@gator.net
Britt Boucher	EC	P.O. Box 11750 Blacksburg, VA 24062-1750	britt@foresters-inc.com
Dr. Joshua Dickinson	SO	The Forest Management Trust 6124 SW 30 Ave. Gainesville, FL 320608	josh.foresttrust@earthlink.net
Don Handley	EC	Handley Forestry Services	HANDLEYFOR@aol.com

		P.O. Box 262 Florence, SC 29503	
Edward Hicks	EC	Hicks, Jowett & Wood, Inc. 24 Willow Road Ashville, NC 28804	wlwd@home.com
Shoana Humphries	SO	30365 Titan Drive Coarsegold, CA 93614	shoana_h@hotmail.com
Robert Hutchinson	EC/EN	3218 SE 27th Street Gainesville, FL 32641	3218 SE 27th Street Gainesville, FL 32641
Dr. James Johnson	EC/SO	Virginia Tech. College of Forestry & Wildlife Resources 228 Cheatham Hall Blacksburg, VA 24061-0324	jej@vt.edu
Stephen Lindeman	EN/EC	Clinch Valley Forestry Bank 146 E. Main Street Abingdon, VA 24210	slindeman@tnc.org
Dr. Alan Long	EC/SO	University of Florida Coop. Extension Service P.O. Box 110410 Gainesville, FL 32611-0410	ajl@gnv.ifas.ufl.edu
Cheryl McClary	SO	P.O. Box 48424 Athens, GA 30604	mcclarycd@yahoo.com
Dr. Kenneth McNabb	EC	Forest Management Auburn University School of Forestry 122 M. White Smith Hall Auburn, AL 36849-5418	mcnabb@forestry.auburn.edu
Bob Simons	EN/EC	1122 SW 11th Ave. Gainesville, FL 32601	rwsimons@bellsouth.net
Jonathan Streich	EN	917 Chartley Drive Lilburn, GA 30047	jstreich@mindspring.com
Caron Thornton	EC	Treeland Products Inc.	tpi@teleclipse.net

		P.O. Box 569 Bay Springs, MS 39422	

EC = economic chamber, EN = environmental chamber, SO = social chamber

Appendix B--Limits on the Use and Size of Clearcuts

The Southeast Working Group was strongly encouraged by the US Office of the Forest Stewardship Council to place maximum limits on clear-cut sizes for forest operations in the Southeast. The working group had a diversity of opinions on the issue of clear-cutting (ranging from not allowing clear-cutting to placing no limits on the use of clear-cuts) and on appropriate maximum size limits. During the 2001 SE Draft-US Standard harmonization meeting, the working group discussed at length whether to retain the existing SE language on the use and size of clear-cuts or to adopt the language of the National Indicators. The final decision was, for the time being, to adopt the national language and to closely monitor its interpretation by certification bodies and forest managers. Nevertheless, the following appendix has been retained in the Harmonized Draft in order to provide certification bodies and other stakeholders in forest certification with the spirit of the original, SE Regional Standard position on the use and size of clear-cuts. The guidelines describe below are not binding to the certification of forest management in the Southeastern United States.

First, the working group decided that forest type should both determine if clear-cutting is allowed and influence limits on size of clear-cuts. They came up with the following guidelines for each of the different forest types:

a. *Primary and natural forests:* clear-cutting is not allowed. Harvesting is not allowed at all in primary forests. For natural forests, the majority of the working group believes uneven-aged management techniques are more appropriate.
b. *Semi-natural forests: stands with trees greater than 100 years old:* clear-cutting is not allowed; *even-aged stands of hardwood and cypress*: clear-cutting is allowed; the size of openings should be conservative
c. *Even-aged stands of pine and pine/hardwood*: clear-cutting is allowed; the size of openings should not be higher than the limit for plantations and should be justified by natural regeneration requirements
d. *Plantations*: clearcutting is allowed; the limit for the size of openings is 40 acres. The working group chose 40 acres because, based on scientific literature and the personal experiences of the foresters and landowners in the Group, this was determined to be a size that would normally be economically operable.

The working group then identified a series of reasons for exceptions to these rules. Justification must be provided for any deviation from the rules. Exceptions are as follows:

1. Clear-cuts up to 80 acres are allowed in cases where a 40-acre stand would not provide enough timber volume to secure an economically operable timber sale, meaning that the sale would not attract a buyer and/or the landowner would not make a profit from the sale. Examples of such cases include stands that have been high graded and the most valuable species of trees have already been removed, or where a site has been planted with inappropriate, poorly growing species and the landowner/manager wants to clear and restore the site. This exception cannot be used when a 40-acre clear-cut would be economically operable and a landowner wants to cut 80 acres simply to make a greater profit.

2. Clear-cuts up to 80 acres are allowed in cases where harvesting a stand in 40 acre blocks would cause unnecessary environmental disturbance to the area surrounding the stand. This applies to plantations that are surrounded by ecologically sensitive areas (e.g., seasonally wet areas), which must be passed through or otherwise impacted in order to harvest the plantation. In such cases, harvesting up to 80 acres is allowed if it would result in less of an impact on ecologically sensitive areas (e.g., harvesting the stand once instead of dividing it and revisiting the stand for the rest of the timber at a later date).

3. An exception to all of the limits on the use and size of clear-cuts was made in cases of ecologic necessity. Some may question the legitimacy of this exception, but it was advocated by the more environmentally active segment of the working group. They wanted this exception so that clear-cutting could be used in natural forest stands--where appropriate and necessary--as a tool for maintaining ecosystems that are dependent on large, contiguous openings. The primary motivation was the sand pine scrub ecosystem, which supports the ecologically significant Florida scrub jay and is currently being managed with large, contiguous clear-cuts. Ecologists urge the use of large clear-cuts in the sand pine scrub ecosystem to mimic the stand-replacing, catastrophic fires that historically maintained the ecosystem. The working group made it clear that this exception could only be used when supported by scientific literature.

Some issues could not be resolved through exceptions. For example, there was great deal of discussion regarding fragmentation. The working group recognized that smaller clear-cuts contribute to fragmentation, as do requirements for large age differences between adjoining stands. In addition, if a stand happens to be 45 acres, but does not meet any of the exceptions that would allow an 80-acre clear-cut, the landowner/manager is at a disadvantage. Such cases, as well as additional exceptions to the Standard will need to be discussed and resolved with the certification body.

Appendix C-Note for Principle 10: The Management of Plantations

In addressing the management of plantations, the Southeast working group had to deal with the following concerns:

1. A significant percentage of the region's timberland is in plantations. This is a result of several factors, but notably it is the result of the deforestation of most of the Southeast by early, European settlers, followed by harvest of most of the remaining virgin forests between the Civil War and World War II. The construction of kraft paper mills just prior to and after World War II created a market for the lower quality timber left after the sawmills moved west. The paper companies began replanting cutover lands and abandoned agricultural lands to ensure a future supply of raw materials for their paper mills. The federal government began offering programs to farmers that encouraged converting severely eroded agricultural lands to plantations as a measure to conserve soil. As timber resources grew, markets for solid wood products returned, but adapted to using smaller logs. Today, approximately 15% of the timberland in the Southeast is in plantations.

