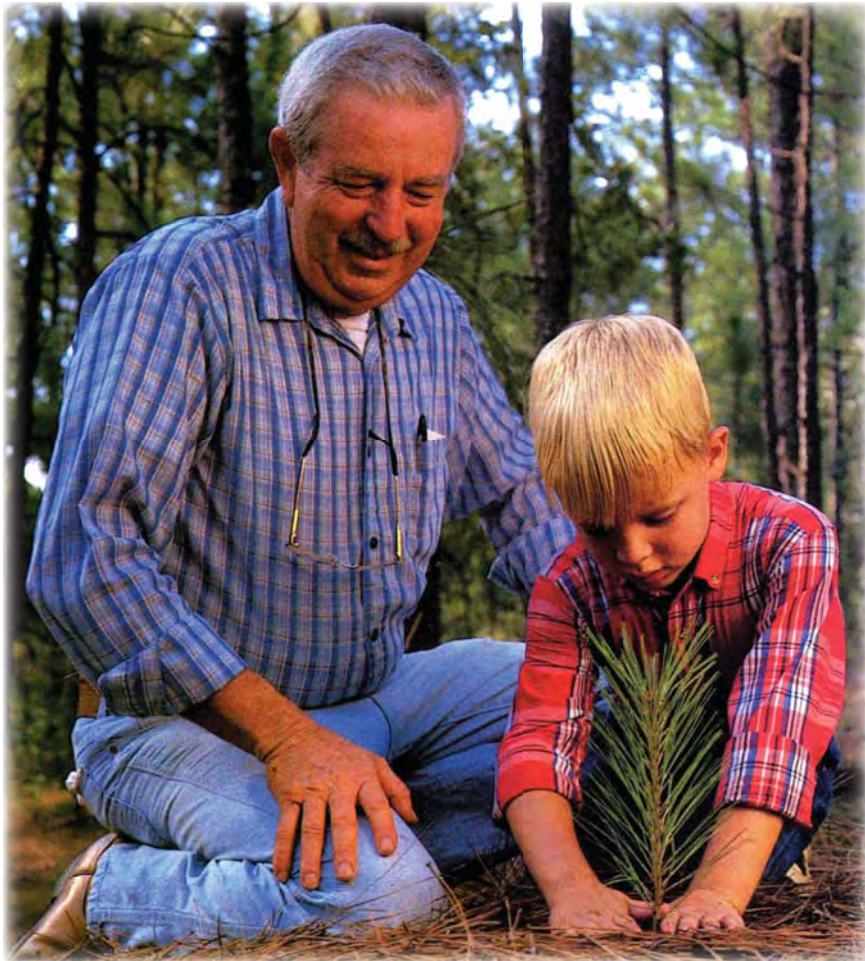


# A LANDOWNER'S GUIDE TO FORESTRY



*Produced by the South Carolina SFI Implementation Committee*



2010 South Carolina Tree Farmer of the Year Dennis L. Bauknight on his Pickens County Tree Farm.



This guide is provided by the Sustainable Forestry Initiative Implementation Committee of the South Carolina Forestry Association

*The Sustainable Forestry Initiative® (SFI®) program is an independent, non-profit, charitable organization with a science-based, internationally recognized forest management standard developed specifically for North America. Across North America, more than 180 million acres/73 million hectares are certified to the SFI forest management standard, making it the largest single standard in the world.*

*The SFI program is based on the premise that responsible environmental behaviour and sound business decisions can coexist to the benefit of communities, customers and the environment, today and for future generations.*

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# CONTENTS



**Introduction** 1

**Professional Assistance** 2

**Management Plans** 3



**Harvesting Timber** 4

**Timber Sale Agreements** 7

**Reforestation** 8



**Forest Taxation** 11

**Smoke Management Guidelines** 18

**Special Sites** 21



**Wildlife and Biodiversity** 22

**Non-timber Income Opportunities** 22

**The Sustainable Forestry Initiative** 23



**Sources of Assistance** 27

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## Introduction

The purpose of this publication is to provide private landowners of South Carolina with the appropriate information and guidance to successfully manage their land. Private, non-industrial landowners own 74% of the forestland in the state. Their forest management decisions have long-term impacts on the environment, economy, and quality of life all South Carolinians enjoy. Healthy forests provide wildlife habitat, clean air, clean water and a host of recreation activities. They also provide timber for the wood and paper products our society needs, and can be a profitable investment for the landowner.



Additional resource information can be obtained from Clemson University Cooperative Extension Service, South Carolina Forestry Association, South Carolina Forestry Commission, and other sources listed in the back of this booklet. Since regulations and laws are constantly evolving, landowners are encouraged to seek advice from appropriate professionals.

The South Carolina Sustainable Forestry Initiative Implementation Committee promotes the objectives of the Sustainable Forestry Initiative Program, and believes this landowner's guide will be a useful resource in improving the management, health, and ultimately, the value of forest resources in South Carolina.

