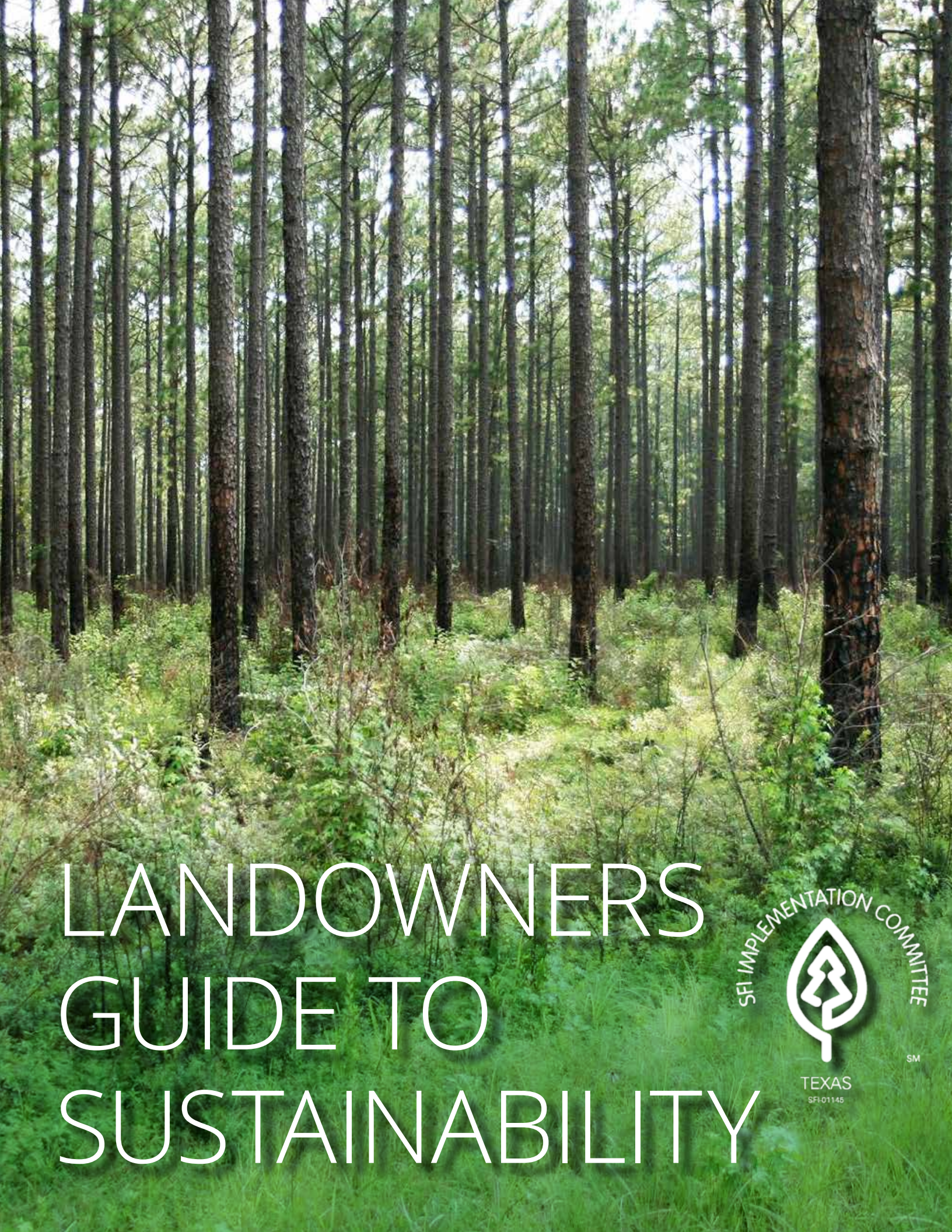


LANDOWNERS GUIDE TO SUSTAINABILITY

SFI IMPLEMENTATION COMMITTEE

SM

TEXAS

SFI-01145

WHAT'S INSIDE

INTRODUCTION

THE TEXAS FOREST SECTOR CONTRIBUTES $30.3 BILLION TO THE STATE'S ECONOMY EACH YEAR (2015)

Private landowners like you own more than 65 percent of Texas forests. Decisions you make affect the value of your property, but also have many positive benefits for the economy and the quality of life in Texas. The SFI Implementation Committee of Texas 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. is an independent, non-profit organization dedicated to promoting sustainable forest management. While SFI develops and oversees standards for forest management and the forest products supply chain, they are more than a set of standards — SFI is a community that stands for future forests. SFI works at the intersection of thriving forests, sustainable communities and responsible procurement.

