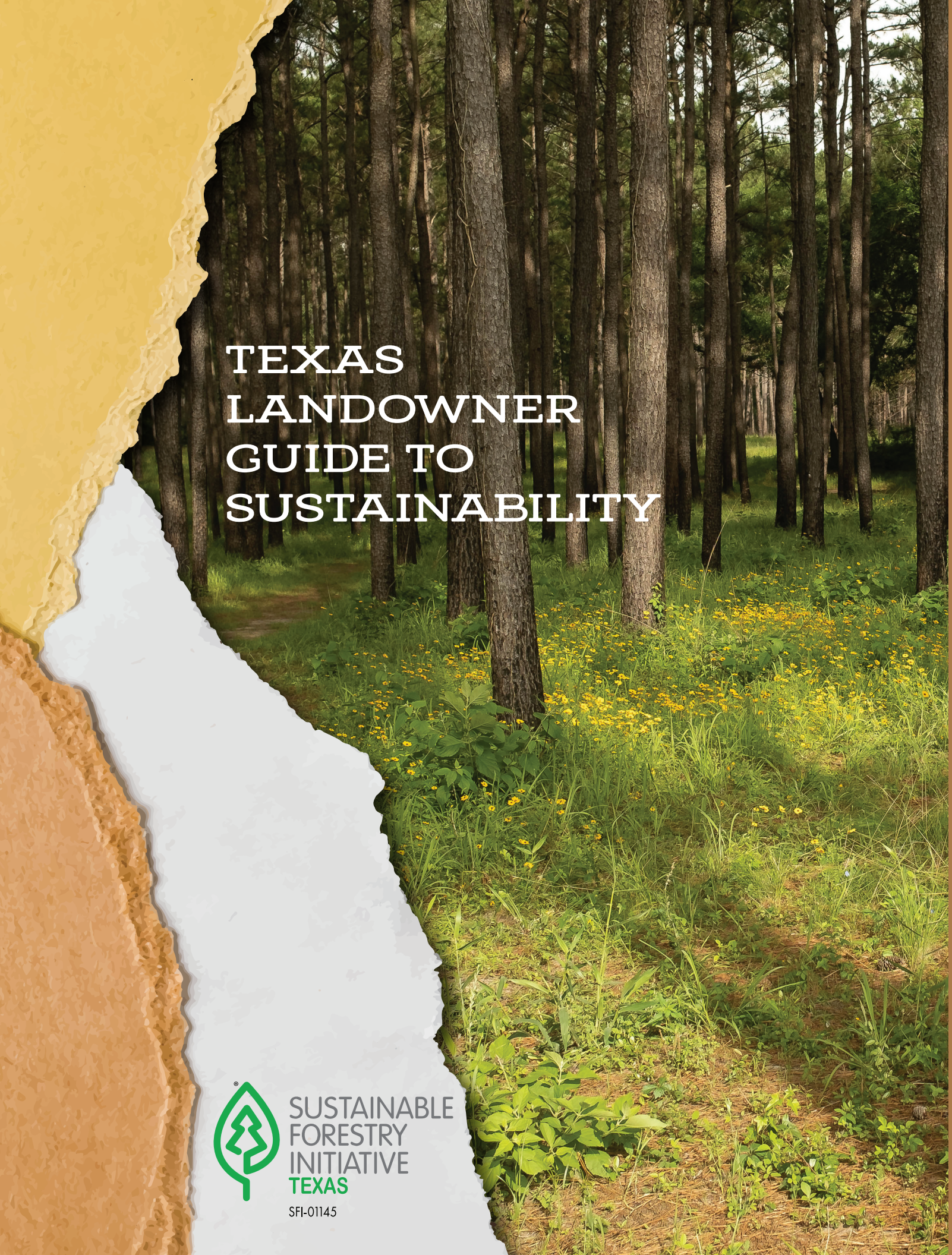


TEXAS LANDOWNER GUIDE TO SUSTAINABILITY

SUSTAINABLE FORESTRY INITIATIVE
TEXAS

SFI-01145

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INTRODUCTION

Family forest owners like you own more than 53 percent of Texas forests. Decisions you make not only affect the value of your property, they also have many positive benefits for the economy and the quality of life in Texas.

The SFI Implementation Committee of the Texas Forestry Association understands and values the contributions of family forest owners and wants to provide you with resources that will help you sustain your forests today and for the future.



WHO IS SFI



The Sustainable Forestry Initiative® Inc. (SFI) is dedicated to promoting sustainable forest management. While SFI develops and oversees standards for forest management, fiber sourcing and the forest products supply chain, they are more than a set of standards — as an independent, non-profit organization, SFI collaborates with a diverse network to provide solutions to local and global sustainability challenges. SFI works with the forest sector, brand owners, conservation groups, resource professionals, landowners, educators, local communities, Indigenous Peoples, governments, and universities. SFI works for thriving forests, sustainable communities and responsible procurement.

Forests certified to the SFI Forest Management Standard cover more than 370 million acres (2021), stretching from Canada's boreal forest to the U.S. South. These forests contribute to the overall quality of life of millions of people throughout the United States and Canada, and generate forest products utilized in more than 120 countries globally.



Together, these standards form the foundation of SFI's approach: they work to ensure the health and future of our forests by bringing landowners and brand owners from across the supply chain together with communities, government agencies, conservation groups and other key interests to advance understanding and ensure a better future for all of us.

LEARN MORE at forests.org

The choices we make every day determine the future of our forests.



SFI Principles

The following SFI principles apply to the SFI 2022 Forest Management Standard and the SFI 2022 Fiber Sourcing Standard. These SFI Principles are supported by additional requirements including more specific objectives, performance measures and indicators.

1. Sustainable Forestry
To practice sustainable forestry means meeting the needs of the present while promoting the ability of future generations to meet their own needs by practicing a land stewardship ethic that integrates reforestation and the managing, growing, nurturing and harvesting of trees for useful products, and for the provision of ecosystem services such as the conservation of soil, air and water quality and quantity, climate change adaptation and mitigation, biological diversity, wildlife and aquatic habitats, recreation and aesthetics.

2. Forest Productivity and Health
To provide for regeneration after harvest, maintain the health and productive capacity of the forest land base, and to protect and maintain long-term soil health and productivity. In addition, to protect forests from economically, environmentally or socially undesirable impacts of wildfire, pests, diseases, invasive species and other damaging agents and thus maintain and improve long-term forest health and productivity.

3. Protection of Water Resources
To protect and maintain the water quality and quantity of water bodies and riparian areas, and to conform with forestry best management practices to protect water quality, to meet the needs of both human communities and ecological systems.

4. Protection of Biological Diversity
To manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, ecologically and culturally important species, threatened and endangered species (i.e., Forest with Exceptional Conservation Values) and native forest cover types at multiple scales.

5. Aesthetics and Recreation
To manage the visual impacts of forest operations, and to provide recreational opportunities for the public.

6. Protection of Special Sites
To manage lands that are geologically or culturally important in a manner that takes into account their unique qualities.

7. Legal Compliance
To comply with applicable federal, provincial, state, and local forestry and related environmental laws, statutes, and regulations.

8. Research
To support advances in sustainable forest management through research, science, and technology.

9. Training and Education
To improve the practice of sustainable forestry through training and education programs.

10. Community Involvement and Social Responsibility, and Respect for Indigenous Rights
To broaden the practice of sustainable forestry on all lands through community involvement, socially responsible practices, and through recognition and respect of Indigenous Peoples' rights and traditional forest-related knowledge.

11. Transparency
To broaden the understanding of forest certification to the Forest Management Standard 2022 and the Fiber Sourcing Standard 2022 by documenting certification audits and making the findings publicly available.