### **South Carolina Forestry Facts**

- Forests cover two-thirds of the total land area in South Carolina.
- Two thirds of South Carolina forests are owned by family forest landowners.
- Over half of the forest land in South Carolina is in hardwood forest types.
- Timber is South Carolina's most valued agricultural crop.
- Forest products is the third largest manufacturing industry in South Carolina.



## Professional Assistance

One of the first steps a landowner may take towards success is to contact a qualified resource professional to ensure that the forest is managed for the desired objectives and goals, and provide a safeguard against improper practices.

Professional forestry assistance is available from a number of sources. The South Carolina Forestry Commission offers technical assistance by providing general management recommendations and oversight of cost-share programs.

Consulting foresters may be contracted by landowners to manage specific activities or oversee the detailed management of their property. Before hiring a consultant, landowners should ask for qualifications and references. It is also beneficial to obtain a personal referral from another landowner, if possible.

Many forest product companies employ professional foresters to assist private landowners with their timber management needs. Some offer long-term assistance programs, while others will assist on a tract-by-tract basis.



Wood suppliers and qualified logging professionals may also employ resource professionals who can offer harvesting options and forest management assistance to private landowners.

South Carolina law states that no person shall engage in the practice of professional forestry unless they are a registered forester or are working under the supervision of a registered forester. Forestry is defined as, “consultation, investigation, evaluation, planning or responsible supervision of forest management, protection, silviculture, measurements, utilization, economics, education, or other forestry

activities in connection with any public or private lands.”

## Management Plans

A forest management plan identifies a landowner’s objectives and goals, and includes recommended procedures for implementing forest management practices.

The plan should be a flexible document that can be modified to respond to changes of the landowner’s goals, or changes that have impacted the resource.

The Forest Stewardship Program, funded by the USDA Forest Service, provides assistance to develop a plan, and recognition for forest landowners that improve their forests by implementing recommendations. A Stewardship management plan written by a qualified resource professional should address a broad range of natural resource management goals.

The South Carolina Tree Farm Program is a part of the American Tree Farm System (ATFS), a national program to promote the growing of renewable forest resources on private lands while protecting environmental benefits and increasing public understanding of all benefits of productive forestry.

Landowners enrolled in the program must have a written forest management plan and the property must be inspected by a South Carolina Tree Farm Inspector. Through an agreement at the national level, wood harvested from properties enrolled in the American Tree Farm Program is considered certified and counts towards certification criteria for mills that are SFI and PEFC Chain of Custody certified. Certification to the American Tree Farm Standard indicates to neighbors and the general public that you are managing your forests

### Plan Objectives

The plan can address multiple management objectives such as:

- growing timber
- protecting and creating wildlife habitat and biological diversity
- maintaining soil and water quality
- reforestation
- reducing risk of damage from fire, storms, insects, and disease
- protecting threatened, endangered, and imperiled species
- promoting aesthetics and recreational opportunities

in a sustainable manner.

Through active forest management, landowners have the ability to create healthy, beautiful forests that can also provide economic returns, wildlife habitat, recreation opportunities, and environmental conservation.

## Harvesting Timber

Although forests have multiple uses, one of the most important decisions a landowner will make is the decision of when and how to harvest timber. Mistakes in planning and implementation of harvests can be costly and take years to correct. The following steps are important to consider for a successful harvest:

**1. Use a qualified resource professional** – A timber harvest should be planned with the assistance of a qualified resource professional familiar with forestry practices, applicable regulations, and current market prices. Some landowners may already be knowledgeable in these areas and will benefit from working with a qualified logging professional.

**2. Select a qualified logging professional** – A qualified logging professional will insure effective utilization of the trees harvested, compliance with Best Management Practices (BMPs), and protection of property and the environment. Take time to know the prospective logger by asking for references, business experience, and



professional training such as the SC Forestry Association's Timber Operations Professional (TOP) Program.

**3. Know What You Are Selling** – A landowner must understand the value and marketing of his timber. Be aware of the tree species, the volume of timber available, the mix of products such as pulpwood, chip-n-saw, sawtimber, peeler logs, or poles for the timber, and the number of acres. It is imperative to make sure all property boundaries are clearly marked prior to the harvest.



It is also prudent to verify current market prices for the species and products on the land. In general, timber markets are localized. Prices may vary depending on species, access to the site, quality of the timber, available markets, and haul distance, as well as a host of other factors.

**4. Understand the Tax Implications** – It is important for landowners to understand the tax implications of a timber sale. Landowners should consult with an accountant and qualified resource professional for specific advice. Additional tax information is available from the Clemson University Cooperative Extension Service or SC Forestry Commission.

**5. Identify the Desired Harvest Method** – Timber may be harvested several ways. Landowners should have a basic understanding of the positive and negative aspects of each method, and a comprehensive harvest plan should identify how the timber will be cut. Here are the basic harvest methods:

- A **clearcut harvest** is one where all merchantable timber is removed. This method is often employed with mature timber or low-quality timber stands. The benefit from this harvest method is the seedlings (planted or natural) are exposed to direct sunlight, which allows for rapid regeneration. Some tree species require full sunlight for successful regeneration and growth. As with any harvest operation, SC Best Management Practices for Forestry should be used to

reduce potential erosion.