Forests certified to the SFI Forest Management Standard cover more than a quarter-billion acres/100 million hectares, 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 worldwide.

Together, these standards form the foundation of SFI's approach. By engaging with our grassroots SFI Implementation Committees and organizations participating in the SFI Conservation and Community Partnerships Grant Program, SFI has nurtured a community that reaches across the range of values and outputs generated by sustainably managed forests.

SFI works to ensure the health and future of our forests, because forests are a part of our everyday lives. SFI brings 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: sfiprogram.org

THE CHOICES WE MAKE EVERY DAY DETERMINE THE FUTURE OF OUR FORESTS.

SFI PRINCIPLES

The following SFI Principles apply to the SFI 2015-2019 Forest Management Standard and SFI 2015-2019 Fiber Sourcing Standard. These SFI Principles are supported by additional mandatory requirements including more specific objectives, performance measures and indicators.

1. SUSTAINABLE FORESTRY

To practice sustainable forestry to meet the needs of the present without compromising 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 ecosystem services such as the conservation of soil, air and water quality, carbon, biological diversity, wildlife and aquatic habitats, recreation and aesthetics.

2. FOREST PRODUCTIVITY AND HEALTH

To provide for regeneration after harvest and maintain the productive capacity of the forest land base, and to protect and maintain long-term forest and soil productivity. In addition, to protect forests from economically or environmentally undesirable levels of wildfire, pests, diseases, invasive exotic plants and animals, and other damaging agents and thus maintain and improve long-term forest health and productivity.

3. PROTECTION OF WATER RESOURCES

To protect water bodies and riparian areas, and to conform with forestry best management practices to protect water quality.

4. PROTECTION OF BIOLOGICAL DIVERSITY

To manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, and ecological or natural community types.

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 ecologically, geologically or culturally important in a manner that takes into account their unique qualities.

7. RESPONSIBLE FIBER SOURCING PRACTICES IN NORTH AMERICA

To use and promote among other forest landowners sustainable forestry practices that are both scientifically credible and economically, environmentally and socially responsible.

8. LEGAL COMPLIANCE

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

9. RESEARCH

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

10. TRAINING AND EDUCATION

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

11. COMMUNITY INVOLVEMENT AND SOCIAL RESPONSIBILITY

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.

12. TRANSPARENCY

To broaden the understanding of forest certification to the SFI Standards by documenting certification audits and making the findings publicly available.

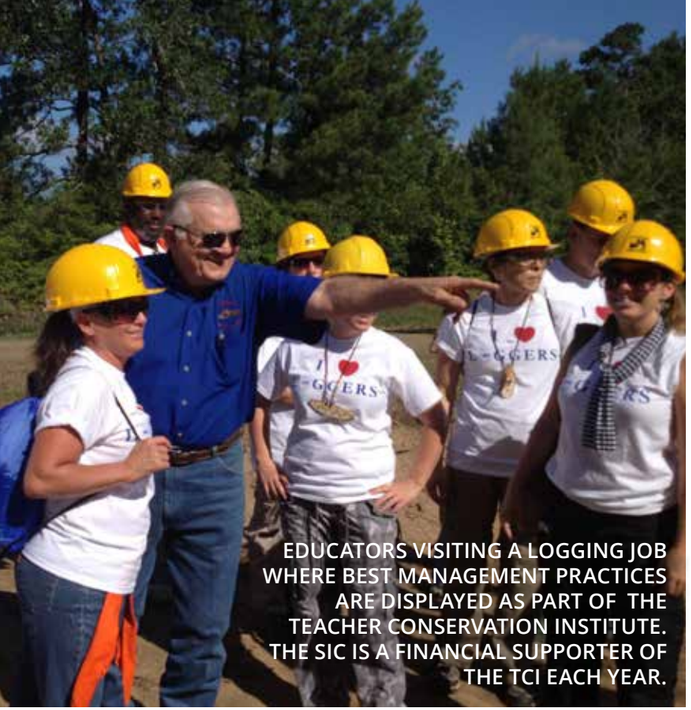
13. CONTINUAL IMPROVEMENT

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

14. AVOIDANCE OF CONTROVERSIAL SOURCES INCLUDING ILLEGAL LOGGING IN OFFSHORE FIBER SOURCING*

**Applies only to the SFI 2015-2019 Fiber Sourcing Standard*

To avoid wood fiber from illegally logged forests when procuring fiber outside of North America, and to avoid sourcing fiber from countries without effective social laws.



EDUCATORS VISITING A LOGGING JOB WHERE BEST MANAGEMENT PRACTICES ARE DISPLAYED AS PART OF THE TEACHER CONSERVATION INSTITUTE. THE SIC IS A FINANCIAL SUPPORTER OF THE TCI EACH YEAR.