2. Because of the agricultural history of much of the land now in plantations, a great deal of the original native ground cover is absent from these plantations. However, some of the plantations established on cutover second growth sites still have significant components of the original ground cover present.

3. If the FSC standards are to have a significant impact on forest conditions and practices in this region, they must reasonably address the management of a wide range of plantation conditions, as well as the economics of individual ownerships and existing markets. In other words, improving the management of plantations must be a primary goal in this region. To achieve this goal, the cost of certification and of conforming to certification standards cannot exceed the potential financial return. Appropriate guidelines and standards for plantation management will allow a financial return sufficient to permit less intensive management of existing and recoverable natural and semi-natural forests.

4. A plantation is defined by its origin (e.g., was it planted or not), as opposed to its characteristics or purpose of establishment. The prevalent connotation, however, is that a plantation is characterized by intensive management and short rotations. The working group determined that it would be helpful to define commercial plantations as those established primarily for the purpose of timber production, even though a wide range exists in the levels of management intensity, the types of ground cover present, and the intended products within this classification. Restoration plantations are defined as those established for the purpose of restoring a site to a natural forest condition. In so stating, we are recognizing that a plantation could eventually result in a stand having the characteristics of a semi-natural, natural, or eventually, a primary forest condition. We realize that other objectives exist for the establishment of plantations, but believe that for certification purposes, an existing plantation must be categorized into one of these two types.

Appendix D

International treaties and agreements to which the U.S. is a signatory or a party:

0. Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (Washington, 1940)
1. Convention on Wetlands of International Importance Especially as Waterfowl Habitat (RAMSAR) (2 Feb 1971)
2. Convention for the Protection of the World Cultural and Natural Heritage (16 Nov 1972)
3. Convention concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)
4. Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973)
5. International Plant Protection Convention (1979 Revised Text) (Rome, 1979)
6. Convention on the Conservation of Migratory Species of Wild Animals (23 Jun 1979)
7. Amendment to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Art.XI) (Bonn, 1979)
8. Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)
9. Convention for the Conservation of Anadromous Stocks (Moscow, 1992)
10. Agenda 21, United Nations Convention on Environment & Development (UNCED), Rio de Janeiro, 1992. Forest Principles, UNCED, 1992.
11. Convention on Biological Diversity (5 Jun 1992)
12. Framework Convention on Climate Change, UNCED, 1992.
13. International Tropical Timber Agreement (Geneva, 1994)

Withdrawn, Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto, 1997)

GLOSSARY

Terms specific to the FSC-US Southeastern United States Forest Certification Standard
Note: A number of definitions included in the Forest Certification Standard for the Southeastern United States are additions to, or alternatives for, definitions included in the Glossary of the Forest Stewardship Council's Principles and Criteria for Forest Management.

Age-class: A distinct aggregation of trees originating from a single natural event or management activity.

Allottee(s): Person(s) owning an Indian allotment. An Indian allotment is private land owned by one or more individuals (rather than a tribe) but held in trust by the federal government.

Buffer: A strip of vegetation that is left or managed to reduce the impact of a treatment or action of one area on another.

Canopy*: The foliar cover in a forest stand consisting of one or several layers.

Chlorinated hydrocarbons: A specific chemical family of insecticides identified by EPA and USDA in "Applying Pesticides Correctly: A Guide for Private and Commercial Applicators," which includes insecticides such as lindane and chlordane.

Commercial plantation: A stand established through artificial regeneration for the commercial production of forest products, usually at the shortest practical rotation, with a single species, and at regular spacing in rows. Although commercial plantations may assume the characteristics of a semi-natural forest, these plantations should continue to fall under the guidelines set for Principle 10.

Community*: An assemblage of plants and animals living together and occupying a given area.

Community type: A generalized category comprising a number of similar units or stands of vegetation and including animal life.

Conservation zones: Areas managed with the objective of protecting specific characteristics. The management of these areas are be based on the following primary goal: to protect these ecosystems by maintaining and enhancing, where necessary, the health, distinctive characteristics, and functions of the native ecosystems. All management activities necessary to achieve this goal are carried out. In addition, all management activities and economic uses that do not conflict with the primary purpose, including logging when appropriate, are permitted.

Critical situations (as pertain to the definition of a High Conservation Value Forest; see Principle 9): Critical situations are those where conditions exist with all of the following characteristics:

1) The forest area deemed critical is sufficiently different from surrounding forests and can be easily delineated.

2) The forest area performs one or more functions of such a nature that specialized management is required to maintain those functions.
3) The critical nature of the situation can be documented.
4) The effectiveness of the proposed management treatments, or the potential harm caused by forbidden treatments, is documented in peer-reviewed literature.
5) The forest area provides resources basic to human survival (e.g., fresh drinking water).

Degraded semi-natural forest: A subset of semi-natural forests with some of the principle characteristics and key components of native ecosystems; a return to a semi-natural forest is unlikely to occur in a reasonable amount of time (i.e., decades) without human intervention.

Desirable species: Any organism held to be beneficial, having pleasing or useful qualities or properties that humans decide to advance or retain by their management activities.

Endangered species*: Any species of plant or animal defined through the Endangered Species Act of 1976 as being in danger of extinction throughout all or a significant portion of its range, and published in the Federal Register.

Endemic species: A species whose entire native range is particular to a restricted geographic area.

Erosion*: The wearing away of the land surface by rain, running water, wind, ice, gravity, or other natural or anthropogenic agents.

Even-aged management: A system of forest management in which stands are produced or maintained with relatively minor differences in age.

Even-aged stand: For hardwood (including upland and bottomland) and cypress forests, a stand in which the ages of 90% of the canopy trees vary by no more than plus or minus 20% of the average age. For other (including pine and pine/hardwood) forests, a stand in which the ages of 90% of the canopy trees vary by no more than plus or minus five years from the average age. Clear-cutting, seed trees, and shelter-wood regeneration systems result in even-aged stands.

Exotic species: An introduced species not native or endemic to the area in question (FSC). For the Forest Certification Standard for the Southeastern U.S., terrestrial exotic species are further defined as species not native or endemic to the Southeastern United States.

Forest: An ecosystem that, when intact, is characterized by tree cover usually consisting of stands varying in characteristics, such as species, structure, composition, age class, and commonly including streams and wildlife. While forest ecosystems are not bound by property lines, for the purpose of this document, "forest" may be delimited by ownership or other qualifying characteristics.

Forest Owner or Manager: Any person or persons who is (are) responsible for forest management decisions. This term replaces the commonly used terms: "Forest Management Unit*" (FMU); "Forest Management Operation*" (FMO); "The Manager," and other equivalent terms.
* Only when FMU/FMO is used as an active noun, such as "The FMO provides instructions for loggers…")

Forest Management Area: For the Forest Certification Standard for the Southeastern U.S., the overall forest management area is defined as the portion of total property being assessed for certification (i.e., agricultural land is not included).