- A **selection harvest** is one where individual trees are marked (designated) and removed. The selection harvest reduces tree competition and removes poor quality trees (including insect and disease), while leaving the best trees to grow. This method may be used in high-quality hardwood and pine stands and has less visual impact than a clearcut harvest. However, landowners can usually expect reduced income since less timber is removed and harvesting costs are generally higher.

- A **seedtree/shelterwood harvest** removes a majority of the existing timber. The remaining trees are left to provide seed and some shelter for reforestation. This method is effective for natural reforestation. However, the value of residual trees may be reduced or lost entirely. A qualified resource professional is a good source of information and guidance to make the best decision.

- A **thinning** removes smaller, less desirable, and lower quality trees in order to provide more space for remaining trees to grow. Thinning will reduce competition between trees, improve forest health, and enhance wildlife habitat. Thinning also provides some income at an early age, and increases timber value for a future harvest.

**6. Plan Reforestation** – Forest landowners should plan for reforestation before their timber is cut. This is particularly important if the plan to reforest the site calls for natural seeding from the existing timber stand. For this to be successful, the timber must be harvested at the right time of year and some preparation of the land prior to harvest may be necessary. For planting new seedlings, a properly planned harvest that removes all merchantable trees will help reduce costs of reforestation.

**7. Pre-harvest Planning** – A landowner can expect best results from a harvesting operation when the forester, logger, and landowner are all engaged in planning the harvest. A pre-harvest conference is recommended to make sure that the harvesting contract, landowner objectives, special considerations, and expectations are fully understood by all involved.

## Timber Sale Agreements

Landowners must protect their interests when selling timber. Since most landowners sell timber infrequently, they may benefit from the assistance of a qualified resource professional, qualified logging professional, attorney, and/or tax advisor. Professional assistance is well worth the cost.

Timber is generally sold either on a lump sum basis or under a pay-as-cut agreement (per-unit sale).

In a lump sum sale, the landowner receives a set price for the stand of timber, which is usually paid up front or divided into multiple payments.

Under a pay-as-cut agreement, the landowner is paid as the timber is cut and delivered to a wood yard or sawmill. The agreement (contract)

should insure that all trees designated for harvest will be removed, and a performance bond should be considered.

For landowners that make infrequent sales and have quality timber, it is often in their best interest to sell by advertising the sale to potential buyers and receiving multiple sealed bids.

While no two contracts are exactly alike, all should include the following basic provisions:

- Guarantee of title and description of the land and boundaries.
- Specific description of timber being conveyed, method of designating trees to be cut, estimated volumes/species/products, and harvest method(s).

Agreement No.: _____	Date Issued: _____
Buyer: _____	
STATE OF SOUTH CAROLINA COUNTY OF PICKENS	
FOREST PRODUCTS SALES AGREEMENT	
This agreement is made and entered into by and between _____, hereinafter called the Seller, and of _____, hereinafter called the Buyer.	
ARTICLE I. The Buyer agrees to buy from the Seller and the Seller agrees to sell to the Buyer, upon the terms and conditions hereinafter stated, all trees, the volume of which is estimated in ARTICLE II below, and are marked or otherwise designated by the Seller or his representatives.	
This sale area includes portions of the lands of _____, in the County of _____, in the State of South Carolina from which the Seller is empowered to cut and/or sell forest products.	
SEE ATTACHED MAP (Exhibit A).	

- Terms of payment, including prices per MBF, cords, or tons with specific conversion factors if it is a pay-as-cut contract.
- Duration (starting and ending dates) of the agreement.
- Clauses to cover damage to trees not designated for harvest, fences, ditches, streams, roads, bridges, fields and buildings.
- Clauses to cover fire damage if a harvesting crew is negligent and to protect the seller from liability that may arise in the course of harvesting.
- Clauses for trees sold by the unit (not lump-sum sales) to comply with state regulations to provide the seller (landowner) scale tickets with required information for every truck load removed from the sale area.
- Clauses for compliance with applicable state regulations and defined Best Management Practices.
- Clauses to protect threatened and endangered species, and other environmentally sensitive areas.
- Clauses for harvesting operation performance.
- Clauses for arbitration in case of disagreement.

## Reforestation and Afforestation

Landowners should consider the costs of reforestation prior to a timber harvest.

**Reforestation** is the restocking of a forest after loss of trees through harvesting, wildfire or other means by planting or natural regeneration. Additionally, landowners may want to consider afforestation on agricultural land. **Afforestation** is the



establishment of a forest stand in an area where the preceding vegetation or land use was not forest, such as pasture or crop land.

A key decision landowners must make in developing a management plan is the type of trees to manage. Both pine and hardwood management offer sound financial returns, if properly applied. A qualified resource professional is a landowner's best source of information and guidance when making this crucial decision.