TEXAS SFI BOOTH AT THE TEXAS STATE FAIR. OVER 1.5 MILLION PEOPLE VISIT THE STATE FAIR IN DALLAS EACH YEAR.

TEXAS SFI IMPLEMENTATION COMMITTEE

SFI IMPLEMENTATION COMMITTEE SM
TEXAS
SFI-01145

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. At the heart of the SFI community are SFI Implementation Committees (SICs). There are 34 SFI Implementation Committees across the United States and Canada, with close to 1,000 volunteers.

In Texas, the Texas Forestry Association sponsors the SFI Implementation Committee, which plays a critical part in promoting the SFI Standards, collaborating on the training of harvesting professionals and connecting people and communities to the forest.

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 local SFI Implementation Committee. This approach to training and implementation of responsible forestry practices is unique to the SFI Program — no other forest certification program in the world has this level of grassroots support to promote responsible forestry, best management practices for water quality and training.

SFI IMPLEMENTATION COMMITTEES CORE PRIORITIES:

LOGGER TRAINING AND EDUCATION:

SICs establish criteria and identify delivery mechanisms for logger and forester training to reach the thousands of independent contractors that are the key to the quality of forest harvesting operations. Texas Forestry Association maintains a database of trained logging professionals at www.texasforestry.org.

RESPONDING TO INCONSISTENT PRACTICES INQUIRIES:

SFI Implementation Committees – through monitoring of inconsistent practices – offer a forum to provide information or answer questions about local forestry operations, and they also provide a process to respond to questions or concerns about forestry practices on lands certified to the SFI Standard and beyond. To report an inconsistent practice, call 1-866-TXTREES.

LANDOWNER OUTREACH:

SICs provide sustainable forestry information and support to family forest landowners in collaboration with local conservation groups, government agencies, university extensions, forestry and professional associations, landowner groups and many others. These landowner outreach efforts seek to improve forest management on both certified and uncertified lands.

INCREASING SFI PROGRAM RECOGNITION:

SFI's unique grassroots network seeks to increase SFI program recognition, awareness and support with local government agencies, legislative officials and key stakeholder groups, like architects and green building advocates.

ANNUAL REPORTING:

SICs annually report successes at the local level from membership, outreach activities, research, to conservation and community partnerships projects.

PROTECTING SFI PROGRAM INTEGRITY:

SICs are protecting the integrity of the SFI program by ensuring proper logo usage and alerting SFI Inc. of improper communications or misleading claims.

START WITH A PLAN

FOREST MANAGEMENT PLANNING

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

1. Consider your objectives. Are you interested in immediate and sustained income, wildlife habitat, recreation, retirement or even savings for college for a child or grandchild?

2. Get help. Get planning help from a professional forester or qualified resource professional and ask for 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.

3. Develop a plan. Proper management helps your forestland gain value over time. Protect the value of your land with a plan that provides for reforestation, responsible harvesting and Best Management Practices (BMPs) to protect water and soil quality. Once you develop a plan, be sure to stick with it!

Tree farmers who manage lands in much the same fashion as other farmers – replanting, applying management principles, and with stewardship – will be rewarded with forests that are valuable and productive in the long run.

REGENERATION PLAN

A 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.

SEED TREE

Good for 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

Even-aged stands regenerate beneath the shade provided by mature trees from the previous stand. Good for naturally regenerating certain softwoods and hardwoods, such as southern pines or oaks.

CLEARCUTTING

Recommended when you want to upgrade stand quality, such as planting genetically improved pine or naturally regenerating hardwood species like oak. Generates the highest one-time income.

SINGLE-TREE SELECTION

Also known as selective harvesting or unevenage management, this method relies on natural regeneration and is used to manage both pine and hardwood. Although visually more attractive, harvest income per acre is usually less.

THINNING

This practice 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.

AESTHETIC CONSIDERATIONS

When harvesting, consider visual impact. You can often make a timber harvest more aesthetically pleasing by considering the size, shape and placement in your plan. When clearcutting, a strip of trees can be left as a visual buffer along the highway. All trash, oil and lubricant containers must be properly stored and removed following harvest.

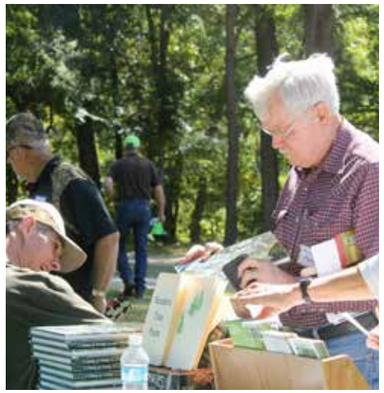
Get advice from a professional forester or qualified resource professional BEFORE making decisions about harvesting or regeneration and choose a Texas Pro Logger when you're ready to harvest.