12. Continual Improvement
To continually improve the practice of forest management, and to monitor, measure and report performance in achieving the commitment to sustainable forestry.

13. Responsible Fiber Sourcing
To use and promote sustainable forestry across a diversity of ownership and management types in the United States and Canada that is both scientifically credible and socially, environmentally, and economically responsible and to avoid sourcing from controversial sources both domestically and internationally.

TEXAS SFI IMPLEMENTATION COMMITTEE

SFI responds to local needs through SFI Implementation Committees at state or provincial levels. These committees work with local, forestry and professional associations, universities, government agencies, landowner groups, conservation groups, and many others to promote SFI standards as a means to broaden the practice of responsible forestry and achieve on-the-ground progress.

The work of the SFI Program starts with certification standards but the SFI Program is much more — it's a community that stands for the future of forests. There are 34 SFI Implementation Committees across the United States and Canada, with more than 1,000 volunteers. SFI Implementation Committees play a critical part in promoting the SFI Standards, collaborating on the training of harvesting professionals and connecting people and communities to the forest.



In Texas, the SFI Implementation Committee (SIC) is a standing committee of Texas Forestry Association. As an SIC, we focus primarily on the Fiber Sourcing and the Forest Management Standards of SFI, and provide logger training and landowner outreach to ensure clean air, clean water and a healthy forest environment for generations to come. At the same time, working through Texas Forestry Association, the Texas SIC continually promotes the benefits of well-managed forests to state and federal legislators and the general public. The Committee also values the need for teaching educators about the economic and social benefits of Texas forests by providing grants to Texas Project Learning Tree and the Teacher Conservation Institute.

15 FOREST PRODUCTS COMPANIES IN TEXAS MAINTAIN THE FIBER SOURCING CERTIFICATE

CORE PRIORITIES FOR SIC

Logger training and education
Establish criteria and identify delivery mechanisms for logger and forester training.

Responding to inconsistent practices inquiries
Offer a forum to provide information and answer questions about local forestry operations and address concerns about forestry practices on lands certified to the SFI Standard and beyond. The toll free number to report inconsistent practices is 936-632-8733.

Landowner outreach
Support family forest landowners in collaboration with local conservation groups, government agencies, university extensions, associations, and landowner groups

2.5 MILLION ACRES CERTIFIED IN TEXAS

to improve forest management on both certified and uncertified lands.

Increasing recognition of SFI
Seek to increase SFI program recognition, awareness, and support with local government agencies, legislative officials, and key stakeholder groups (example: architects and green building advocates).

Annual reporting
Annually report local successes, including membership, outreach activities, and research to conservation and community partners.

Protecting SFI Integrity
Protect the integrity of the SFI certification program by ensuring proper logo usage and alerting SFI of improper communications or misleading claims.

IN TEXAS, 64 COMPANIES MAINTAIN THE CHAIN OF CUSTODY CERTIFICATE



Commitment
All SFI Program Participants owning or operating primary forest product facilities, owning or managing forestland, or procuring fiber within the state or province are expected to participate in their SIC.

Learn and Stay Informed
The Texas SIC encourages all forest landowners to:
- Join your local county forestry association
- Join Texas Forestry Association

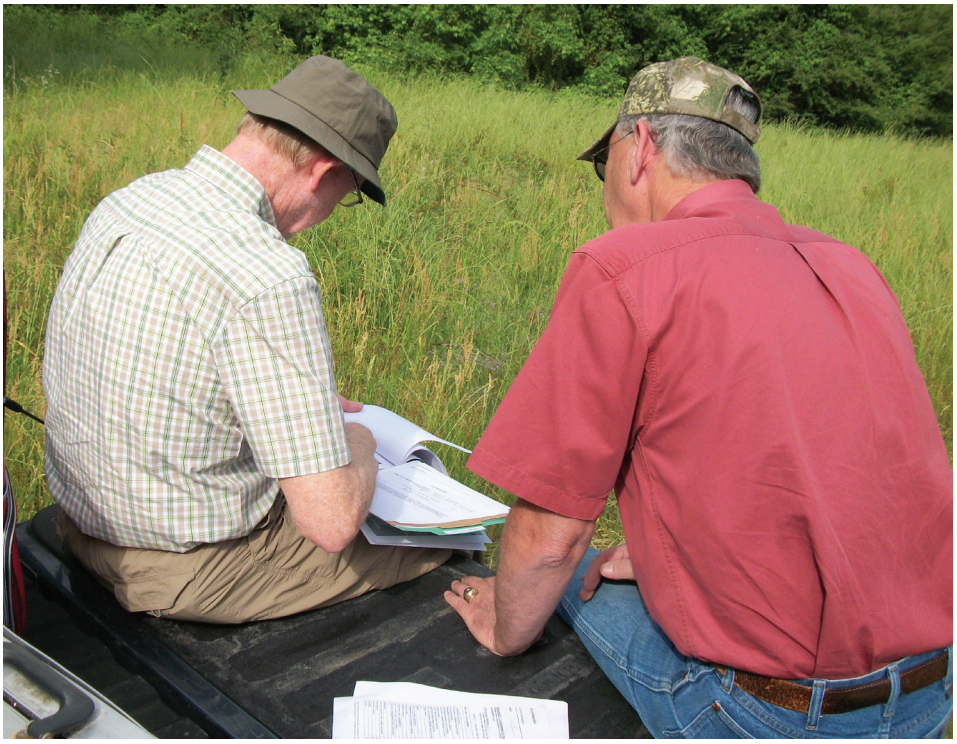
Doing at least these two things will:
- Keep you better informed
- Help you learn more
- Provide you with a platform to network
- Offer you opportunities to be involved
- Give you a foundation to pass on to your children



START WITH A PLAN

FOREST MANAGEMENT PLANNING
You plan for your vacation, your investments, your retirement, but have you taken time to develop a management plan for your forest?

Consider your objectives. Are you interested in immediate or sustained income for retirement or even savings for college for a child or grandchild, wildlife habitat enhancement, recreation, forest health, or some combination of these objectives?



Management objectives are not mutually exclusive, but expertise is required to make your plan a success. Get planning help from a professional forester and use a Texas Pro Logger when ready to harvest. They can help you plan for regeneration and harvesting and ensure that your plan complies with voluntary guidelines and state and federal regulations.

Develop a plan. Sustainable forest management helps your forestland gain value over time. Protect the value of your land with a plan that provides for reforestation, stand health, responsible harvesting, and Best Management Practices (BMPs) to protect water and soil quality. Once you develop a plan, be sure to stick with it or modify it as circumstances change.

Written management plans are necessary in order to participate in cost-share programs and Tree Farm certification. Most county appraisal districts will want up-to-date management plans for 1-d-1 timber valuations. There are state laws that lower property taxes for forestland.

Are you interested in immediate or sustained income for retirement or even savings for college for a child or grandchild, wildlife habitat enhancement, recreation, forest health, or some combination of these objectives?

CERTIFIED TREE FARMS ARE FAMILY-OWNED FORESTS

MANAGED BY PEOPLE JUST LIKE YOU.



The American Tree Farm System® (ATFS) works to sustain forests, watershed and healthy wildlife habitats through the power of private stewardship by offering affordable forest certification for family forest landowners in the United States.

ATFS is internationally recognized as a credible forest certification system, certifying forest management on scientific based standards of sustainability.

Recognized by SFI
Family forests certified to the American Tree Farm System are recognized by the Sustainable Forestry Initiative and qualify as certified forest content for the SFI on-product label. Processing mills seek to procure certified forests, thus passing on certification to consumers.

ATFS supports Tree Farmers with the direct involvement of some 5,500 volunteer inspecting foresters and others across the country who make themselves available as certifiers or program administrators.