Here are some general principles:

- Match the species to the site. Some sites such as river bottoms, swamps, and much of the Appalachian mountain area, may be best suited to growing hardwoods while other sites are far better for pine. Many commercially valuable hardwood species are very site specific. Where both species have commercial value, a landowner may have the option of managing a mixed pine/hardwood stand.
- Whether the goal is to manage for pine or hardwood, a landowner should consider and plan for reforestation prior to cutting the timber.
- Consider all uses of the forest. Pine and hardwood offer different aesthetics and wildlife values depending on the season and site. Pines are evergreens while most hardwoods lose their leaves in the fall.



Forests provide important wildlife habitat and the presence or absence of particular species depends on forest cover type, food sources, travel patterns, and several other factors. Anticipated recreational uses such as hunting, horseback riding, bird watching, and other activities will also influence a landowner's choices.

Hardwood reforestation is typically done by natural regeneration. This reduces the up-front investment. However, some type of timber stand improvement work is generally needed to produce quality hardwood sawtimber. Also, the holding period (rotation age) is longer for hardwoods often running 60-80 years or more. Intermediate cash flows are often possible with commercial thinnings or partial cuts. Rates of return are competitive with many other long-term investments and on good sites, may equal or exceed pine.

Planting is the most common method of reforesting pines, but direct seeding or natural regeneration may also be used. Depending on the site and landowner objectives, practices such as prescribed burning or herbicide application can help ensure successful reforestation of the desired species.

It is also important to consider the risk associated with a forestry investment. For forestry, this includes fire, insect, disease and severe weather (hurricanes, ice storms, etc.) Proper management greatly reduces the occurrence and impact of these threats.

Lack of knowledge about timber sales is another risk to the forestry investment. An uninformed landowner who is not familiar with forest measurements, conversion factors, and valuation may not realize the

*Continued, next page*

## Reforestation: A Worthwhile Investment

With proper planning, reforestation can be a worthwhile long-term investment for landowners.

Analysis by the US Forest Service shows:

- Prices paid to landowners nationally for softwood sawtimber and quality hardwood sawtimber have historically kept pace with or exceeded the rate of inflation.
- US consumption of forest products is expected to increase by 40% over the next 50 years, with much of that increase being met by the southeastern US.
- Prices paid for timber in the southeast may rise more rapidly than other regions because of increasing demand and competition.

## Analyzing Potential Return On Reforestation

To analyze the potential economic return on reforestation, a landowner needs the following information:

- The productive capability of the land to be reforested, considering factors such as soil quality (known as site index).
- Costs of site preparation and reforestation, which can range from zero to more than \$200/acre.
- The amount and frequency of management activities required to maintain and protect a vigorous stand by using forestry tools such as prescribed burning, boundary line maintenance and fire, insect and or disease protection. These costs seldom exceed \$5/acre/year.
- An estimate of future value of harvested timber products.

full value of their timber. Professional assistance can greatly reduce this risk.

The key to increasing the value of timber investment is growth.

- First, there is biological growth. Trees increase in volume as they grow. However, forest management practices such as site preparation and enhancements (fertilization), species selection, and planned thinnings can affect growth and wood volume.
- Second, trees are a hard asset and provide excellent inflation protection.
- And third, the focus should be on cultivating long-term products. Trees grow into more valuable products over time; sawtimber is much more valuable than pulpwood.

Financial assistance for reforestation is available at the state and federal levels. Landowners enrolled in these cost-share programs are reimbursed a portion of the cost of site preparation and tree planting. Assistance is also available for timber stand improvement activities, wildlife management, and soil stabilization.

State level cost-share assistance is available through the Forest Renewal Program (FRP) funded by state and forest industry contributions. Federal cost-share funds may be available depending on annual federal appropriations. Check with your local South Carolina Forestry Commission office on availability and requirements of different programs.



## Forest Taxation

Taxation of timber income and timber assets is a major concern of landowners. Proper accounting and planning can save a land-

owner thousands of dollars in taxes. It is imperative for landowners to check with their tax advisor on the applicability of current tax laws and consult with a qualified resource professional and accountant to determine what should be done to best protect their assets. It is important to check current requirements as Congress continues to adjust federal tax provisions.

To begin, a landowner must establish their basis, a broad term that refers to investments in capital assets such as land and timber. The basis of property is usually the cost when first acquired, except for property acquired by inheritance. The basis for inherited property is equal to fair market value on the date the property is received.



This value is used for determining taxable gain or loss on sales or exchanges, and for computing amortization, cost recovery, depletion and casualty loss deductions. Income from timber sales should generally be reported as capital gains (total gain minus basis) under Internal Revenue Code Section 631(a) or (b). Capitalized management/reforestation costs and expenses incurred in preparing and making the sale are deductible from the sale proceeds.

Certain annual management expenses or carrying charges may either be deducted in the current year or capitalized and deducted when the timber is sold. Examples include interest payments on timber management/reforestation loans, timber and general liability insurance premiums, road and fire line maintenance expenses, administrative (accounting, legal, professional forestry) expenses, and costs of hired labor, tools, and materials used in maintaining a timber stand.