TREE FARM

RECOGNIZE THIS SIGN?

Established in 1941, the American Tree Farm System is the oldest and largest forest certification program in the United States.

A Tree Farm is at least 10 acres of forestland under management, with an implemented plan that accounts for water quality, wildlife habitat and soil conservation, as well as production of forest products.



TREE FARMS ARE FAMILY–OWNED FORESTS
MANAGED BY PEOPLE JUST LIKE YOU.

Tree Farm families manage their lands for wildlife and watershed protection while also growing wood for our daily use.

Landowners who enroll in the American Tree Farm System (ATFS) are following a management plan that meets certain standards and guidelines that demonstrate a commitment to stewardship of the land and are part of the solution to meet the global demand for sustainable fiber by growing Tree Farm-certified wood.

ATFS supports Tree Farmers with the direct involvement of some 5,200 volunteer inspecting foresters across the country who make themselves available as certifiers. These specially trained professional foresters work individually with landowners to determine if the American Forest Foundation's Standards and Guidelines are met.

Texas joined the American Tree Farm System in 1944. Today, there are more than 2,000 Tree Farms covering 800,000+ acres in Texas. The program is administered by the Texas Forestry Association.

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.

WOULD YOU LIKE TO BECOME A TREE FARMER?

A FORESTER WOULD BE HAPPY TO MEET WITH YOU ON YOUR TIMBER TRACT TO DISCUSS THE PROGRAM WITH YOU. CONTACT THE TEXAS FORESTRY ASSOCIATION TODAY.

P.O. Box 1488 Lufkin, TX 75902-1488
(936) 632-8733 or tfa@texasforestry.org
http://www.texasforestry.org

TREES ARE THE ANSWER

THE IMPORTANCE OF REFORESTATION & AFFORESTATION

You love your forestland, and you want it to thrive — now and for generations to come. But do you actually have a management plan in place to ensure that it will? There's no better time than now to begin planning for the future management of your piece of Texas.

As a forest landowner your land management goals — whatever they may be — should be the focus of your plan. But as you work toward your goals, make sure you take advantage of every opportunity to replace trees that have been removed.

This can be done in two ways: reforestation and afforestation. Reforestation is the natural or intentional restocking of existing forests and woodlands after trees have been removed through harvesting, wildfire or natural disasters. Afforestation involves planting trees and establishing woods and forests in areas that previously had no tree cover, such as old agricultural fields and pastures.

Management goals vary from landowner to landowner. Some plant trees so that they may one day be harvested, sold for income and then used to make homes, furniture, paper and other wood-based products. Some plant trees to create habitats for wildlife and improve the quality of the air we breathe and the water we drink. Others plant trees simply because they enjoy the beauty they bring to the land.

There are several factors to consider when planning reforestation or afforestation, which is why you should consult with a professional forester or other qualified natural resources professional before beginning a project. Proper forest management can help you meet multiple goals while providing a variety of benefits for both you and your fellow Texans.

A tree expert will study your management objectives and help you select the appropriate species, determine how densely it should be planted and develop follow-up activities. For example: if your overall objective is boosting income, then reforesting with a pine species (such as loblolly) in a plantation style (systematic rows and spacing) may be recommended. But if your objective is to increase wildlife habitats while providing supplemental income, reforesting with pine and hardwood may be recommended.

No matter the management objective, prompt reforestation or afforestation is the key. The sooner trees are replanted, the sooner they can begin growing and helping you achieve your management goals. Prompt efforts ensure a sustainable supply of wood and maximize your income opportunity while also ensuring that trees and forests — 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, and other professional foresters can assist you in applying for state and federal cost share funds.

INCOME OFTEN BEGINS AROUND AGE 12 AND CAN CONTINUE ON FOR MANY YEARS. A TYPICAL RATE OF RETURN FOR A WELL-MANAGED FOREST IS ABOUT 12% 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.

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:

Advanced Natural Regeneration
In some areas, harvesting practices encourage abundant regeneration and planting is not necessary. However, it's critical to plan for the protection of existing softwood or hardwood tree seedlings or sprouts in the forest understory during and after the harvest.

Natural Regeneration after Harvest
This happens when seeds in the ground or from nearby trees germinate after the harvest. Most hardwood species also can reestablish themselves through sprouting from the roots or stump.

Artificial Regeneration
The planting of softwood or hardwood tree seedlings by hand or machine. This method gives you more control of your forest composition and often is more compatible with your business management goals.