Texas Forestry Association administers the Tree Farm program in Texas. In addition to certification, Tree Farmers in Texas receive information and educational materials about forest management as well as up-to-date information about issues and concerns pertaining to the forestlands of Texas. Texas Forestry Association's Tree Farm Committee sponsors an annual Tree Farm field day and other workshops throughout the year.

Are you interested in Tree Farm certification?

Contact the TFA office, 936-632-TREE, email tfa@texasforestry.org, or contact your forester for more information.

TREES ARE THE ANSWER

THE IMPORTANCE OF REFORESTATION & AFFORESTATION

Whatever your goals are, a solid management plan will ensure you achieve your goals. If your management goals include replanting trees that have been harvested, or converting a pasture or old field into forestland, make sure you take advantage of every opportunity to plant trees.

Planting trees can be accomplished in two ways: reforestation and afforestation. Reforestation is defined as re-planting trees after they have been harvested or after a disturbance such as wildfire or other natural disaster. Afforestation is defined as planting trees and establishing forests and woodlands in areas that previously had no tree cover, such as an old agricultural field or pasture.

Management goals can vary from landowner to landowner. Some landowners plant trees as a financial investment to provide future income when harvested and sold to a mill where the trees are turned into a variety of forest products including lumber, paper, and other wood-based products. Some landowners plant trees to create or improve wildlife habitat. Other landowners plant trees to improve air and water quality or solely for the aesthetics that trees bring to the land.

There are several considerations when planning reforestation or afforestation and it is wise to consult with a professional forester or other qualified natural resource professional before beginning a project. Proper



forest management planning can help you meet multiple goals while providing a variety of benefits for both you and your fellow Texans.

A tree expert will listen to your management objectives and assist you through the entire planting process. Important parts of the process are selecting the appropriate tree species to plant, how to prepare the site for planting, determine tree spacing, planting method, and any follow up activities after planting is complete. For example: if your overall objective is to provide future income, reforesting with a pine species (such as loblolly) in a plantation style (systematic rows and spacing) might be recommended. If your objective is to increase wildlife habitat and provide future income, planting both pine and hardwood may be recommended.

Income often begins around age 12 and can continue on for many years. A typical rate of return for a well-managed forest can exceed 10% annually. That's not to mention the other benefits from recreational opportunities, protecting water resources, carbon sequestration and providing habitat for wildlife that call your property home.

Regardless of your management objectives, prompt reforestation or afforestation is crucial. The sooner trees are planted, the sooner they can begin growing and helping you achieve your management goals. Prompt efforts ensure a sustainable supply of wood, maximize your income potential, and ensure that forests and woodlands — and the benefits they provide — will be around for future generations.

There is assistance with reforestation and afforestation costs. The Natural Resources Conservation Service (NRCS), the Farm Service Agency, the Texas A&M Forest Service, as well as professional foresters can assist you in applying for state and federal cost share funds.

The application and funding process can take several months so landowners should plan reforestation activities and file their applications well in advance.

In some cases, reforestation expenses can be deducted from your taxable income. Landowners should check with a qualified forester or tax advisor to learn more about the deductions and ensure all federal tax laws are being followed.

THERE IS NO BETTER TIME THAN NOW TO REFOREST YOUR LAND.

COMMON REFORESTATION METHODS:

REGENERATION PLAN

A forest regeneration plan should come first in planning. If you wait until after harvest to plan regeneration, you could incur additional and unnecessary expense or have less than desirable results. You've got to get it right. Regeneration failures can result in your land being covered over in unsightly brush, briars, and invasive

species, providing fuel for a wildfires, degrading wildlife habitat, and a loss in the investment value of your land.

Forests can be regenerated using the following methods:

CLEARCUT Regeneration
All merchantable trees are removed in a single harvest and competition can be controlled at the same time to make the room for the next stand. Recommended for reliable establishment and growth shade-intolerant pioneer species like Southern pines. Also good for upgrading tree quality, such as planting genetically improved varieties that can be more resistant to insects, diseases, and drought, converting from one species to another, or naturally regenerating hardwood species like oak. Generates the highest one-time income.

SEED TREE Regeneration
Good for naturally regenerating pine and hardwood when the seed trees are of good form. Leave 10 to 20 evenly distributed seed trees per acre. Seed trees are typically removed after successful regeneration.

SHELTERWOOD Regeneration
Natural regeneration beneath the shade is provided by mature trees from the previous stand. Good for certain softwoods and hardwoods. Prescribed fire or herbicides may be needed to give the young seedlings a chance to get established if large amounts of competing brush and invasive species are present. Parent trees are typically harvested once the new stand is established.

SELECTION Regeneration
Also known as unevenage management, this method relies on natural regeneration for both pine and hardwood. Individual trees or groups of trees are harvested in cohorts to establish the next forest. Group selection can mimic natural disturbances like storms or insect outbreaks. Although can be visually more attractive, harvest income per acre is usually less and may require more frequent use of fire or herbicides to control competing vegetation.

THINNING
This harvest method removes some of the lower-value trees in a stand to promote growth of the remaining healthy and vigorous trees. Thinning generates early income, promotes stand health, reduces wildfire risk and enhances wildlife browse.

Get advice from a professional forester BEFORE making decisions about harvesting or regeneration and choose a Texas Pro Logger when you're ready to harvest.

IN ADDITION:

- Advances in herbicide and fertilizer usage has enabled landowners to increase seedling survival and grow trees faster.

• The Texas A&M Forest Service Forest District offices assist with reforestation in all East Texas counties.

• Consulting foresters serve East Texas, assisting landowners with all aspects of timber management. Hiring a professional consultant or requesting assistance from the Texas A&M Forest Service is the best step toward a successful planting job on your property.

• A list of professionals who provide planting services (herbicide applications, mechanical site-preparation, planting services) can be found at the Texas A&M Forest Service web site:. https://texasforestinfo.tamu.edu/MyLandManagementConnector

• A list of professional foresters can be found at the Texas A&M Forest Service website: https://texasforestinfo.tamu.edu/MyLandManagementConnector/FindSP

• A list of Texas Accredited Foresters is found on the Texas Forestry Association website at https://www.texasforestry.org/programs/texas-accredited-forester-council. Texas Forestry Association members can also search for consulting foresters online in the Community Portal.

• A list of Texas Pro Loggers can be found on the Texas Forestry Association website at https:/www.texasforestry.org.