Reforestation costs (site preparation, seedling costs, planting costs, etc.) up to \$10,000 per year may be deducted from income the year the expense is incurred. Also, annual reforestation expenses in excess of \$10,000 may be amortized (deducted) from annual income over an 84 month period.

Payments received from cost-share programs must be reported on the landowner's tax return the year the payments are received. However, for most cost-share programs, landowners can elect to exclude all or part of these payments from income. For additional

details about this and other income tax provisions, refer to the information sources of assistance in the back of this publication.

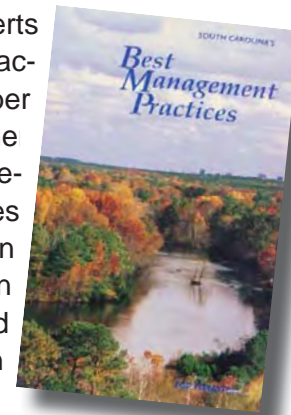
Managed timber tracts of at least five acres may be eligible for agricultural use valuation for property taxes. This allows for taxation based on agricultural and forestry use of the property rather than the market value for development.

If the land is converted from agricultural use, rollback taxes must be paid for the previous five years at full value. Contact the county tax assessor for eligibility requirements and to receive this special assessment.

## Environmental Considerations

Depending on how they are conducted, forestry operations have the potential to enhance or harm water quality, wildlife habitat, and site productivity. When planning and conducting a forestry operation, certain state and federal environmental regulations and guidelines must be followed. Forest landowners should utilize qualified resource professionals, qualified logging professionals, and other contractors to ensure that their operation is in compliance with the requirements listed below:

**Best Management Practices:** Forestry experts have developed guidelines for building forest access roads, skid trails, site preparation, timber harvesting, stream crossings, and many other aspects of a forestry operation. These guidelines are called Best Management Practices (BMPs). If you include the necessary BMPs in your harvest or site preparation plan, you can virtually eliminate the chance of erosion and sedimentation. The SC Forestry Commission is the lead agency responsible for publishing and implementing forestry BMPs, and can provide copies of *South Carolina's Best Management Practices for Forestry* manual upon request. The SC BMP manual is also avail-



able on the SC Forestry Commission's website at [www.state.sc.us/forest/menvir.htm](http://www.state.sc.us/forest/menvir.htm).

The SCFC offers landowners a free Courtesy BMP Exam to identify potential environmental impacts before a forestry operation begins. A specially trained BMP Forester will visit your site and provide written recommendations for the upcoming operation. After the operation is completed, the BMP Forester will re-examine the tract to assure that the recommended BMPs were followed and to determine if there was an impact on water quality or site productivity.

To be eligible for state and federal cost-share programs, forestry practices must be in compliance with applicable forestry BMPs. At a minimum, the following general BMPs



should be included in forest management plans, timber sales, and site preparation contracts:

- On perennial streams, ponds, and lakes, maintain a forested, 40-foot Streamside Management Zone (SMZ) on each side of the stream. The SMZ filters pollutants and provides shade to the stream.
- Never block the flow of streams. Use appropriately sized culverts or temporary bridges to allow water flow. Remove temporary crossings when the operation is complete.
- Identify and avoid sensitive sites when constructing forest roads. Design the road system to meet long-term objectives. Construct roads on the contour and only wide enough to handle the equipment that will use the road. When constructing forest wetland roads, follow the federally mandated Best Management Practices that are included in the South Carolina BMPs for Forestry manual. Plan to stabilize roads using water control structures such as

water bars, turnouts, and broad-based dips.

- Keep logging debris out of stream channels and water bodies as the operation progresses.
- Minimize the number of road and skid trail stream crossings through advance harvest planning. When stream crossings are necessary, make the crossing at right angles. Stabilize culverts and other stream crossings with rock or vegetation to prevent water quality impacts.
- Minimize soil disturbance on steep slopes to prevent accelerated erosion.

Implementation of BMPs will protect water quality and site productivity. Request a Courtesy BMP Exam to ensure that your forestry operation does not cause any adverse environmental impacts.

**Wetlands:** Forestry activities that take place in wetlands may be conducted without a permit if they are conducted in accordance with Best Management Practices (BMPs). Wetlands are considered “waters” of the United States and are subject to federal regulations under the Clean Water Act. Ongoing forestry operations in wetlands are exempt from obtaining a 404 dredge and fill permit provided that certain requirements are met. To maintain this permitting exemption, the forestry operation (1) must be normal and ongoing, (2) must not change or convert the wetland to upland and (3) must not change the use of the wetland where the reach and flow of waters are impaired.



“Change in use” is generally defined as changing forestland to agriculture or development. Since specific regulatory requirements

and interpretations are constantly evolving, landowners should understand current requirements prior to beginning forestry operations on lands that are or may be considered wetlands.

**SC Pollution Control Act:** In South Carolina, the SC Department of Health & Environmental Control (SCDHEC) enforces the SC Pollution Control Act. The intent of this law is to maintain the quality of air and water in South Carolina. SCDHEC has adopted standards for water quality, including criteria for water temperature, turbidity, and water chemistry, and has the authority to pursue enforcement when these standards are violated. Appropriate implementation of BMPs when conducting forestry operations ensures that water quality will be protected.