The pine seedlings being planted today, through selection, tree breeding and advanced techniques have increased yields from 15% to 25% per acre and have reduced the length of time from planting to harvest.

In addition:

- Advances in herbicides and fertilizers have enabled landowners to increase survival and growth.
- The Texas A&M Forest Service District Forest offices assist with reforestation in all East Texas Counties.
- Consulting foresters serve East Texas, assisting landowners to plant and manage their timber. Calling on either of these professionals is the best step you can take 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: http://texasforestservice.tamu.edu/uploadedfiles/FRD/VendorList.pdf.
- A list of professional Foresters can be found at the Texas A&M Forest Service website: http://texasforestservice.tamu.edu/uploadedfiles/frd/referral.pdf
- The Texas Forestry Association and the Texas Logging Council promote safe and environmentally sound harvesting.
- There are state laws that lower property taxes for forestland.

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.

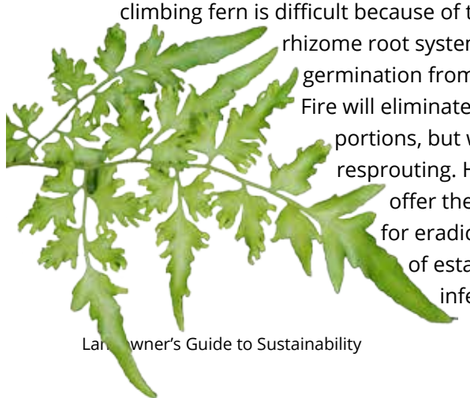
This forest management note is just an introduction to invasive species in Texas. For more information on these listed species and other common invasive plants and animals found in Texas, please use these references.

- *http://www.texasinvasives.org*
- *http://wiki.bugwood.org/Archive:IPSF (invasive plants in southern forests)*
- *http://www.invasive.org/eastern/srs/ (invasive plants in southern forests PLUS control recommendations)*

TEXAS FORESTS INVASIVE SPECIES: BIG FOUR

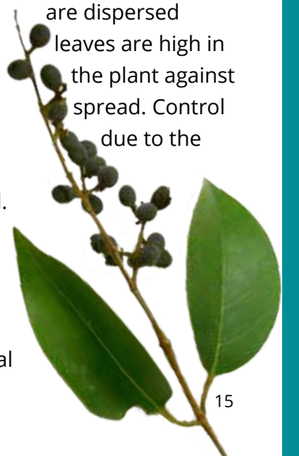
CHINESE TALLOW TREE – This tree represents a significant invasive species problem in many areas of Texas. It invades and eventually dominates native plant habitats from river bottoms to upland forests, as well as disturbed sites and abandoned agricultural fields. It is very adaptable and can transform 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. It reduces habitat for wildlife as well as forage areas for livestock. It spreads by root sprouts and seeds, 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, 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 – 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.



GENERAL WILDLIFE MANAGEMENT FOR FORESTS OF TEXAS

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. 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 animals 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.

Bird species also vary in their requirements. Many birds, including the northern bobwhite, 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.

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.

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. The seed mix should include at least one legume; clover in the fall, and alyce clover or cowpea in the spring.