BEST MANAGEMENT PRACTICES

A WAY TO PROTECT YOUR LAND

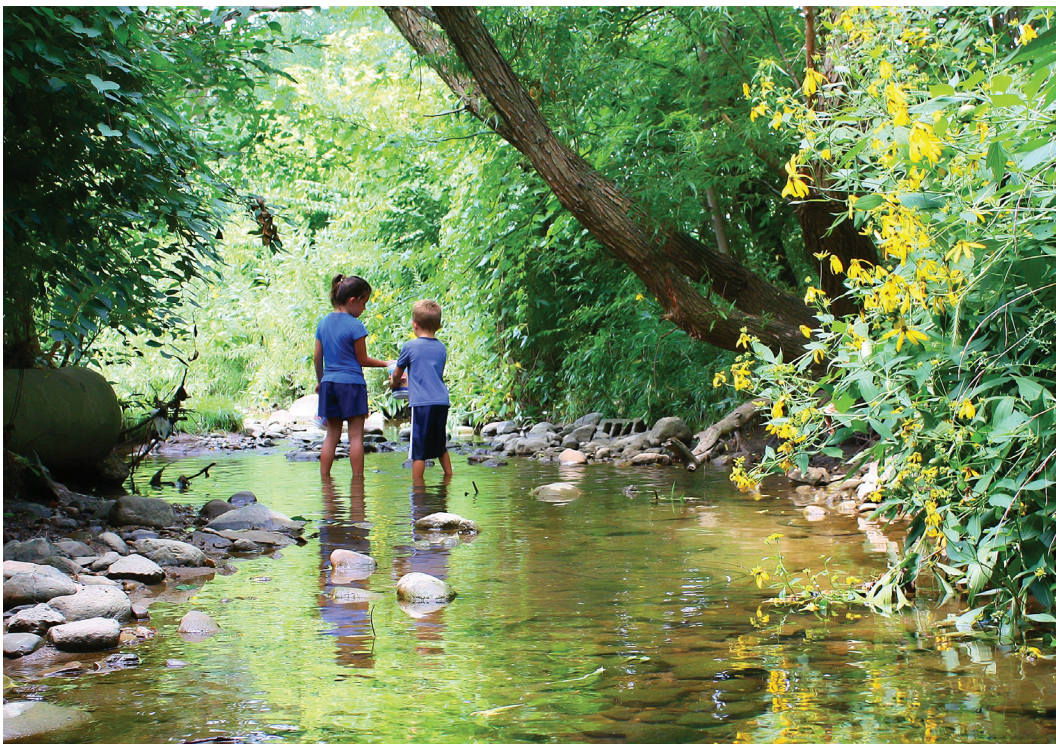
An estimated 50 percent of our nation's freshwater resources originate from forests that cover about one-third of the United States. Forests provide a number of essential economic, social, and environmental functions in addition to supplying us with the cleanest water of any land use. They absorb rainfall, refill aquifers, slow and filter stormwater runoff, reduce floods, and provide habitat for wildlife.

Roughly 12.1 million acres of forested lands in Texas are suitable for the production of timber. Forest operations associated with harvesting and regeneration can potentially generate nonpoint source (NPS) pollution that degrades water quality if done improperly. Forestry Best Management Practices (BMPs) are the principal means of controlling NPS pollution during forestry activities.

Forestry BMPs are voluntary conservation practices that help protect your soil and water resources, two key elements necessary for growing a healthy, sustainable, and productive forest. BMPs can include methods such as leaving a buffer zone of trees next to a stream, installing a culvert to cross a waterway, or establishing grass on forest roads to prevent erosion.

Texas A&M Forest Service, with cooperation from the forest sector, monitors the implementation of these guidelines by evaluating randomly selected forest operations. Compliance with the non-regulatory BMPs has steadily risen to 94 percent, according to a 2022 publication by Texas A&M Forest Service.

Computer models have estimated that over the past 25 years, BMPs have prevented over 100,000 tons of soil per year from eroding off East Texas forests; enough to cover a football field, end zone to end zone, 40 feet deep. Each year, these practices keep over 12,000 tons of soil out of our lakes and reservoirs.



WHAT CAN I DO TO PROTECT MY PROPERTY?

• Use a professional forester to help plan and conduct your forest management, and be sure to choose a logger that has been



trained in BMPs when harvesting your timber.
• Become familiar with BMPs and include them in your timber sale contract.
• Use available resources such as aerial photographs, Google Earth, topographic maps, and soil surveys in conjunction with site reconnaissance to plan forestry operations. An online application, Plan My Land Operation, located at http://texasforestinfo.com, can help with planning forest operations.
• Leave a strip of trees at least 50 feet wide along both sides of streams when harvesting your timber to prevent sediments from entering the water, maintain cool water temperatures, and to provide valuable wildlife habitat.
• Prevent erosion from your forest roads by installing appropriate water control structures that allow water to drain quickly away from streams and wetlands. Stabilize and retire roads that you no longer use.
• Avoid building roads across streams whenever possible. When necessary, cross streams at straight narrow sections and at right angles. Remove temporary crossings and any logging debris from stream channels, and be sure disturbed stream banks are reshaped and stabilized following your operations.
• Make sure the ground is stable enough for heavy equipment so rutting does not occur.
• Conduct operations on the contour of the land.
• Read and follow manufacturers' labels before applying silvicultural chemicals such as fertilizers and pesticides.
• Properly collect and dispose of all equipment fluids and trash associated with the operation.
• Join the Texas Forestry Association and your local county landowner association to stay up to date on the latest forest information.

In Texas, the forest sector continues to demonstrate that it can voluntarily maintain and improve water quality while managing forestlands. We strongly urge you to use BMPs on your future forest operations and help protect the quality of Texas' water resources. With your help, Texans can continue enjoying clean water produced from sustainable forests for years to come.

FOR MORE INFORMATION:
Texas A&M Forest Service, PO Box 310, Lufkin, TX 75902-0310, (936) 639-8180, www.tfsweb.tamu.edu
Texas Forestry Association, PO Box 1488, Lufkin, TX 75901, (936) 632-8733, www.texasforestry.org

INVASIVE SPECIES
A THREAT TO TEXAS FORESTS

Invasive species are species that have been brought to the United States and either purposely or inadvertently released and have become a significant threat to native flora and fauna. These species establish themselves within small forest openings, forest road rights-of way and areas under and beside forest canopies. They are introduced into these areas through several common means including ornamental plantings, movement of contaminated farm machinery, livestock forage and inadvertent livestock escape. Non-native invasive species arrived into this country without their natural predators of insects, diseases and animals that serve to keep native plants in natural balance. Thus, they have rapidly spread across many regions of the country, including Texas.

RISK ASSESSMENT FOR INVASIVE SPECIES

There are several ways to assess the risk of an invasive species.
1. The potential to negatively affect forest productivity.
2. The organism's ability to spread and colonize new habitats.
3. The landowner's ability to control the species.
4. The cost to control the species.

TEXAS FORESTS INVASIVE SPECIES – BIG FOUR

Chinese Tallow Tree – This tree represents a significant invasive species problem in many areas of Texas. It invades and eventually dominates native plant habitats from river bottoms to upland forests, as well as disturbed sites and abandoned agricultural fields. It is very adaptable and can transform native habitats into a single species tallow forest in the absence of land management practices. It reduces light availability for other plant species and fallen tallow trees contain toxins that create unfavorable soil conditions for native plants. This invasive species reduces habitat for wildlife as well as forage areas for livestock. It spreads by root sprouts and seeds,



Chinese Tallow Tree

with birds and water commonly disbursing the seeds. Research is being conducted to find ways to effectively control tallow trees. Bulldozing is ineffective, causing prolific sprouting from roots. Fire successfully eliminates smaller trees, but large trees tend to resprout. Herbicides will provide temporary control, but repeated applications are necessary.

Japanese Climbing Fern – Introduced as an ornamental into the southern U.S. from Japan in the 1930's. It is still being spread by unsuspecting gardeners and is being sold as a recommended ornamental on the Internet. This climbing fern has invaded forests in nine southern states and is commonly found in southeast Texas along highway rights-of-way, especially under and around bridges. The vines from the fern climb over native vegetation, forming tangled masses that top shrubs and trees,



Japanese Climbing Fern

eventually shading out and killing them. It colonizes by rhizomes and spreads by wind-dispersed spores. Control of Japanese climbing fern is difficult because of the large rhizome root system and rapid germination from spores. Fire will eliminate aerial portions, but will not stop resprouting. Herbicides offer the best choice for eradication of established infestations.



Cogongrass

Cogongrass – Although this invasive perennial grass has only been detected from a single site in Tyler County, the problems it has caused in other southern states are testimony as to why Texas should be concerned. Following initial invasion, it forms dense, field-like monocultures that can reduce forest and pasture productivity, destroy wildlife habitat, impact rights-of-way and present an extreme fire hazard. It spreads through soil movement contaminated with pieces of rhizome or seed, often due to site disturbance in timber harvest, site preparation and road grading. Sometimes confused with Johnsongrass which also has a white midvein, the cogongrass midvein is off-centered. Control varies according to the age of the infestation as well as the density and depth of the rhizome mat. Tillage can eliminate newer patches of cogongrass if continued through the course of a growing season. Frequent mowing at low heights may help reduce cogongrass stands, followed by spot treatment of recurring infestations with appropriate herbicides.