**Navigable Waters:** Waterways classified as either State or Federal navigable waters require a permit before a stream crossing is constructed. State navigable waters may be defined as those waters which are now navigable or have been navigable at any time by small pleasure or sport-fishing boats. Navigability is determined by SCDHEC. The navigable waters permit program is designed to insure that South Carolina navigable waters are accessible to varied interests and users. Requests for permit applications should be directed to the US Army Corps of Engineers or SCDHEC.

**Local and County Ordinances:** Landowners should be aware of any local ordinances and permitting requirements in their county or municipality that may affect their forestry operation. Examples include tree protection ordinances, zoning requirements, and road use restrictions. SC State Law guarantees landowners the right to practice forestry provided certain conditions are met. The SCFC can help determine whether local regulations apply.

**Prescribed Fire:** The use of fire in woodlands, grasslands, and other places is unlawful unless certain precautions are taken (Title 48, Chapter 35 - Regulation of Fires on Certain Lands). Precautions include notifying the SC Forestry Commission prior to the burn,

clearing the area around the site to be burned, assuring adequate personnel and equipment to prevent the fire from spreading, and making sure the fire is under control before leaving.

The SC Forestry Commission receives burning notifications through agency dispatch centers at [1-800-777-3473](tel:1-800-777-3473).

**Conservation of Rare Species and Habitat:** Your forestland may contain unique plants, animals, or communities that have been classified as few in number or unusual for their location. You may even have a **Forest of Exceptional Conservation Value (FECV)**. These areas contain a viable occurrence of a globally critically imperiled or imperiled species or plant community. The management of these sites may vary from preservation to intensive management of the site for its unique characteristics. Some of these species may be

### Threatened Species Profile: Frosted Flatwoods Salamander

The Frosted Flatwoods Salamander is a globally imperiled (G2) and federally threatened amphibian once common to Carolina bays and other seasonal ponds in the lowcountry. They breed in small ponds characterized by grassy vegetation and scattered cypress and blackgum trees. The majority of their time is spent in underground burrows in the slash and longleaf pine flatwoods around the ponds. The principal threats to the salamander are habitat destruction (from agricultural, residential and commercial development)



and habitat alteration. Extended periods of drought have magnified threats to the species. Specific forest management practices such as mechanical site preparation, fire suppression, and shading by dense forest overstories have been implicated in their decline in some locations.

protected under state or federal laws, such as the Endangered Species Act, but many are not legally protected. The South Carolina Department of Natural Resources Heritage Trust Program can provide expertise in identification and management of these sites.

In 1973, Congress passed the Endangered Species Act (ESA) to conserve the ecosystems upon which endangered and threatened species depend, and to conserve and recover listed species. The presence of a federally listed threatened or endangered animal species on a landowner's property will have a direct impact on the management of timberland. Landowners need to understand the basic requirements of the ESA and how they may relate to their property.

Private lands are regulated under Section 9 and potentially under Section 7 of the ESA. Section 9 specifies that no person shall "take" a listed endangered or threatened species. "Take" is gener-

## Smoke Management Guidelines

Prescribed burning and site preparation burning are legitimate uses of fire outdoors, but smoke produced from these fires must conform to air quality standards established by SCDHEC. You are responsible for health or safety hazards caused by your smoke. In order to conduct outdoor burning legally:



- Plan your burn so neither the fire nor its smoke creates hazards or causes damage to another's property. A written prescribed fire plan is required for each forest, wildlife, and agricultural area to be burned (except for crop stubble and grass fields).
- Notify the SCFC of your intent to burn.
- Conduct the burn carefully, taking precautions to prevent the fire from spreading outside the intended burn area.
- Monitor smoke from the fire until it is gone and take appropriate corrective actions if problems occur.
- Comply with all county and municipal ordinances.
- Never burn when the State Forester or Governor have placed emergency restrictions on outdoor fires.
- Use a certified prescribed fire manager.

ally defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage” in any such conducts. Section 9 of the ESA applies only to animal species. It does not apply to listed plant species on private lands.

Under a Supreme Court decision in 1995 (*Sweethome Communities v. Babbit*), habitat modification, including timber harvesting, that causes direct injury to a listed species may be considered a “take” of an endangered species. Section 7 governs federal agency conduct. It prohibits federal agencies from engaging in or authorizing any action likely to



*Red-Cockaded Woodpecker*

jeopardize the continued existence of a listed species. As in Section 9, this includes destruction or adverse modification of designated habitat. “Agency action” includes timber sales, issuance of permits and funding grants. It may also include approval of federal cost-share funds for forest management/reforestation on private lands.

Landowners are responsible for not “taking” an endangered animal species. They are not responsible for recovery of the species and are not required to manage for or provide new habitat for the species. The animal currently having the most impact on forestry in South Carolina is the Red-cockaded Woodpecker, which generally inhabits older pine stands that are in a park-like condition. Some programs, such as Safe Harbor for Red-cockaded Woodpeckers, are available that offer some incentives to landowners for providing habitat.