PRESCRIBED BURNING

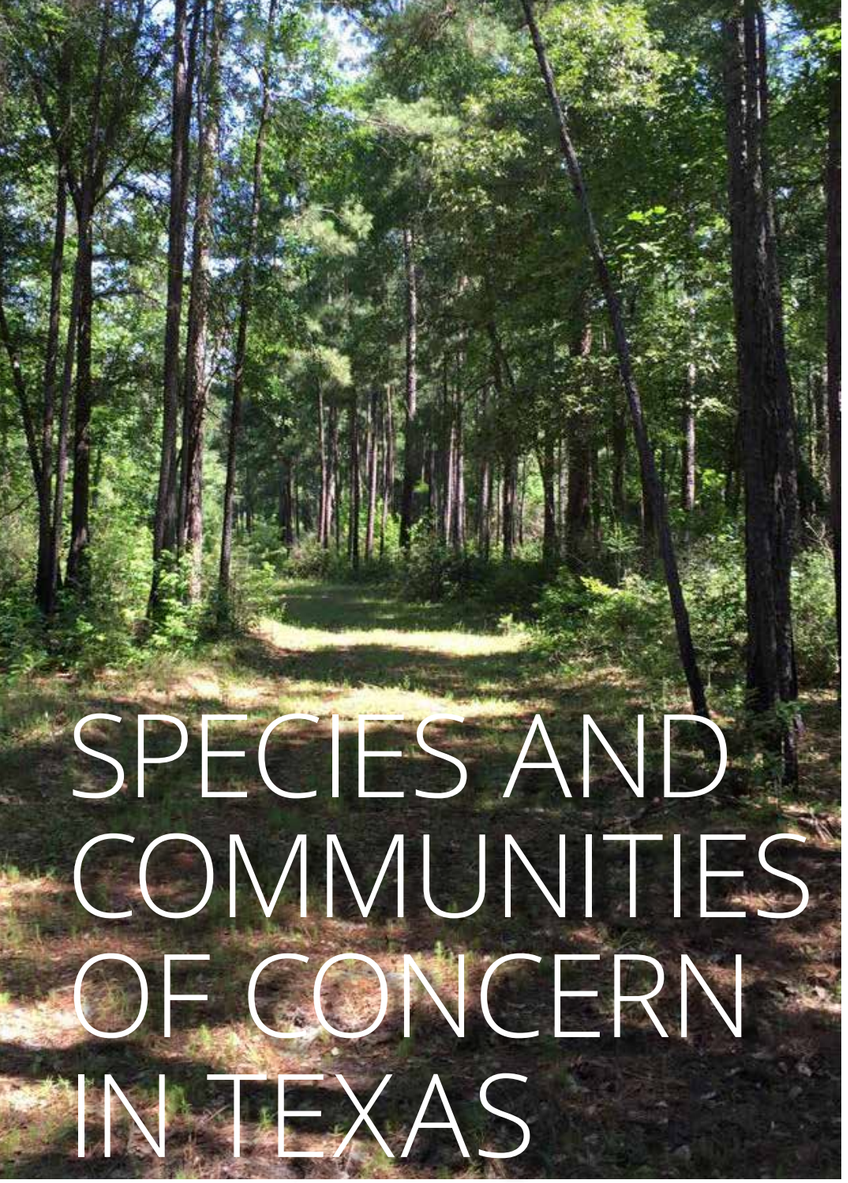
Prescribed burning is one of the best and most economical forest management practices for wildlife enhancement. Prescribed burning reduces forest fuels which helps prevent catastrophic wild fires. It also stimulates new growth of shrubs, forbs, and grasses. New growth is more palatable and nutritious 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.state.tx.us), 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 inventories of wildlife resources in the United States and Texas.

For more information or assistance, contact:

Texas Forestry Association at
(936) 632-TREE or tfa@texasforestry.org
http://www.texasforestry.org



SPECIES AND COMMUNITIES OF CONCERN IN TEXAS

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 is working with 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.

As a good land steward, it is important to be aware of plant and animal species and ecological communities of concern 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.

The Texas Parks and Wildlife Department (TPWD) (www.tpwd.state.tx.us), 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.

WEST GULF COASTAL PLAIN SEEPAGE BOG

This G2/G3 wet, fire-maintained, hillside seepage 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 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 aspect dominant of this community. Emergent stems of Poison sumac, Sweetbay magnolia, Redbay, and/or Longleaf pine may be present even in well-burned examples.

WEST GULF COASTAL PLAIN SALINE GLADE

This G1/G2 system occurs in portions of the Coastal Plain west of the Mississippi River on soils with high saline content, which are generally not conducive to woody plant growth. Thus, the vegetation forms a mosaic primarily consisting of open herbaceous or shrubby plant communities. This type is most common and best documented in Arkansas, western Louisiana, and east Texas. At least one federally threatened plant species, Geocarpon minimum, may occur in this system.

WEST GULF COASTAL PLAIN CATAHOULA BARRENS

This G1/G2 system is confined to the Catahoula geologic formation of eastern Texas and western Louisiana. 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.

WESTERN UPLAND LONGLEAF PINE FOREST

This G2/G3 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, Bachman's sparrow, Henslow's Sparrow, and Louisiana Pine Snake.

BACHMAN'S SPARROW - AIMOPHILA AESTIVALIS

Classified as a threatened species in Texas and vulnerable (G3) globally, the Bachman's Sparrow is most frequently found in open pine forests that contain a diverse ground cover of herbaceous vegetation. Ideal habitat was originally the extensive longleaf pine woodlands of the south. Frequent burning to prevent the understory from becoming dominated by woody vegetation (trees, shrubs, and vines) is critical to maintaining diverse ground cover of herbaceous vegetation required.

LOUISIANA PINE SNAKE – PITUOPHIS RUTHVENI

The Louisiana pine snake is a globally imperiled (G2) species and is also a candidate for listing under the Endangered Species Act. It can be found in longleaf pine stands, primarily in underground burrows. The pine snake is an ally of forest owners, as it consumes rodents 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.