Genetically modified organisms: The modification of the genetic characteristics of a microorganism, plant or animal by inserting a modified gene or a gene from another variety or species. Genetically modified organisms (GMOs) may be microorganisms designed for use as bio-pesticides or seeds that have been altered genetically to give a plant better disease resistance or growth. For the Forest Certification Standard for the Southeastern U.S., genetically modified organisms are further defined to exclude the products of traditional tree breeding methodology.

Group selection: An uneven-aged harvest and regeneration system of selecting small groups and single trees in order to create openings for full sunlight to reach the forest floor. This system is suitable for species that must have direct sunlight to regenerate.

High grading: The removal of the most commercially valuable trees (high-grade trees) leaving a residual stand composed of trees of poor condition or species composition. Note: High grading may have both genetic implications (i.e., dysgenic effects) and long-term economic or stand-health implications.

Intact old-growth forest: A forest that is unroaded or lightly roaded, with no evidence of previous logging, that is of sufficient size and configuration to maintain ecological integrity – 500 acres or larger in size. Such forests differ from unentered old-growth stands (see Glossary) in that they are not only rare, but are also large enough to maintain significant biological diversity, genetic diversity, and a broad array of ecological functions on given acres through long periods of time.

Integrated Pest Management (IPM): A sustainable approach to managing pests by combining biological, silvicultural, and chemical tools in a way that minimizes economic, health, and environmental risks.

Invasive exotic plant species: A non-native plant that is able to invade and multiply in healthy native plant communities to the extent that it can result in the decline or elimination of populations of native plants and/or animals.

Managed old-growth: Old growth stands under management that maintains old-growth characteristics. Such management may include but is not limited to prescribed fire, low impact logging (e.g., single tree and small group selection), and exotic plant removal.

Native ground cover: A community of herbaceous and woody plants (grasses, ferns, forbs, and small shrubs), generally less than one meter in height, and native to the region and the particular forest ecosystem. (An example demonstrating the importance of native ground cover is pineland ecosystems, where most of the plant and animal biodiversity is associated with the native ground cover the health of which depends on periodic fire).

Native species: A species indigenous to the area covered by the Southeast Region as delineated by The Forest Stewardship Council.

Native to the site: A plant species that is or was part of the plant community typically occurring on a site due to soil characteristics, topography, climate or disturbance pattern that would have occurred at the time of European contact or prior to first logging activities, conversion to agriculture, or suppression of the natural fire regime.

Natural forest: A forest ecosystem with most of the principal characteristics and key elements of native ecosystems, such as complexity, structure and diversity. Natural forests may lack the abundance of mature trees and freedom from human disturbance that characterize primary forests.

Old-growth forest: Ecosystems distinguished by old trees and related structural and functional attributes. Generally a forest of sufficient age to have obtained the following characteristics of the original forests of this same type: A diverse, patchy and multi-leveled canopy dominated by large overstory trees; some with broken tops, cavities and other indications of old and decaying wood; numerous large snags; and heavy accumulations of wood, including large logs on the ground. A diversity of native subcanopy, shrub, and ground cover species, as well as a diversity of associated native fauna. Additional attributes generally include patchiness from tree fall gaps and a well-developed soil profile.

Plantation: see Commercial plantation or Restoration plantation.

Primary forest: A forest ecosystem with the principal characteristics and key elements of native ecosystems, such as complexity, structure, diversity, an abundance of mature trees, and relatively undisturbed by human activity. Human impacts in such forest areas have normally been limited to low levels of hunting, fishing, and harvesting of forest products. Such ecosystems are also referred to as "mature," "old-growth," or "virgin" forests.

Restoration*: The process of returning ecosystems or habitats to their original structure and species composition.

Restoration plantation (Restoration planting): A stand established through artificial regeneration with the primary purpose of returning a site to a natural forest condition. Secondary forest: The FSC definition of secondary forests was found to be confusing and therefore it will not be included in the Glossary of the Forest Certification Standard for the Southeastern U.S.

Refugium (pl. **refugia)*:** Locations and habitats that support populations of organisms that are limited to small fragments of their previous geographic range.

Riparian zone*: A terrestrial area, other than a coastal area, of variable width adjacent to and influenced by a perennial or intermittent body of water. Riparian zones provide a functional linkage between terrestrial and aquatic ecosystems through the input of coarse and fine organic matter, bank stability, regulation of water temperature, regulation of sediment and nutrient flow, maintenance of unique wildlife habitat, and in limiting or mitigating non-point source pollution.

Semi-natural forest: A forest ecosystem with many of the characteristics of native ecosystems present. Semi-natural forests exhibit a history of human disturbance (e.g., harvesting or other silvicultural activities), are very common in the Southeastern United States, and include a considerable amount of unmanaged and most of the managed forest land other than plantations.

Silviculture*: 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.

Single-tree selection: An uneven-aged harvest and regeneration system of selecting individual trees. Trees of any or all sizes are selected for harvest based on their individual merits, as compared to their closest counterparts. This system is suitable for species that regenerate under partially open canopies, where filtered sunlight reaches the floor.

Small forest: A forest less than or equal to 5,000 acres, except for the purposes of FSCUS's Family Forest Program (SLIMF) Streamlined Certification Procedures (FSC-POL-20-101 at http://www.fscus.org/documents/Family_Forests_Program_Procedures.pdf) under which a small forest is defined as less than or equal to 2,470 acres.

Snag: A standing dead tree from which the leaves and most of the limbs have fallen.

Social impacts: Intended and unintended effects on the human population and the surrounding environment.

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.

Structural diversity: The diversity in a plant community resulting from the variety of physical forms of the plants within the community (such as the layering or tiering of the canopy of a forest from the ground to the tops of the tallest trees).

Tenure: Socially defined agreements held by individuals or groups, recognized by legal statutes or customary practice, regarding the "bundle of rights and duties" of ownership, holding, access, and/or usage of a particular land unit or the associated resources therein (such as individual trees, plant species, water, minerals, etc).

Threatened species: Any species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Unentered old-growth stand: A stand of trees that is unroaded or lightly roaded, with no evidence of logging, up to 500 acres, and of sufficient size and configuration to maintain specific ecological functions. Such stands differ from intact old-growth forests in that they are too small to maintain significant biological diversity, and/or genetic diversity on given acres through long periods of time, but as a collection of various sized acreages, contribute to a landscape scale safety net in which a mosaic of biological diversity, genetic diversity, and ecological functions are maintained in space through various scales of time.

Uneven-aged management: A system of forest management designed to maintain and regenerate a stand with three or more age classes.

Uneven-aged stand*: A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.

Use rights: The right to use forest resources as defined by local custom, mutual agreements, or prescribed by other entities holding access rights.