Critically imperiled and imperiled species, ranked G1 and G2, are globally rare and vulnerable to extinction. Some G1 and G2 animal species have legal protection under the Endangered Species Act. Additional information about globally imperiled species is available at [www.natureserve.org](http://www.natureserve.org) and [www.forestedflyways.org](http://www.forestedflyways.org).

The SC Department of Natural Resources maintains an inventory showing global rank, state rank, and legal status of all rare, threatened, and endangered species found in South Carolina at [www.dnr.sc.gov/species/index.html](http://www.dnr.sc.gov/species/index.html).

**Invasive Species:** Some exotic, non-native plants, animals, and other organisms have the potential to cause environmental or economic harm or human health risks. Well-known examples include kudzu, fire ants, gypsy moth, Dutch Elm disease, and Chestnut Blight. Landowners should be aware of invasive species and seek to limit their impact and spread.

Additional information and resources are available on the National Invasive Species Council website at [www.invasivespecies.gov](http://www.invasivespecies.gov).

**Visual Quality:** Forestry operations are highly visible and subject to the perceptions and opinions of an environmentally aware public. Careful planning is recommended as a proactive approach to improving forest aesthetics. Conducting forestry operations of all types in an aesthetically acceptable manner is important to the future of forestry.

Though it is impossible to list everything a landowner might do to manage the visual quality of management activities, here are some of the more significant potential actions for consideration:

- Do not allow trash to be left by contractors or visitors.
- When logging, utilize all trees designated for removal that are economically and operationally feasible.
- Allow no appreciable amounts of mud on public paved roads.
- Keep logging slash at least 50 feet away from lakes, recreational waterways, and public roads.
- Minimize soil disturbance, and do not allow rutting or churning of the soil even if there are no water quality concerns.
- A vegetative buffer may be advised in sensitive areas.
- Locate loading decks out of public view.
- Configure harvests with irregular shapes to break up the impact and match existing terrain.
- Consider alternative harvesting systems and vegetative screens in highly sensitive areas.

**Management of Harvest Residue** – As the demand for renewable energy sources continues to grow, landowners should weigh the benefits and costs of biomass production from their forestland. One such consideration is residue harvesting following a timber harvest.

With careful planning and adherence to state Best Management Practices, this can be accomplished using the same landing and road system used during the initial timber harvest with little impact to the site.

Additionally, landowners are encouraged to promote proper soil productivity and nutrient levels by leaving a layer of stumps, leaves and small limbs.



Benefits of biomass utilization following harvests or through other operations include:

- Reduction in dependency on fossil fuels while satisfying growing energy needs.
- Creation of jobs and business opportunities.
- Income from landowners from biomass sales.
- Decreased site preparation costs as harvested sites are left cleaner.
- Opportunities for low to no cost timber stand improvement.
- Improved forest health by reducing the threats and/or restoration costs from fire, disease/pest infestations, invasive species and storm damage.

## Special Sites

Landowners are encouraged to identify and protect special sites and landscapes on their property. Special sites can be features of cultural or historical significance such as grave sites, old home sites and battlefields. Other non-forested special sites include unique landscapes such as bluffs, cliffs and caves. Sensitive sites such as riparian areas, water bodies (creeks, rivers, waterfalls, pools and ponds), natural openings in the forest such as prairies, glades and dry sandhills may harbor many of the critically imperiled and imperiled species and plant communities. All of these areas are important and are often very easy to work around while following a forest management plan.



## Wildlife and Biodiversity

Forest management activities such as harvesting and prescribed burning can be used to enhance wildlife habitat. All wildlife species require food, water, cover, and space. Careful planning will ensure that biological diversity is maintained or even improved through forest management. Here are some examples of things landowners can do to benefit wildlife on their property:



- Provide a variety of tree species and age classes to meet a wide range of wildlife needs.
- Leave mast producing trees as a rich source of seeds, nuts, and fruit.
- Protect snags and den trees for cavity-nesting wildlife.
- Leave wider buffers on streams for improved riparian habitat.
- Plan for wildlife travel corridors.
- Thin pine and pine hardwood stands to enhance the growth of understory vegetation
- Consider supplemental wildlife plantings.

## Non-timber Income Opportunities

In addition to harvesting of timber, forest landowners may have other opportunities to generate income from their land. For example, leasing of hunting rights and raking of pine straw allow landowners to benefit financially between timber harvests. Emerging markets for woody biomass to produce energy and credits for forest carbon sequestration may provide additional opportunities in the future.





**Sustainable forestry** is the practice of land stewardship that integrates reforestation, growing, nurturing, and harvesting of trees while preserving soil, air, and water quality, wildlife and plant habitat, as well as aesthetics for today and the future.

## The Sustainable Forestry Initiative

The Sustainable Forestry Initiative® (SFI®) program is an independent, non-profit, charitable organization with a science-based, internationally recognized forest management standard developed specifically for North America. Across North America, more than 180 million acres/73 million hectares are certified to the SFI forest management standard, making it the largest single standard in the world.