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.state.tx.us. 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. Contact: (817) 277-1100 or go to www.fws. gov/southeast/partners for more information. For more information or assistance, contact Texas Forestry Association at (936)632-TREE or visit the TFA website at 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 14.4 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.

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, 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.

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 (TFS), 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 95 percent, according to a 2011 survey by TFS.

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.

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
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Texas Forestry Association
PO Box 1488
Lufkin, TX 75901
(936) 632-8733
www.texasforestry.org

MAINTAINING 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 at all levels – stand, forest, watershed, landscape and global. Landowners can influence compositional and structural diversity at the stand and forest levels through management choices. Techniques landowners 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 Forests with Exceptional Conservation Value (FECV) (defined as Forests of Recognized Importance (FORI) in the 2015-2020 American Tree Farm Standard)
- Protection for special sites and other unique stand features such as snags, low-value trees, wetlands, rock outcrops, caves, prairies, glades, etc.

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 areas.
- When thinning, consider establishing operating corridors parallel to viewing areas.

Handout provided by the Texas SFI Implementation Committee, 2016

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

The Sustainable Forestry Initiative recognizes that forest owners are important stewards of our landscape and culture. SFI encourages participants to protect special sites on their own lands and to assist private owners with identification and management during harvesting and other forest management activities on their lands. Special sites are areas that are ecologically, geologically or culturally important.

Handout provided by the Texas SFI Implementation Committee, 2016

Photo: US Army Corps of Engineers

Most landowners recognize the ecological importance of protecting threatened and endangered species and their habitats. (*See Species and Communities of Concern in Texas: 16-17*) In addition to these specific species or communities, landowners may encounter other areas of ecological importance such as natural springs, wading bird rookeries, ponds or lakes on migration flyways, old-growth bottomland hardwood areas and prairies for example. Managing unique areas such as these in a manner appropriate to their features helps ensure a healthy and flourishing environment.

Mention geological importance to many Texas landowners and their first thoughts may be of oil or gas opportunities. If you aren't lucky enough to strike oil, you may still be blessed with special geologic features such as sinkholes, river bluffs, cliffs, limestone outcroppings, large ravines or oxbow lakes to name a few.

Not only are these unique to our landscape, but they are also of importance to wildlife and often our history. It is rumored that one East Texas cave was a hide out for Sam Houston and Davy Crockett. The following website from the SFA Geology Department is a good place to start looking for additional geology resources: http://www.geology.sfasu.edu/TexasGeology.html

Sam Houston or Davy Crockett may not have slept in your forest, but that doesn't mean there still isn't a rich history to discover and protect. Over 50,000 historic cemeteries are estimated to exist in Texas with the location of many of these unknown. These cemeteries provide insight to the people who settled the land. Take a step back further in time and that strange mound on your property may be a Native American burial mound. Possibly there was an old ghost town or sawmill that has yet to be discovered.