Privet – Chinese and European privet were first introduced into the U.S from China and Europe for use as ornamental shrubs in the South in the mid-1800s. They have escaped into the native environment and are now disrupting native plant communities. They can be found in 78 counties in east and central Texas. The nonnative privets, particularly Chinese privet, are among the most notorious of these unwanted invaders. Chinese privet is very versatile, able to survive in a wide range of habitats, soil and light conditions. It can be found in disturbed areas, along road sides, fields and fencerows often forming dense thickets where it will shade out all herbaceous growth. Chinese privet thrives in wet damp conditions and is commonly found in low woodlands, bottomlands and streamsides. It grows from rhizomes as well as by seeds that are dispersed by birds and other animals. The leaves are high in phenolic compounds that defend the plant against insects, allowing the plant to spread. Control of nonnative privet is very difficult due to the extremely dense thickets up to 30 feet in height that are often formed. Recommended control for large infested areas are to use foliar or basal sprays with appropriate herbicides. For small areas and relatively small plants, hand removal is effective.



Chinese Privet

This forest management note is just an introduction to invasive species in Texas. For more information on these listed species and other common invasive plants and animals found in Texas, please use the references below.

http://www.texasinvasives.org
http://wiki.bugwood.org/Archive:IPSF (this deals with invasive plants in southern forests)
http://www.invasive.org/eastern/srs/ (this has information about invasive plants in southern forests PLUS control recommendations)

WILDLIFE MANAGEMENT

INFORMATION FOR FOREST LANDOWNERS
The Sustainable Forestry Initiative program combines the perpetual growing and harvesting of trees with the long-term protection of wildlife, plants, soil and water quality. In Texas, the SFI program is working to provide you with information related to wildlife habitat management.

As a good land steward, it is important to be aware of the animal species and their habitats and how forest management activities on your lands may affect them. Various wildlife species require different types of habitats.

TIMBER MANAGEMENT STRATEGIES AFFECT WILDLIFE IN DIFFERENT WAYS:

Mammals
Large mammals like deer have large home ranges which can cover thousands of acres while smaller mammals like rabbits and squirrels can live on just a few acres. Smaller mammals are generally more affected by what a landowner does to their property. For instance, removing all of the mature trees in an area will limit squirrel habitat by reducing den sites and hard mast (acorn) production.



Birds
Bird species also vary in their requirements. Many birds prefer the early successional stages that young pine plantations provide. They are creatures of low brush and grassy openings and feed on the insects



and seed provided by grasses, shrubs, and forbs. However, birds like wood thrushes and woodpeckers prefer a more mature forest type, where canopies are closed and an occasional dead tree (snag) provides decaying wood in which to search for insects. Similar to mammals, large birds have larger home ranges and the Eastern Wild Turkey has one of the largest, especially for a ground dwelling bird. Turkeys can cover dozens of miles a day to find food, water, and roost trees. Providing corridors and streamside management zones (SMZs) that connect mature timber stands enable turkeys to travel between suitable habitats.

Reptiles, amphibians, bats and rodents
The smallest creatures in our woods are also affected by timber management strategies. Reptiles and amphibians, along with small rodents, require decaying logs and brush for cover and feeding zones. Rotting wood contains wood-eating insects



that provide food for lizards and salamanders. Mice consume small seeds and fruits provided by grasses and shrubs in the understory of forests. Timber management strategies should include opportunities to leave downed woody debris and snags, as well as natural openings for brush and grasses.

TOOLS AND PLANS TO HELP WILDLIFE POPULATIONS:

Streamside Management Zones (SMZS)
The protection of SMZs is one of the most important conservation tools a forest landowner can use. SMZs protect water quality and provide a number of other benefits for many wildlife species. Hardwoods within SMZs provide den and nest sites as well as hard mast for food. Generally, tree canopies are denser in SMZs, which helps shade the forest floor, keeping the understory less dense. Several wildlife species prefer a more open, park-like forest in which to feed and travel.

Retention
Retaining single or groups of hardwoods, especially oaks, in planned harvests is extremely beneficial to a wide array of wildlife species. Hardwood mast in the form of acorns provides food for many creatures. The trees themselves provide shelter, nest and den sites, feeding sites for woodpeckers, and perch locations for hawks and owls. Once the tree dies it becomes a valuable and long-lasting snag.

Dead or dying trees (snags) provide cavities for birds and woodland bats and provide feeding grounds for many species of woodpeckers. Over 40 species of wildlife use snags for cavities. Down woody debris in the form of logs or brush piles are very important to several kinds of wildlife. Reptiles and amphibians, medium and small rodents, and several bird species all benefit from the insects that feed upon the decaying woody material. Large brush piles that remain after logging are used for escape cover, den sites, and feeding areas for numerous creatures.

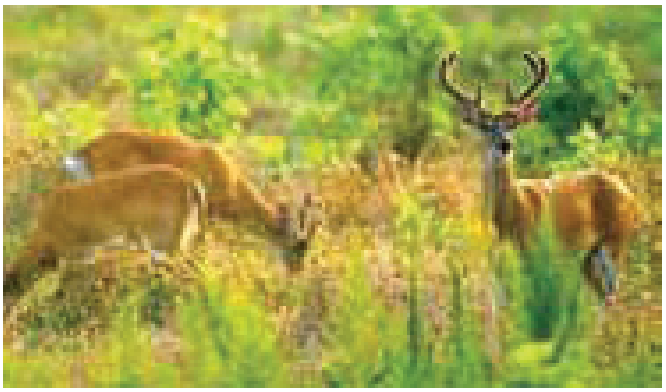
Openings
Natural or man-made openings can be very important to wildlife. Whether enhanced or left natural, these openings provide areas that capture more sunlight than the surrounding timber stand. Increased sunlight encourages plant growth which increases stem, leaf, and fruit production. Large and small herbivores feed upon these areas in the forest. The most common opening in many working forests is the log set or log deck. Left unplanted they provide all the previous mentioned benefits. However, some of these areas can be cleared of stumps and tops and planted into food plots. Deer, turkey, and rabbits especially benefit from man-made food plots. These openings can be planted in spring or fall with the seasonally appropriate seed mix and fertilized.

Prescribed Burning
Prescribed burning is one of the best and most economical forest management practices for wildlife enhancement. Prescribed burning reduces forest fuels which helps prevent catastrophic wildfires. It also stimulates new growth of shrubs, forbs, and grasses. New growth is more palatable and nutritious for herbivores, attracts more insects for the critters that consume bugs, and can help open the forest floor to improve travel corridors. Burning also reduces rank vegetation back to ground level and which exposes new growth to ground dwelling birds and mammals.

TECHNICAL AND COST-SHARING ASSISTANCE
The Texas Parks and Wildlife Department (TPWD) (www.tpwd.texas.gov), or U. S. Fish and Wildlife Service (www.fws.gov) can provide information on wildlife species in your area. These organizations coordinate the management of wildlife resources in the United States and Texas. For more information or assistance, contact: Texas Forestry Association at (936) 632-TREE, tfa@texasforestry.org or http://www.texasforestry.org

CONSERVATION OF BIOLOGICAL DIVERSITY

Among other benefits, maintaining biological diversity is another means of enhancing wildlife habitats on your land.