Water quality: The quality of water determined by a series of standard parameters-turbidity, temperature, bacterial count, pH, and dissolved oxygen.

Woody debris: All woody material, from whatever source, that is dead and lying on the forest floor.

*Helms, John A., et. al. 1998. The Dictionary of Forestry. Bethesda, Maryland: The Society of American Foresters.

Terms specific to FSC-US National Indicators

Aquatic habitat: Habitat that occurs in free water (as opposed to water that is unavailable for habitat).

Canopy closure: The progressive reduction of space between tree crowns as they spread laterally.

Configuration: The shape or outline of a forest stand or plant community; the degree of irregularity in the edge between forest stands or communities; varying from simple to mosaic.

Integrity: The state of being unimpaired; soundness; completeness; unity.

Intensive forestry: The practice of forestry to obtain a high level of volume of wood products per unit of area; accomplished through the application of the best techniques of silviculture and management.

Large forest: A forest that is at least 50,000 acres in size.

Managed forest: A forest that has been brought under management to accomplish specified objectives.

Mid-Sized Forest: A forest between 5000 and 50,000 acres in size.

Nutrient cycling: The circulation of elements, such as nitrogen and carbon, via specific pathways from abiotic to biotic portions of the environment and back again; all mineral and nutrient cycles involving human, animals, and plants—such as the carbon cycle, phosphorous cycle, and nitrogen cycle.

Pathogen: Any agent that causes disease, especially microorganisms, such as bacteria or fungi.

Plant community: A vegetative complex unique in its combination of plants; occurs in particular locations under particular influences; a reflection or integration of the environmental influences on the site—such as soils, temperature, elevation, solar radiation, slope, aspect, and rainfall; denotes a general kind of climax vegetation, such as ponderosa pine or bunchgrass, from which several plant community types may be derived on the basis of characteristic lesser vegetation.

Public land: Any land, including public forestland, held in government ownership in trust for the citizens of a city, county, state, or nation.

Rancheria: A small reservation, usually only a few acres, of a federally or state recognized Indian tribe. Also the legally recognized designation of the tribe, as in "Big Lagoon Rancheria."

Sediment: Material suspended in liquid or air; the deposition of that material onto the surface underlying this liquid or air.

Slope: The incline of the land surface measured in degrees from the horizontal or in percent as determined by the number of units change in elevation per 100 of the same measurement units; also characterized by the compass direction in which it faces.

Small forest: A forest less than or equal to 5,000 acres, except for the purposes of FSCUS's Family Forest Program (SLIMF) Streamlined Certification Procedures (FSC-POL-20-101 at http://www.fscus.org/documents/) under which a small forest is defined as less than or equal to 2,470 acres.

Soil: Earth material so modified by physical, chemical, and biological agents that it will support rooted plants (American Geological Institute 1962).

Species: A unit of classification on plants and animals consisting of the largest and most inclusive array of sexually reproducing and cross-fertilizing individuals that share a common gene pool; the most inclusive Mendelian population.

Species composition: The species that occur on a site or in a successional or vegetative stage of a plant community.

Terms as defined in FSC International Principles and Criteria

Biological diversity: The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems. (see Convention on Biological Diversity, 1992)

Biological diversity values: The intrinsic, ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components. (see Convention on Biological Diversity, 1992)

Biological control agents: Living organisms used to eliminate or regulate the population of other living organisms.

Chain of custody: The channel through which products are distributed from their origin in the forest to their end-use.

Chemicals: The range of fertilizers, insecticides, fungicides, and hormones, which are used in forest management.

Criterion (pl. Criteria): A means of judging whether or not a Principle (of forest stewardship) has been fulfilled.

Customary rights: Rights, which result from a long series of habitual or customary actions, constantly repeated, which, have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

Ecosystem: A community of all plants and animals and their physical environment, functioning together as an interdependent unit.

Forest integrity: The composition, dynamics, functions and structural attributes of a natural forest.

Forest management/manager: The people responsible for the operational management of the forest resource and of the enterprise, as well as the management system and structure, and the planning and field operations.

Indigenous lands and territories: The total environment of the lands, air, water, sea, sea-ice, flora and fauna, and other resources which indigenous peoples have traditionally owned or otherwise occupied or used. (Draft Declaration of the Rights of Indigenous Peoples: Part VI)

Indigenous peoples: "The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and, by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; who today live more in conformity with their particular social, economic and cultural customs and traditions than with the institutions of the country of which they now form a part, under State structure which incorporates mainly the national, social and cultural characteristics of other segments of the population which are predominant." (Working definition adopted by the UN Working Group on Indigenous Peoples).

High Conservation Value Forests: High Conservation Value Forests are those that possess one or more of the following attributes:
a) forest areas containing globally, regionally or nationally significant:
concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance
b) forest areas that are in or contain rare, threatened or endangered ecosystems
c) forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)
d) forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

Landscape: A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area.

Local laws: Includes all legal norms given by organisms of government whose jurisdiction is less than the national level, such as departmental, municipal and customary norms.

Long term: The time-scale of the forest owner or manager as manifested by the objectives of the management plan, the rate of harvesting, and the commitment to maintain permanent forest cover. The length of time involved will vary according to the context and ecological conditions, and will be a function of how long it takes a given ecosystem to recover its natural structure and composition following harvesting or disturbance, or to produce mature or primary conditions.

Natural cycles: Nutrient and mineral cycling as a result of interactions between soils, water, plants, and animals in forest environments that affect the ecological productivity of a given site.

Non-timber forest products: All forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

Other forest types: Forest areas that do not fit the criteria for plantation or natural forests and which are defined more specifically by FSC-approved national and regional standards of forest stewardship.

Precautionary approach: Tool for the implementation of the precautionary principle.

Principle: An essential rule or element; in FSC's case, of forest stewardship.

Succession: Progressive changes in species composition and forest community structure caused by natural processes (nonhuman) over time.

Appendix E

Description of the FSC-US Southeast Region

Prepared by Greg Blomstrom, Forest Analyst
December 19, 2003

The FSC-US Southeast region is composed of all or portions of the States of Alabama, Arkansas, District of Columbia, Florida, Georgia, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Texas and Virginia all within the United States of America. Within these states, all of the following counties are within the region. The map on the last page shows the general location of the states and counties within the region.

The region was defined using a combination of earlier work previously describing the region and posted on the FSC-US website, ecosystem boundaries from Ricketts and then intersecting the former regional boundaries, ecosystem boundaries and US counties in ArcView. A county was included in the region if more than ½ of the county was within the regional boundary.