The SFI program is based on the premise that responsible environmental behaviour and sound business decisions can coexist to the benefit of communities, customers and the environment, today and for future generations.



All SFI participants must follow and report annually their performance regarding these objectives:

- Broaden the implementation of sustainable forestry by ensuring long-term forest productivity and yield based on the use of the best scientific information available.
- Ensure long-term forest productivity, carbon storage and conservation of forest resources through prompt reforestation, soil conservation, afforestation and other measures.
- Protect water quality in streams, lakes, and other water bodies.
- Manage the quality and distribution of wildlife habitats and contribute to the conservation of biological diversity by developing and implementing stand- and landscape-level measures that promote habitat diversity and the conservation of forest plants and animals, including aquatic species.
- Manage the visual impact of forest operations and provide recreational opportunities for the public.
- Manage lands that are ecologically, geologically or culturally important in a manner that takes into account their unique qualities.
- Promote efficient use of forest resources.
- Broaden the practice of sustainable forestry by forest landowners through fiber sourcing programs.
- Broaden the practice of sustainable forestry by encouraging forest landowners to utilize the services of forest management and harvesting professionals.

- Broaden the practice of sustainable forestry through the use of Best Management Practices.
- Broaden the practice of sustainable forestry by conserving biological diversity, biodiversity hotspots and high-biodiversity wilderness areas.
- Broaden the practice of sustainable forestry by avoidance of illegal logging.
- Broaden the practice of sustainable forestry by avoiding controversial sources.
- Comply with applicable federal, provincial state, or local laws and regulations.
- Support forestry research, science, and technology, upon which sustainable forest management decisions are based.



- Improve the implementation of sustainable forestry practices through appropriate training and education programs.
- Broaden the practice of sustainable forestry by encouraging the public and forestry community to participate in the commitment to sustainable forestry and publicly report progress
- Broaden the practice of sustainable forest management on public lands.
- Broaden the practice of sustainable forestry by documenting progress and opportunities for improvement.
- Promote continual improvement in the practice of sustainable forestry, and to monitor, measure, and report performance in achieving the commitment to sustainable forestry.

Anyone with concerns that these objectives are not being followed by an SFI Program participant, may contact the SFI Implementation Committee via the South Carolina Forestry Association, 803/798-4170 to report inconsistent practices.

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## Conclusion

South Carolina's forestry community is committed to practices that promote sustainable forestry. This includes growing more than it harvests, protecting fish and wildlife habitat, minimizing the visual impact of harvesting, and adhering to Best Management Practices. We're working together to ensure that South Carolina's forests are growing for the future. With sound information, commitment, and good planning, you can also be a part of this legacy.

## Additional Information

- **Sustainable Forestry Initiative Inc.**  
[www.sfiprogram.org](http://www.sfiprogram.org)
- **American Tree Farm System**  
[www.treefarmssystem.org](http://www.treefarmssystem.org)
- **Association of Consulting Foresters**  
[www.acf-foresters.com](http://www.acf-foresters.com)  
703/548-0990
- **Clemson University Cooperative Extension Service**  
[www.clemson.edu/extension](http://www.clemson.edu/extension)
- **Forest Landowners Association**  
[www.forestland.org](http://www.forestland.org)  
800/325-2954 or 404/325-2954
- **National Timber Tax Website**  
[www.timbertax.org](http://www.timbertax.org)
- **NatureServe**  
[www.natureserve.org](http://www.natureserve.org)
- **South Carolina Department of Natural Resources**  
[www.dnr.state.sc.us](http://www.dnr.state.sc.us)
- **South Carolina Forestry Association**  
[www.scforestry.org](http://www.scforestry.org)  
803/798-4170
- **South Carolina Forestry Commission**  
[www.state.sc.us/forest](http://www.state.sc.us/forest)  
803/896-8800
- **USDA Forest Service, Southern Region**  
[www.fs.fed.us/r8/](http://www.fs.fed.us/r8/)



The South Carolina Forestry Association (SCFA), Clemson Extension, and South Carolina Forestry Commission are working for the state's forest landowners. Together, these organizations are providing strong leadership in forest conservation and sustainable use of our natural resources. Technical assistance is provided on issues of importance to forest landowners, including:

- Economic information on timber taxation, estate planning, conservation easements, and market trends.
- Environmental issues such as development of Best Management Practices (BMPs), monitoring BMP use, and Courtesy BMP Exams.
- Educational information through such programs as the Timber Operations Professional (TOP) Program, SCFA's *Carolina Forestry Journal*, Master Tree Farmer, and Wood Magic Forest Fair.
- Advocacy of forestry at the local, state, and federal levels.

Forest landowners are encouraged to actively practice and promote sustainable forest management. For a strong unified voice, join the South Carolina Forestry Association, and contact your local Clemson Extension and South Carolina Forestry Commission professionals for personalized service and advice.

*For more information, visit [www.sfipprogram.org](http://www.sfipprogram.org)*