THE SFI STANDARD DEFINES BIODIVERSITY AS: *"THE VARIETY AND ABUNDANCE OF LIFE FORMS, PROCESSES, FUNCTIONS, AND STRUCTURES OF PLANTS, ANIMALS AND OTHER LIVING ORGANISMS, INCLUDING THE RELATIVE COMPLEXITY OF SPECIES, COMMUNITIES, GENE POOLS AND ECOSYSTEMS AT SPATIAL SCALES THAT RANGE FROM LOCAL TO REGIONAL TO GLOBAL."*

While many believe that biodiversity is most effectively addressed at the watershed or larger level, there are opportunities to manage and contribute to biodiversity whether you own and manage 10 acres or 1 million acres. Landowners and managers can influence biodiversity at the stand, forest, watershed, landscape and global levels through the management choices they make all while achieving their objectives.

Techniques landowners and managers can use to ensure biodiversity involve maintaining:
- A mix of habitat and cover types – both terrestrial and aquatic
- A mix of species – both flora and fauna
- A distribution of age classes within and between stands
- Protection for special sites and other unique stand features such as snags, low-value trees, wetlands, rock outcrops, caves, prairies, glades, etc.
- Protection for Forests with Exceptional Conservation Value - **FECV (defined as Forests of Recognized Importance - FORI** in the 2021-2025 American Tree Farm Standard)

As a good land steward, it is important to be aware of plant and animal species FECVs or FORIs that are designated as "imperiled, critically imperiled, threatened, or endangered" and how forest management activities on your lands may affect these species or communities. Critically imperiled (G1) or imperiled (G2) species and ecological communities are globally rare or, because of some factor(s), especially vulnerable to extinction. They are designated as imperiled or critically imperiled by non-government organizations such as NatureServe (and its constituent Natural Heritage programs) or the IUCN (The World Conservation Organization). Threatened and endangered species are listed by government agencies under the U.S. Endangered Species Act and may also be listed under state laws; yet they may or may not be listed as critically imperiled or imperiled globally.

FECV INFORMATION FOR FOREST LANDOWNERS

The Sustainable Forestry Initiative combines the perpetual growing and harvesting of trees with the long-term protection of wildlife, plants, soil and water quality. In Texas, the SFI program's Sustainable Implementation Committee (SIC), made up of forest industry stakeholders, is working with partners like Texas Parks and Wildlife to provide you with information related to the conservation of biodiversity and critical wildlife habitat elements including species and plant communities of concern native to Texas. The species and plant communities featured in this profile are examples of many that depend on family forest owners for protection. Texas Parks and Wildlife Department (www.tpwd.texas.gov), The Nature Conservancy (www.nature.org), NatureServe (www.

natureserve.org), or U. S. Fish and Wildlife Service (www.fws.gov) can provide information on species and communities of concern in your area. These and additional organizations coordinate the management of inventories of biological diversity in the United States and Texas.

LOUISIANA PINE SNAKE – PITUOPHIS RUTHVENI



The Louisiana pine snake is a critically imperiled (G1) species and was listed as threatened under the Endangered Species Act (2018). It can be found in longleaf pine stands, primarily in underground burrows. The pine snake is an ally of forest owners, as it consumes pocket gophers that can damage or kill seedlings. Loss of habitat to development and decreased use of prescribed fire are the major causes of decline for the snake. Regular use of prescribed fire and hardwood midstory control will improve habitat for the pine snake as well as quail and many other species.

TEXAS GOLDEN GLADECRESS – LEAVENWORTHIA TEXANA

Texas golden gladecress is a critically imperiled (G2) species and listed as endangered under the Endangered Species Act. This species is endemic



to San Augustine and Sabine Counties in eastern Texas, on a particular geologic formation - Weches Formation. Texas golden gladecress has toothed to shallowly lobed leaves. The side lobes are smaller than the middle lobe at the leaf tip (which is wider than long). The four petals are bright yellow. Photo Credit: Jason Singhurst - Texas Parks & Wildlife Dept.

NECHES RIVER ROSEMALLOW – HIBISCUS DASYCALYX



Neches River rose-mallow is a critically imperiled (G1) species and is listed as threatened under the Endangered Species Act. This species occurs at the edge of woodlands in open marshy habitats found in sloughs, oxbows, river terraces and sand bars. Despite its name, it has not been found along the Neches River. Instead, it prefers soils near standing water, which are inundated during the wet months of the winter and spring, but dry up at the surface during the summer. *Photo Credit: Jackie Poole - Texas Parks & Wildlife Dept.*

WEST GULF COASTAL PLAIN UPLAND LONGLEAF PINE FOREST AND WOODLAND ECOSYSTEM

This G1/G2 habitat occurs in the hilly uplands of

eastern Texas. *Pinus palustris* (longleaf pine) is the dominant overstory species, particularly in locations where fire has frequently occurred. The herbaceous flora may be exceedingly diverse if fire has frequently occurred. *Andropogon spp.* (broomsedges) and *Schizachyrium spp.* (bluestems) are usually the dominant grasses, but several other genera are usually present. Western upland longleaf pine forests historically dominated large areas in the Southeast. However, much of this area has been converted to other forest types or developed. There are numerous species of conservation concern associated with upland longleaf pine forests including but not limited to: red-cockaded woodpecker, and Louisiana Pine Snake. This ecosystem can be broken down into at least 17 associations as outlined in the SIC's FECV assessment that is located on the Texas Forestry Association website.

WEST GULF COASTAL PLAIN CATAHOULA BARRENS

This G1/G2 system is confined to the Catahoula geologic formation of eastern Texas and western Louisiana and can be broken down into other associations. It includes a vegetational mosaic ranging from herbaceous dominated areas on shallow soil and exposed sandstone to deeper soils with open woodland vegetation. Catahoula barrens are not "barren" at all. They nearly always support a group of specialized and uncommon plants. Seasonal drought, shallow soils, aluminum toxicity, and periodic fires are important factors that influence the composition and structure of this system.

WEST GULF COASTAL PLAIN SEEPAGE BOG

This G2 wet, fire maintained, hillside community occurs on seepage slopes in sandy Longleaf pine uplands in the West Gulf Coastal Plain of eastern Texas and western Louisiana. This wetland is maintained by seepage at the zone between an overlaying, permeable sandy layer and a lower layer of relatively impermeable material such as



Trumpet Pitcherplant - Sarracenia Alata

sandstone or clay. The vegetation of intact examples is dominated by a dense, species-rich forb layer less than 1 m tall. Trumpet pitcherplant is often the dominant aspect of this community. Emergent stems of Poison sumac, Sweetbay magnolia, Redbay, and/or Longleaf pine may be present even in well-burned examples.

TECHNICAL AND COST-SHARE ASSISTANCE:

If you want help developing a conservation strategy for a species or community of concern or find out if a rare species or community might occur on your land, contact the Texas Parks and Wildlife at (512) 912-7011 or go to www.tpwd.texas.gov. The Partners for Fish & Wildlife program of the U.S. Fish & Wildlife Service offers technical and financial assistance to landowners for restoration of native habitat types. Go to www.fws.gov for more information. For more information or assistance, contact Texas Forestry Association at (936) 632-TREE or visit the Texas Forestry Association website at www.texasforestry.org

FOREST AESTHETICS
INFORMATION FOR FOREST LANDOWNERS

Forestry operations are highly visible and subject to the perceptions and opinions of an environmentally aware public. Furthermore, the image of the forest industry is directly influenced by the perceived quality of forest operations. Conducting operations in an aesthetically acceptable manner is important to the future of the forests in Texas. We believe that concerns about the aesthetics of forest operations can be addressed by using aesthetics guidelines published by the Forest Resources Association and Forestry Best Management Practices published by the Texas A&M Forest Service. Both publications are available through Texas Forestry Association.