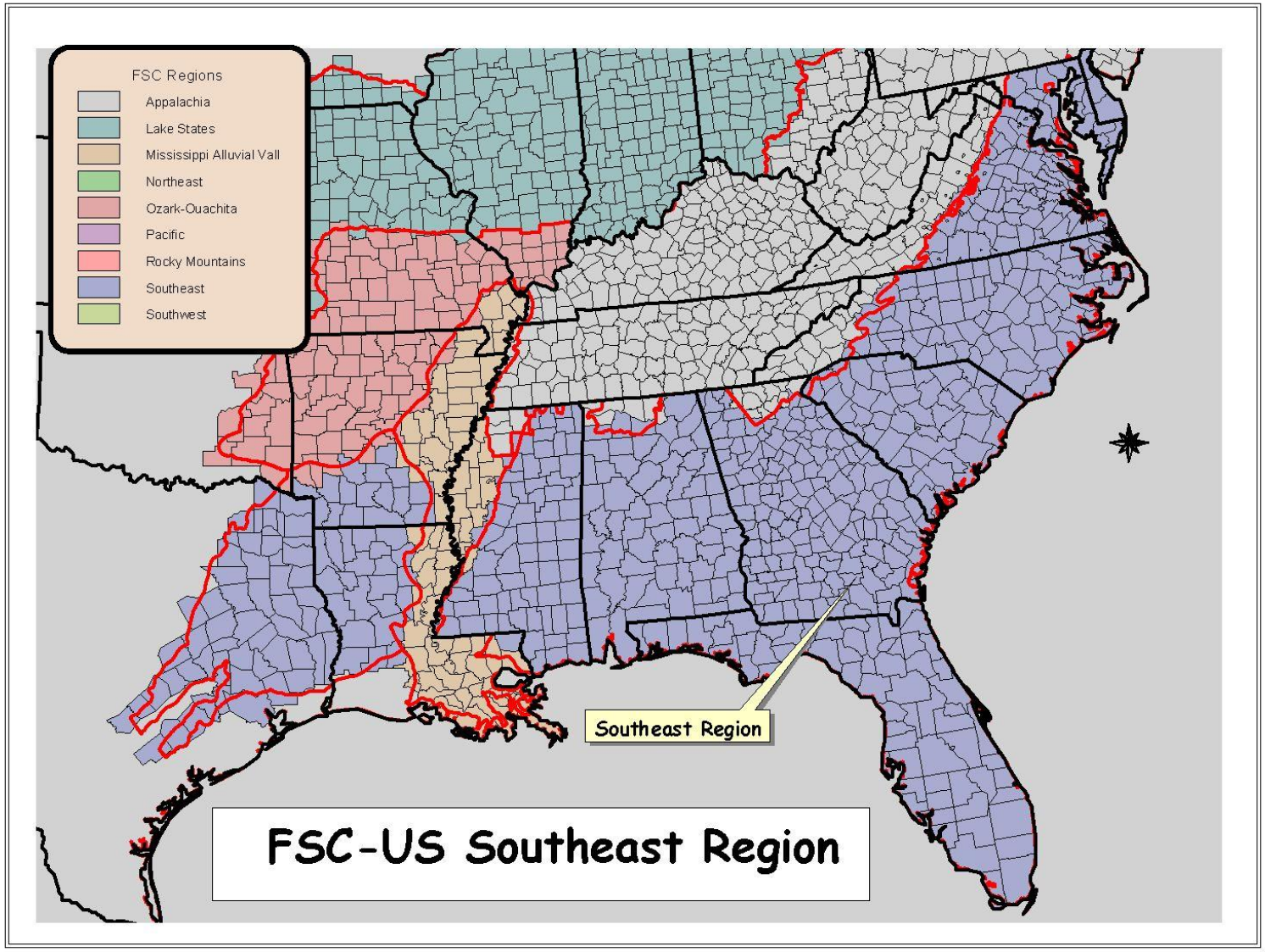
Southeast	Alabama	Autauga	Southeast	Alabama	Marshall
Southeast	Alabama	Baldwin	Southeast	Alabama	Mobile
Southeast	Alabama	Barbour	Southeast	Alabama	Monroe
Southeast	Alabama	Bibb	Southeast	Alabama	Montgomery
Southeast	Alabama	Blount	Southeast	Alabama	Morgan
Southeast	Alabama	Bullock	Southeast	Alabama	Perry
Southeast	Alabama	Butler	Southeast	Alabama	Pickens
Southeast	Alabama	Calhoun	Southeast	Alabama	Pike
Southeast	Alabama	Chambers	Southeast	Alabama	Randolph
Southeast	Alabama	Cherokee	Southeast	Alabama	Russell
Southeast	Alabama	Chilton	Southeast	Alabama	Shelby
Southeast	Alabama	Choctaw	Southeast	Alabama	St. Clair
Southeast	Alabama	Clarke	Southeast	Alabama	Sumter
Southeast	Alabama	Clay	Southeast	Alabama	Talladega
Southeast	Alabama	Cleburne	Southeast	Alabama	Tallapoosa
Southeast	Alabama	Coffee	Southeast	Alabama	Tuscaloosa
Southeast	Alabama	Conecuh	Southeast	Alabama	Walker
Southeast	Alabama	Coosa	Southeast	Alabama	Washington
Southeast	Alabama	Covington	Southeast	Alabama	Wilcox
Southeast	Alabama	Crenshaw	Southeast	Alabama	Winston
Southeast	Alabama	Cullman	Southeast	Arkansas	Ashley
Southeast	Alabama	Dale	Southeast	Arkansas	Bradley
Southeast	Alabama	Dallas	Southeast	Arkansas	Calhoun
Southeast	Alabama	De Kalb	Southeast	Arkansas	Clark
Southeast	Alabama	Elmore	Southeast	Arkansas	Cleveland
Southeast	Alabama	Escambia	Southeast	Arkansas	Columbia
Southeast	Alabama	Etowah	Southeast	Arkansas	Dallas
Southeast	Alabama	Fayette	Southeast	Arkansas	Drew
Southeast	Alabama	Franklin	Southeast	Arkansas	Grant
Southeast	Alabama	Geneva	Southeast	Arkansas	Hempstead
Southeast	Alabama	Greene	Southeast	Arkansas	Lafayette
Southeast	Alabama	Hale	Southeast	Arkansas	Little River
Southeast	Alabama	Henry	Southeast	Arkansas	Miller
Southeast	Alabama	Houston	Southeast	Arkansas	Nevada
Southeast	Alabama	Jackson	Southeast	Arkansas	Ouachita
Southeast	Alabama	Jefferson	Southeast	Arkansas	Union
Southeast	Alabama	Lamar	Southeast	Delaware	Kent
Southeast	Alabama	Lawrence	Southeast	Delaware	New Castle
Southeast	Alabama	Lee	Southeast	Delaware	Sussex
Southeast	Alabama	Lowndes	Southeast	District of Columbia, Washington	
Southeast	Alabama	Macon	Southeast	Florida	Alachua
Southeast	Alabama	Marengo	Southeast	Florida	Baker
Southeast	Alabama	Marion	Southeast	Florida	Bay

Southeast	Florida	Bradford	Southeast	Georgia	Bartow
Southeast	Florida	Brevard	Southeast	Georgia	Ben Hill
Southeast	Florida	Broward	Southeast	Georgia	Berrien
Southeast	Florida	Calhoun	Southeast	Georgia	Bibb
Southeast	Florida	Charlotte	Southeast	Georgia	Bleckley
Southeast	Florida	Citrus	Southeast	Georgia	Brantley
Southeast	Florida	Clay	Southeast	Georgia	Brooks
Southeast	Florida	Collier	Southeast	Georgia	Bryan
Southeast	Florida	Columbia	Southeast	Georgia	Bulloch
Southeast	Florida	Dade	Southeast	Georgia	Burke
Southeast	Florida	De Soto	Southeast	Georgia	Butts
Southeast	Florida	Dixie	Southeast	Georgia	Calhoun
Southeast	Florida	Duval	Southeast	Georgia	Camden
Southeast	Florida	Escambia	Southeast	Georgia	Candler
Southeast	Florida	Flagler	Southeast	Georgia	Carroll
Southeast	Florida	Franklin	Southeast	Georgia	Catoosa
Southeast	Florida	Gadsden	Southeast	Georgia	Charlton
Southeast	Florida	Gilchrist	Southeast	Georgia	Chatham
Southeast	Florida	Glades	Southeast	Georgia	Chattahoochee
Southeast	Florida	Gulf	Southeast	Georgia	Chattooga
Southeast	Florida	Hamilton	Southeast	Georgia	Cherokee
Southeast	Florida	Hardee	Southeast	Georgia	Clarke
Southeast	Florida	Hendry	Southeast	Georgia	Clay
Southeast	Florida	Hernando	Southeast	Georgia	Clayton
Southeast	Florida	Highlands	Southeast	Georgia	Clinch
Southeast	Florida	Hillsborough	Southeast	Georgia	Cobb
Southeast	Florida	Holmes	Southeast	Georgia	Coffee
Southeast	Florida	Indian River	Southeast	Georgia	Colquitt
Southeast	Florida	Jackson	Southeast	Georgia	Columbia
Southeast	Florida	Jefferson	Southeast	Georgia	Cook
Southeast	Florida	Lafayette	Southeast	Georgia	Coweta
Southeast	Florida	Lake	Southeast	Georgia	Crawford
Southeast	Florida	Lee	Southeast	Georgia	Crisp
Southeast	Florida	Leon	Southeast	Georgia	Dade
Southeast	Florida	Levy	Southeast	Georgia	De Kalb
Southeast	Florida	Liberty	Southeast	Georgia	Decatur
Southeast	Florida	Madison	Southeast	Georgia	Dodge
Southeast	Florida	Manatee	Southeast	Georgia	Dooly
Southeast	Florida	Marion	Southeast	Georgia	Dougherty
Southeast	Florida	Martin	Southeast	Georgia	Douglas
Southeast	Florida	Monroe	Southeast	Georgia	Early
Southeast	Florida	Nassau	Southeast	Georgia	Echols
Southeast	Florida	Okaloosa	Southeast	Georgia	Effingham
Southeast	Florida	Okeechobee	Southeast	Georgia	Elbert
Southeast	Florida	Orange	Southeast	Georgia	Emanuel
Southeast	Florida	Osceola	Southeast	Georgia	Evans
Southeast	Florida	Palm Beach	Southeast	Georgia	Fayette
Southeast	Florida	Pasco	Southeast	Georgia	Floyd
Southeast	Florida	Pinellas	Southeast	Georgia	Forsyth
Southeast	Florida	Polk	Southeast	Georgia	Franklin
Southeast	Florida	Putnam	Southeast	Georgia	Fulton
Southeast	Florida	Santa Rosa	Southeast	Georgia	Glascock
Southeast	Florida	Sarasota	Southeast	Georgia	Glynn
Southeast	Florida	Seminole	Southeast	Georgia	Gordon
Southeast	Florida	St. Johns	Southeast	Georgia	Grady
Southeast	Florida	St. Lucie	Southeast	Georgia	Greene
Southeast	Florida	Sumter	Southeast	Georgia	Gwinnett
Southeast	Florida	Suwannee	Southeast	Georgia	Habersham
Southeast	Florida	Taylor	Southeast	Georgia	Hall
Southeast	Florida	Union	Southeast	Georgia	Hancock
Southeast	Florida	Volusia	Southeast	Georgia	Haralson
Southeast	Florida	Wakulla	Southeast	Georgia	Harris
Southeast	Florida	Walton	Southeast	Georgia	Hart
Southeast	Florida	Washington	Southeast	Georgia	Heard
Southeast	Georgia	Appling	Southeast	Georgia	Henry
Southeast	Georgia	Atkinson	Southeast	Georgia	Houston
Southeast	Georgia	Bacon	Southeast	Georgia	Irwin
Southeast	Georgia	Baker	Southeast	Georgia	Jackson
Southeast	Georgia	Baldwin	Southeast	Georgia	Jasper
Southeast	Georgia	Banks	Southeast	Georgia	Jeff Davis
Southeast	Georgia	Barrow	Southeast	Georgia	Jefferson