Forestry aesthetics is the application of practices that enhance the visual quality of timber management for forest products. These practices should be carried out with the companion goals of protecting and conserving water and air quality, soil productivity and wildlife habitat. Operations that are likely to have the greatest impact on aesthetics, which Webster describes as "a perception of beauty," include road locations/construction/maintenance, harvesting/logging, site preparation for reforestation including the use of forest chemicals and prescribed burning. Advance planning is recommended for each operation as a proactive approach to improving forest aesthetics. Consideration should be given to the visual aspects and concerns of each forestry operation as outlined below. Furthermore, management decisions should be based on the degree of visual sensitivity appropriate to the site.

FOREST ROADS

Well built and maintained forest roads contribute to the visual quality of forest operations. The following points are examples of practices intended to improve the visual appearance associated with the design, location, construction, and maintenance of forest roads.

- Minimize the number and width of roads necessary to meet objectives.
- Control water movement and erosion with BMPs for forest roads.
- Locate roads to minimize visibility from highly utilized travel routes.
- Close and stabilize temporary roads upon completion of activities.
- Provide appropriate access control to minimize unauthorized traffic.
- Avoid excessive rutting and erosion and tracking mud onto public roads.

TIMBER HARVESTING

Good harvest planning significantly reduces the impact of timber harvesting on visual quality. Look at what you plan to do as you might see it immediately after a logging operation, be it a thinning or a clear cut, and visualize how it would look if seen from a public road, or nearby residential or recreational area. Important considerations are harvest timing, harvest method, harvest area shape and size, timber felling and skidding, and logging decks. Some practices to consider when conducting timber harvesting include:

- Minimize harvesting impacts during wet conditions.
- Avoid large clear-cuts visible from major travel routes, recreational areas, and viewsheds.
- Use aesthetic management zones (AMZs) or streamside management zones (SMZs) as buffers next



to major travel routes or recreational areas.
There are tax advantages for AMZs and SMZs in Texas. Check with a consultant or professional forester for more information.
• Consider alternative methods to clear cutting adjacent to major travel routes, residential and commercial areas, recreational areas, etc.
• Avoid leaving high stumps and damaged or broken trees
• Consider removing or lopping tops down within viewing area.
• When thinning, consider establishing operating corridors parallel to viewing areas.

LOG DECKS AND LANDINGS
Logging jobs are often judged by the appearance of their log decks and landings. Important considerations include the size and number of log decks and landings, proximity to highways and viewsheds, and proper restoration upon completion of logging. Practices to consider include:

• Dispose of all trash and litter properly.
• Restore and stabilize log decks and landings promptly.
• Scatter or dispose of slash and stumps as soon as possible.
• Plan in advance by taking locations, terrain, size, and number of decks into consideration.
• Avoid decks and landings in full view of major travel routes or near property lines.

SITE PREPARATION AND REGENERATION
Site preparation and reforestation impacts the visual quality of the forest. Thus it is best to promote the rapid regeneration of harvested and site prepared areas in a visually acceptable manner. Some practices to consider include:
• Follow land contours on slopes when using mechanical site prep and planting techniques.
• Avoid off-site applications and protect sensitive areas, aesthetics management zones, streamside management zones, and neighboring properties.
• Consider keeping slash piles to a minimum and leveling or burning unscreened slash piles.
• Consider felling damaged trees and dead vegetation to create a clean cut appearance.
• Avoid broadcast application of herbicides in exceptionally visible and/or environmentally sensitive areas. Consider ground applied banded or spot applications in these areas.
• Avoid chemical applications near schools, churches, public areas during active hours.
• Respect adjacent landowners privacy.
• Notify adjacent residents prior to treatment.
• Develop flight and application plans to minimize off-site flyovers and turns.
• Consider orienting planting rows parallel to roadways or viewing areas.

PRESCRIBED BURNING
Prescribed burning is one of the most effective tools for controlling undesirable vegetation, improving wildlife habitat, reducing major fire hazards and improving management access. However, prescribed burning, smoke, and burned sites may produce visual impacts and other concerns among the public, particularly if conditions are not totally favorable for burning. Some practices to consider include:

• Monitor weather and possible smoke impacts closely before, during, and after burning.
• Burn only during periods of good smoke dispersal.
• Notify adjacent residents prior to the burn.
• Avoid affecting smoke sensitive areas or visually sensitive areas.

In summary, overall management objectives and special considerations play a key role in aesthetics planning. Flexibility in operational planning and in applying these guidelines is necessary when addressing catastrophes, different forest types, and unique conditions. The entire forestry community should be encouraged to include aesthetic considerations in its overall management approach. Together, we can improve the aesthetics of forestry operations and the application of sustainable forestry practices.

PROTECTION OF SPECIAL SITES IN TEXAS

Special Sites are lands that are geologically or culturally important in a manner that takes into account their unique qualities.

When you spend time in the forests of East Texas, you quickly start noticing trends. Uplands are composed mostly of our Southern Yellow Pines while creeks and rivers are blessed with an abundance of hardwoods which vary in species groups depending on the elevation within the landscape. These scenes are replicated over millions of acres but, as predictable as they are, sometimes you'll find something very different! These unique differences in our forests are commonly called Special Sites and are areas that naturally draw our attention and are deserving of recognition.



In Texas, the Alabama-Coushatta Indian Tribe continues to weave baskets from Longleaf Pine needles.

Sometimes these Special Sites are there because of a geologic structure making the area significant and a place that you'll want to often visit. Places like waterfalls and rock outcroppings or even aquifer recharge zones or pocket prairies are scattered throughout our landscapes and are certainly worth denoting for future reference. Some of these out-of-the-ordinary places are worthy of focused protection and should be included on all your property maps so that during each management entry, especially harvesting operations, everyone involved will know to take extra care around these special areas of concern. There are some websites that could help in the discovery of the geologic importance of these types of locations. They could have been formed by meanderings of ancient rivers or natural terraces of bedrock. The online library of the University of Texas is a great resource for investigating your property.



The significance to denote a Special Site can also be due to activities of past cultures ranging from our great grandparents picnicking to Tribes of Indigenous Peoples. Texas History is full of cultures, characters,

Spanish forts along the El Camino Real, and Republic of Texas battles or maybe just the first settlers who homesteaded and survived the elements and started communities. Again, these sites should be noted on all maps of the property and discussed during pre-activity planning. The Texas Historical Commission and the Texas State Historical Association are two wonderful resources to start your research. And, to find out "what happened here," the Texas Archeological Society may even be able to contribute a new light on an old site of recognition.

RESOURCES:

University of Texas Libraries / Library Guides / Geology / Bureau of Economic Geology: Maps of Texas (https://guides.lib.utexas.edu/geo/beg-maps)
The Tobin International Geological Map Collection of the Walter Geology Library consists of more than 47,000 maps, atlases and map texts on geology and related subjects worldwide but is particularly strong in maps of Texas and select U.S. and foreign areas of geologic interest.

Texas Historical Commission
(https://www.thc.texas.gov/)
The Texas Historical Commission is the state agency for historic preservation. We save the real places that tell the real stories of Texas.

Our staff consults with citizens and organizations to preserve Texas history through its architectural, archeological, and cultural landmarks. The agency is recognized nationally for its preservation programs. Our mission is to protect and preserve the state's historic and prehistoric resources for the use, education, enjoyment, and economic benefit of present and future generations.

Texas State Historical Association
(https://www.tshaonline.org)
The mission of the Texas State Historical Association (TSHA) is to "foster the appreciation, understanding, and teaching of the rich and unique history of Texas and, by example and through programs and activities, encourage and promote research, preservation, and publication of historical material affecting the state of Texas." TSHA is the oldest learned society in our state. Organized in Austin on March 2, 1897, the founders of TSHA brought lay and professional historians together to document and celebrate the state's complex and diverse history. Today, TSHA follows the path laid out by its founders, sharing Texas history and stories of events and people from all walks of life with individuals and organizations across the state, nation, and globe.