Southeast	Georgia	Jenkins
Southeast	Georgia	Johnson
Southeast	Georgia	Jones
Southeast	Georgia	Lamar
Southeast	Georgia	Lanier
Southeast	Georgia	Laurens
Southeast	Georgia	Lee
Southeast	Georgia	Liberty
Southeast	Georgia	Lincoln
Southeast	Georgia	Long
Southeast	Georgia	Lowndes
Southeast	Georgia	Macon
Southeast	Georgia	Madison
Southeast	Georgia	Marion
Southeast	Georgia	McDuffie
Southeast	Georgia	McIntosh
Southeast	Georgia	Meriwether
Southeast	Georgia	Miller
Southeast	Georgia	Mitchell
Southeast	Georgia	Monroe
Southeast	Georgia	Montgomery
Southeast	Georgia	Morgan
Southeast	Georgia	Muscogee
Southeast	Georgia	Newton
Southeast	Georgia	Oconee
Southeast	Georgia	Oglethorpe
Southeast	Georgia	Paulding
Southeast	Georgia	Peach
Southeast	Georgia	Pierce
Southeast	Georgia	Pike
Southeast	Georgia	Polk
Southeast	Georgia	Pulaski
Southeast	Georgia	Putnam
Southeast	Georgia	Quitman
Southeast	Georgia	Randolph
Southeast	Georgia	Richmond
Southeast	Georgia	Rockdale
Southeast	Georgia	Schley
Southeast	Georgia	Screven
Southeast	Georgia	Seminole
Southeast	Georgia	Spalding
Southeast	Georgia	Stephens
Southeast	Georgia	Stewart
Southeast	Georgia	Sumter
Southeast	Georgia	Talbot
Southeast	Georgia	Taliaferro
Southeast	Georgia	Tattnall
Southeast	Georgia	Taylor
Southeast	Georgia	Telfair
Southeast	Georgia	Terrell
Southeast	Georgia	Thomas
Southeast	Georgia	Tift
Southeast	Georgia	Toombs
Southeast	Georgia	Treutlen
Southeast	Georgia	Troup
Southeast	Georgia	Turner
Southeast	Georgia	Twiggs
Southeast	Georgia	Upson
Southeast	Georgia	Walker
Southeast	Georgia	Walton
Southeast	Georgia	Ware
Southeast	Georgia	Warren
Southeast	Georgia	Washington
Southeast	Georgia	Wayne
Southeast	Georgia	Webster
Southeast	Georgia	Wheeler
Southeast	Georgia	Whitfield
Southeast	Georgia	Wilcox
Southeast	Georgia	Wilkes
Southeast	Georgia	Wilkinson
Southeast	Georgia	Worth
Southeast	Louisiana	Allen
Southeast	Louisiana	Beauregard
Southeast	Louisiana	Bienville
Southeast	Louisiana	Bossier
Southeast	Louisiana	Caddo
Southeast	Louisiana	Caldwell
Southeast	Louisiana	Claiborne
Southeast	Louisiana	De Soto
Southeast	Louisiana	Evangeline
Southeast	Louisiana	Grant
Southeast	Louisiana	Jackson
Southeast	Louisiana	La Salle
Southeast	Louisiana	Lincoln
Southeast	Louisiana	Natchitoches
Southeast	Louisiana	Ouachita
Southeast	Louisiana	Rapides
Southeast	Louisiana	Red River
Southeast	Louisiana	Sabine
Southeast	Louisiana	Union
Southeast	Louisiana	Vernon
Southeast	Louisiana	Washington
Southeast	Louisiana	Webster
Southeast	Louisiana	Winn
Southeast	Maryland	Anne Arundel
Southeast	Maryland	Baltimore
Southeast	Maryland	Baltimore City
Southeast	Maryland	Calvert
Southeast	Maryland	Caroline
Southeast	Maryland	Carroll
Southeast	Maryland	Cecil
Southeast	Maryland	Charles
Southeast	Maryland	Dorchester
Southeast	Maryland	Frederick
Southeast	Maryland	Harford
Southeast	Maryland	Howard
Southeast	Maryland	Kent
Southeast	Maryland	Montgomery
Southeast	Maryland	Prince Georges
Southeast	Maryland	Queen Annes
Southeast	Maryland	Somerset
Southeast	Maryland	St. Marys
Southeast	Maryland	Talbot
Southeast	Maryland	Wicomico
Southeast	Maryland	Worcester
Southeast	Mississippi	Adams
Southeast	Mississippi	Alcorn
Southeast	Mississippi	Amite
Southeast	Mississippi	Attala
Southeast	Mississippi	Benton
Southeast	Mississippi	Calhoun
Southeast	Mississippi	Carroll
Southeast	Mississippi	Chickasaw
Southeast	Mississippi	Choctaw
Southeast	Mississippi	Claiborne
Southeast	Mississippi	Clarke
Southeast	Mississippi	Clay
Southeast	Mississippi	Copiah
Southeast	Mississippi	Covington
Southeast	Mississippi	Forrest
Southeast	Mississippi	Franklin
Southeast	Mississippi	George
Southeast	Mississippi	Greene
Southeast	Mississippi	Grenada
Southeast	Mississippi	Hancock
Southeast	Mississippi	Harrison
Southeast	Mississippi	Hinds
Southeast	Mississippi	Holmes
Southeast	Mississippi	Itawamba
Southeast	Mississippi	Jackson
Southeast	Mississippi	Jasper
Southeast	Mississippi	Jefferson

Southeast	Mississippi	Jefferson Davis
Southeast	Mississippi	Jones
Southeast	Mississippi	Kemper
Southeast	Mississippi	Lafayette
Southeast	Mississippi	Lamar
Southeast	Mississippi	Lauderdale
Southeast	Mississippi	Lawrence
Southeast	Mississippi	Leake
Southeast	Mississippi	Lee
Southeast	Mississippi	Lincoln
Southeast	Mississippi	Lowndes
Southeast	Mississippi	Madison
Southeast	Mississippi	Marion
Southeast	Mississippi	Monroe
Southeast	Mississippi	Montgomery
Southeast	Mississippi	Neshoba
Southeast	Mississippi	Newton
Southeast	Mississippi	Noxubee
Southeast	Mississippi	Oktibbeha
Southeast	Mississippi	Pearl River
Southeast	Mississippi	Perry
Southeast	Mississippi	Pike
Southeast	Mississippi	Pontotoc
Southeast	Mississippi	Prentiss
Southeast	Mississippi	Rankin
Southeast	Mississippi	Scott
Southeast	Mississippi	Simpson
Southeast	Mississippi	Smith
Southeast	Mississippi	Stone
Southeast	Mississippi	Tippah
Southeast	Mississippi	Tishomingo
Southeast	Mississippi	Union
Southeast	Mississippi	Walthall
Southeast	Mississippi	Wayne
Southeast	Mississippi	Webster
Southeast	Mississippi	Wilkinson
Southeast	Mississippi	Winston
Southeast	Mississippi	Yalobusha
Southeast	Mississippi	Yazoo
Southeast	North Carolina	Alamance
Southeast	North Carolina	Alexander
Southeast	North Carolina	Anson
Southeast	North Carolina	Beaufort
Southeast	North Carolina	Bertie
Southeast	North Carolina	Bladen
Southeast	North Carolina	Brunswick
Southeast	North Carolina	Burke
Southeast	North Carolina	Cabarrus
Southeast	North Carolina	Caldwell
Southeast	North Carolina	Camden
Southeast	North Carolina	Carteret
Southeast	North Carolina	Caswell
Southeast	North Carolina	Catawba
Southeast	North Carolina	Chatham
Southeast	North Carolina	Chowan
Southeast	North Carolina	Cleveland
Southeast	North Carolina	Columbus
Southeast	North Carolina	Craven
Southeast	North Carolina	Cumberland
Southeast	North Carolina	Currituck
Southeast	North Carolina	Dare
Southeast	North Carolina	Davidson
Southeast	North Carolina	Davie
Southeast	North Carolina	Duplin
Southeast	North Carolina	Durham
Southeast	North Carolina	Edgecombe
Southeast	North Carolina	Forsyth
Southeast	North Carolina	Franklin
Southeast	North Carolina	Gaston
Southeast	North Carolina	Gates
Southeast	North Carolina	Granville
Southeast	North Carolina	Greene
Southeast	North Carolina	Guilford
Southeast	North Carolina	Halifax
Southeast	North Carolina	Harnett
Southeast	North Carolina	Hertford
Southeast	North Carolina	Hoke
Southeast	North Carolina	Hyde
Southeast	North Carolina	Iredell
Southeast	North Carolina	Johnston
Southeast	North Carolina	Jones
Southeast	North Carolina	Lee
Southeast	North Carolina	Lenoir
Southeast	North Carolina	Lincoln
Southeast	North Carolina	Martin
Southeast	North Carolina	Mecklenburg
Southeast	North Carolina	Montgomery
Southeast	North Carolina	Moore
Southeast	North Carolina	Nash
Southeast	North Carolina	New Hanover
Southeast	North Carolina	Northampton
Southeast	North Carolina	Onslow
Southeast	North Carolina	Orange
Southeast	North Carolina	Pamlico
Southeast	North Carolina	Pasquotank
Southeast	North Carolina	Pender
Southeast	North Carolina	Perquimans
Southeast	North Carolina	Person
Southeast	North Carolina	Pitt
Southeast	North Carolina	Polk
Southeast	North Carolina	Randolph
Southeast	North Carolina	Richmond
Southeast	North Carolina	Robeson
Southeast	North Carolina	Rockingham
Southeast	North Carolina	Rowan
Southeast	North Carolina	Rutherford
Southeast	North Carolina	Sampson
Southeast	North Carolina	Scotland
Southeast	North Carolina	Stanly
Southeast	North Carolina	Stokes
Southeast	North Carolina	Surry
Southeast	North Carolina	Tyrrell
Southeast	North Carolina	Union
Southeast	North Carolina	Vance
Southeast	North Carolina	Wake
Southeast	North Carolina	Warren
Southeast	North Carolina	Washington
Southeast	North Carolina	Wayne
Southeast	North Carolina	Wilkes
Southeast	North Carolina	Wilson
Southeast	North Carolina	Yadkin
Southeast	South Carolina	Abbeville
Southeast	South Carolina	Aiken
Southeast	South Carolina	Allendale
Southeast	South Carolina	Anderson
Southeast	South Carolina	Bamberg
Southeast	South Carolina	Barnwell
Southeast	South Carolina	Beaufort
Southeast	South Carolina	Berkeley
Southeast	South Carolina	Calhoun
Southeast	South Carolina	Charleston
Southeast	South Carolina	Cherokee
Southeast	South Carolina	Chester
Southeast	South Carolina	Chesterfield
Southeast	South Carolina	Clarendon
Southeast	South Carolina	Colleton
Southeast	South Carolina	Darlington
Southeast	South Carolina	Dillon
Southeast	South Carolina	Dorchester
Southeast	South Carolina	Edgefield
Southeast	South Carolina	Fairfield
Southeast	South Carolina	Florence

Southeast	South Carolina	Georgetown
Southeast	South Carolina	Greenville
Southeast	South Carolina	Greenwood
Southeast	South Carolina	Hampton
Southeast	South Carolina	Horry
Southeast	South Carolina	Jasper
Southeast	South Carolina	Kershaw
Southeast	South Carolina	Lancaster
Southeast	South Carolina	Laurens
Southeast	South Carolina	Lee
Southeast	South Carolina	Lexington
Southeast	South Carolina	Marion
Southeast	South Carolina	Marlboro
Southeast	South Carolina	McCormick
Southeast	South Carolina	Newberry
Southeast	South Carolina	Oconee
Southeast	South Carolina	Orangeburg
Southeast	South Carolina	Pickens
Southeast	South Carolina	Richland
Southeast	South Carolina	Saluda
Southeast	South Carolina	Spartanburg
Southeast	South Carolina	Sumter
Southeast	South Carolina	Union
Southeast	South Carolina	Williamsburg
Southeast	South Carolina	York
Southeast	Texas	Anderson
Southeast	Texas	Angelina
Southeast	Texas	Austin
Southeast	Texas	Bastrop
Southeast	Texas	Bowie
Southeast	Texas	Brazos
Southeast	Texas	Burleson
Southeast	Texas	Caldwell
Southeast	Texas	Camp
Southeast	Texas	Cass
Southeast	Texas	Cherokee
Southeast	Texas	Colorado
Southeast	Texas	De Witt
Southeast	Texas	Franklin
Southeast	Texas	Freestone
Southeast	Texas	Gregg
Southeast	Texas	Grimes
Southeast	Texas	Guadalupe
Southeast	Texas	Hardin
Southeast	Texas	Harris
Southeast	Texas	Harrison
Southeast	Texas	Henderson
Southeast	Texas	Hopkins
Southeast	Texas	Houston
Southeast	Texas	Jasper
Southeast	Texas	Lavaca
Southeast	Texas	Lee
Southeast	Texas	Leon
Southeast	Texas	Liberty
Southeast	Texas	Limestone
Southeast	Texas	Madison
Southeast	Texas	Marion
Southeast	Texas	Milam
Southeast	Texas	Montgomery
Southeast	Texas	Morris
Southeast	Texas	Nacogdoches
Southeast	Texas	Newton
Southeast	Texas	Panola
Southeast	Texas	Polk
Southeast	Texas	Rains
Southeast	Texas	Red River
Southeast	Texas	Robertson
Southeast	Texas	Rusk
Southeast	Texas	Sabine
Southeast	Texas	San Augustine
Southeast	Texas	San Jacinto
Southeast	Texas	Shelby
Southeast	Texas	Smith
Southeast	Texas	Titus
Southeast	Texas	Trinity
Southeast	Texas	Tyler
Southeast	Texas	Upshur
Southeast	Texas	Van Zandt
Southeast	Texas	Walker
Southeast	Texas	Waller
Southeast	Texas	Wood
Southeast	Virginia	Accomack
Southeast	Virginia	Albemarle
Southeast	Virginia	Alexandria
Southeast	Virginia	Amelia
Southeast	Virginia	Amherst
Southeast	Virginia	Appomattox
Southeast	Virginia	Arlington
Southeast	Virginia	Bedford
Southeast	Virginia	Bedford City
Southeast	Virginia	Brunswick
Southeast	Virginia	Buckingham
Southeast	Virginia	Campbell
Southeast	Virginia	Caroline
Southeast	Virginia	Charles City
Southeast	Virginia	Charlotte
Southeast	Virginia	Charlottesville
Southeast	Virginia	Chesapeake
Southeast	Virginia	Chesterfield
Southeast	Virginia	Colonial Heights
Southeast	Virginia	Culpeper
Southeast	Virginia	Cumberland
Southeast	Virginia	Danville
Southeast	Virginia	Dinwiddie
Southeast	Virginia	Emporia
Southeast	Virginia	Essex
Southeast	Virginia	Fairfax
Southeast	Virginia	Fairfax City
Southeast	Virginia	Falls Chruch
Southeast	Virginia	Fauquier
Southeast	Virginia	Fluvanna
Southeast	Virginia	Franklin
Southeast	Virginia	Franklin City
Southeast	Virginia	Fredericksburg
Southeast	Virginia	Gloucester
Southeast	Virginia	Goochland
Southeast	Virginia	Greene
Southeast	Virginia	Greensville
Southeast	Virginia	Halifax


FSC Regions
Appalachia
Lake States
Mississippi Alluvial Vall
Northeast
Ozark-Ouachita
Pacific
Rocky Mountains
Southeast
Southwest
Southeast Region
FSC-US Southeast Region