Texas Archeological Society
(https://www.txarch.org/)
The TAS is a professional and avocational society that engages in and promotes scientific archeological exploration and research, preservation and conservation of archeological materials and sites, and the interpretation and publication of data. We provide students of all ages the opportunity to take part in research and training through our Academies, Field School, and Annual Meeting.

MANAGING HARVEST RESIDUE

An Overlooked Resource

Residue generated from logging operations, if managed properly, can be an important resource for landowners. Generally referred to as woody biomass, this material typically includes limbs, tops, bark, and unutilized trees. Other sources of woody biomass may include pre-commercial thinning and stand improvement operations. A professional forester can help advise you on when these operations may be necessary.

Harvest residue can potentially serve many important functions. Distributing this material throughout the site can provide additional organic matter and nutrients to the soil, especially on deficient sites. It can also be used to stabilize sensitive, erosion prone areas, such as skid trails on steep slopes or stream crossing approaches. Increasingly, this residue is now also being considered as a potential alternative (renewable and sustainable) raw material source for the production of energy products.

As natural gas, oil and gasoline and power prices rise, there is increased interest in exploring woody biomass as a raw material source for energy production, whether this is for electrical generation, advanced biofuel development, or other energy products. This is primarily due to the fact that woody biomass is a renewable feedstock produced from currently unused and/or underutilized material, and is considered by many to be 'carbon neutral', releasing carbon when utilized in similar amounts to that used for tree growth.

Considerations for Residue Management

Harvesting this residue can produce many benefits for landowners including:

- additional source of income
- reduced site preparation costs and increased efficacy
- improved access and aesthetics
- reduced wildfire risk
- improved forest health

As with other forest operations, Texas best management practices (BMPs) should be followed when harvesting woody biomass. BMPs are designed to protect water quality, but also provide other benefits including wildlife habitat/biodiversity, soil productivity, and aesthetics. Leaving streamside management zones, or buffers, along waterways and sensitive areas not only to protect water quality, but can also aid in biodiversity. Implementing water control structures (waterbars, wing ditches, etc.) on roadways help prevent erosion, protecting water quality and soil productivity.

Other practical measures include timing operations to avoid wet, saturated soils, combining biomass harvests with other management activities, avoiding removal of stumps, root systems, snags, and other material from steep slopes and sensitive areas, and promptly reforesting the site.

In summary, effectively managing harvest residue is part of sustainable forest management. As markets continue to develop for woody biomass, landowners should stay informed in order to be better positioned to responsibly achieve their forest management objectives.

For More Information

Texas A&M Forest Service, PO Box 310, Lufkin, TX 75902, (936) 639-8180, http://tfsweb.tamu.edu
Texas Forestry Association, PO Box 1488, Lufkin, TX 75901, (936) 632-8733, www.texasforestry.org



WILDFIRE RISK REDUCTION

Reducing vegetation on your property – or on a larger scale to protect a subdivision or community – can dramatically decrease the spread and intensity of wildfires and increase the chances for firefighters to control the fire. Thinning, trimming trees and removing ladder fuels including immature trees, shrubs and dead or downed branches which can carry a fire into the tops of trees are all ways of slowing the spread of fire or reducing its intensity. Below are different types of treatments for fire management.

Fuel Breaks

A fuel break is the thinning of vegetation, or fuels, over a specific area of land. They are most commonly used to surround a community and slow the spread of a wildfire. By decreasing the amount of vegetation the fire has to travel through, you can significantly reduce the risk of extreme fire behavior.

Fuel breaks are most effective when placed along a natural break like a road. Choosing a site along a road also allows easy access for equipment.



Follow these tips when creating a fuel break:
- Follow a natural fire break or contour lines
- Prune the lowest branches on large trees to 10 feet above the ground
- Remove ladder fuels such as brush and small trees
- Thin trees to create a crown spacing of 25-30 feet
- Break up thick areas of brush
- Maintain a minimum width of 60 feet on flat land and up to 300 feet on steep slopes or in areas with heavy fuel loads adjacent to the fuel break

To remain effective, fuels breaks should be regularly maintained. The use of herbicides as a follow up treatment to mulching or mowing will help reduce the amount of resprouting . Grazing and prescribed fire are also options to maintain a fuel break.

Fire Breaks
A fire break is a break in vegetation. In some cases it may be a gravel road, a river or a clearing made by a bulldozer. A 'green' fire break uses grasses with high moisture content, such as winter rye or winter wheat to provide a break in the continuity of the fuel. If wide enough, a fire break will stop the spread of direct flame. However, embers can still be lofted into the air and travel across the line.

Mechanical Treatments
A mechanical treatment removes fuels by cutting shrubs, small trees and ladder fuels that make up the understory of a forested area. Materials are either taken from the site or chipped into smaller pieces. Fuels are selected for removal based on how they would contribute to a wildfire and what will improve forest health.

The objective of mechanical treatments is to reduce the intensity of wildfire. If there is less fuel to burn, the fire stays low to the ground giving firefighters a safer condition in which to work.

A mulching operation (also referred to as mastication) is intended to break fuels into smaller pieces and spread them within the fuel break. While the smaller pieces will still carry fire, they will significantly reduce the intensity of it. The goal is to reduce ladder fuels like tall brush that could carry a ground fire into the top of a tree.

Forest thinning is another mechanical treatment that is commonly utilized. Common thinning methods like 1st entry row thinning, thinning from below using operator select, or even shelterwood cuts can decrease wildfire risk. To increase the value of these treatments landowners can ask for all undesirable midstory competition to be cut by the logging crew or they can follow up the thinning with prescribed fire, herbicide, or mulching (mastication).

Herbicide Treatment
Herbicides are used to control undesirable or invasive species of plants that can "take over" an area or compete with desired species. The effectiveness of herbicide treatments depends on existing vegetation, topography and other local restrictions. Thick underbrush may require mechanical treatments prior to the use of herbicides to be most effective.

Prescribed Burning
Prescribed burning is the most commonly used tool for managing hazardous fuel buildups because of its relatively low cost per acre and its additional benefits to wildlife, forest health, and aesthetics. When managed and applied correctly, prescribed fire can help improve natural habitats and reduce heavy fuel loads.

It is important to use a certified prescribed burn manager to improve fire safety, reduce smoke management issues, and remove the liability risk from the landowner. A prescribed burn plan should

be in place, with appropriate documentation, prior to conducting the burn. This plan should detail all information regarding the planned prescribed fire and should be followed as closely as possible. Fuel dryness, wind speed and direction, humidity, topography, fuels, and smoke management all play a part in conducting a safe and successful burn.

Texas A&M Forest Service maintains a list of tools to help plan prescribed burns at https://tfsweb.tamu.edu/PrescribedBurnToolbox/.

Preparing Structures

Barns, sheds, and hunting camps are often the first structures destroyed in a wildfire. Taking steps to prepare them ahead of time can reduce their risk to wildfire and help them survive. Maintain fuel and fire breaks around structures, use nonflammable exterior siding and roofing, and keep flammable debris - such as leaves, limbs, and pine straw- from building up on roofs and against walls.

http://tfsweb.tamu.edu/protectyourwildlands/



CONCLUSION

Having clean, healthy, and productive forest ecosystems is the premier mission of the members of the Texas Forestry Association (TFA). TFA has been a conservation organization since 1914 and today TFA works for the people who grow, manage, harvest and process the forest resources of Texas.

Want more information? Visit the TFA website at www.texasforestry.org.

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TEXAS FORESTRY
ASSOCIATION

P.O. Box 1488 Lufkin, TX 75902
(936) 632-8733
www.texasforestry.org