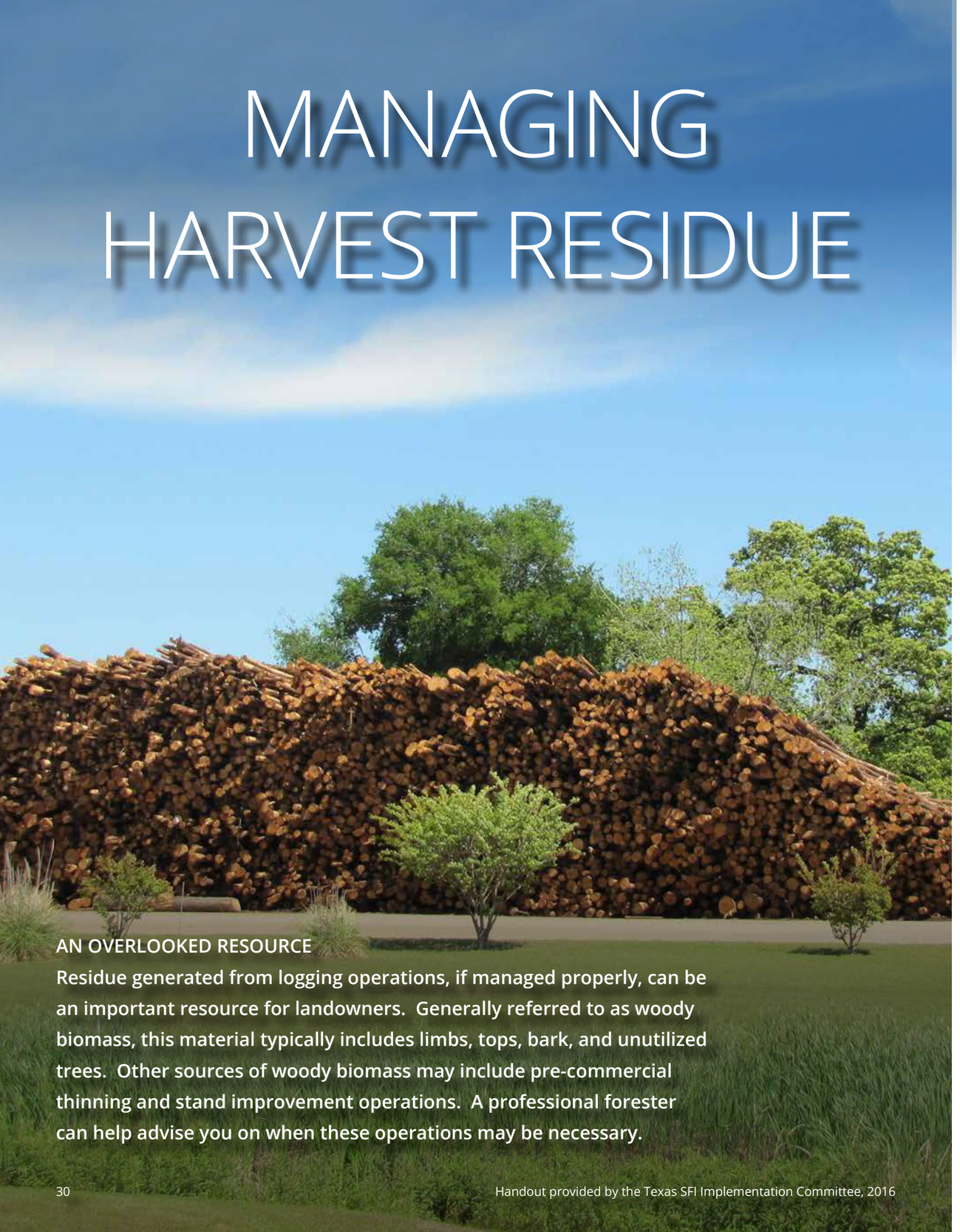
Photo: Texas Historical Comm.

The Texas Historical Commission (THC), an agency dedicated to preserving the history of Texas, maintains an atlas of over 300,000 sites that can be searched by keyword, county, historic name or address (http://atlas.thc.state.tx.us/). The THC works closely with the County Historical Commissions that can be found in each county and may have more intimate knowledge of the local area. Your local County Historical Commission can be found at http://www.thc.state.tx.us/ctycommissions/CountyContacts.aspx.

The Texas Archeological Society (http://txarch.org) is dedicated to the preservation of prehistoric aspects of Texas and would be a good starting point for researching possible Native American locations. Additionally, the Texas Archeological Research Laboratory (TARL) at the University of Texas (http://www.utexas.edu/research/tarl/) maintains an atlas of recorded archaeological sites that may help directly locate a known site or provide clues to something you observe on your property.

Photo: The Texas Archeological Research Laboratory (TARL) of the University of Texas at Austin

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.

Handout provided by the Texas SFI Implementation Committee, 2016

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 oil and gasoline 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 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 75902-0310
(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 wildfire 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 stopping or slowing down the spread of fire. 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 are significantly reducing the risk of extreme fire behavior.

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

Follow these helpful tips when creating a fuel break:

- Follow a natural fire break or contour lines
- Prune large trees to 10 feet from ground
- Remove ladder fuels such as tall brush and small trees
- Thin trees to create a crown spacing of 25 to 30 feet
- Break up thick areas of brush
- Maintain a minimum width of 60 feet on flat land and 100 feet on slopes

Regular maintenance of breaks increases their effectiveness in preventing wildfires. The use of herbicides as a follow up treatment to mulching will help reduce the amount of weed sprouts. Grazing is also an option 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. For example, a thick patch of cedar could readily ignite and release significant heat and embers. This fuel type contributes to the rapid spread of a wildfire and would need to be removed.

The objective of mechanical treatment 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 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.

Mulching equipment is classified as either traditional mowers or mulchers that grind the material. Heavy duty mowers are useful when fuels are small enough to be pushed over. However, for sites with an established woody mid-story, or ladder fuels, other equipment may be needed.

HERBICIDE TREATMENT

Herbicides are used to control invasive species of plants that will "take over" an area. Invasive plant species can also be reduced with mechanical thinning.

The effectiveness of herbicide treatments depend on existing vegetation, topography and other local restrictions. Thick underbrush may require mechanical treatments prior to the use of herbicides.

PRESCRIBED BURNING

Prescribed, or controlled, burning is the most commonly used tool for managing hazardous fuel buildups because of its relatively low cost per acre. Prescribed fire improves natural habitats and reduces heavy fuels.

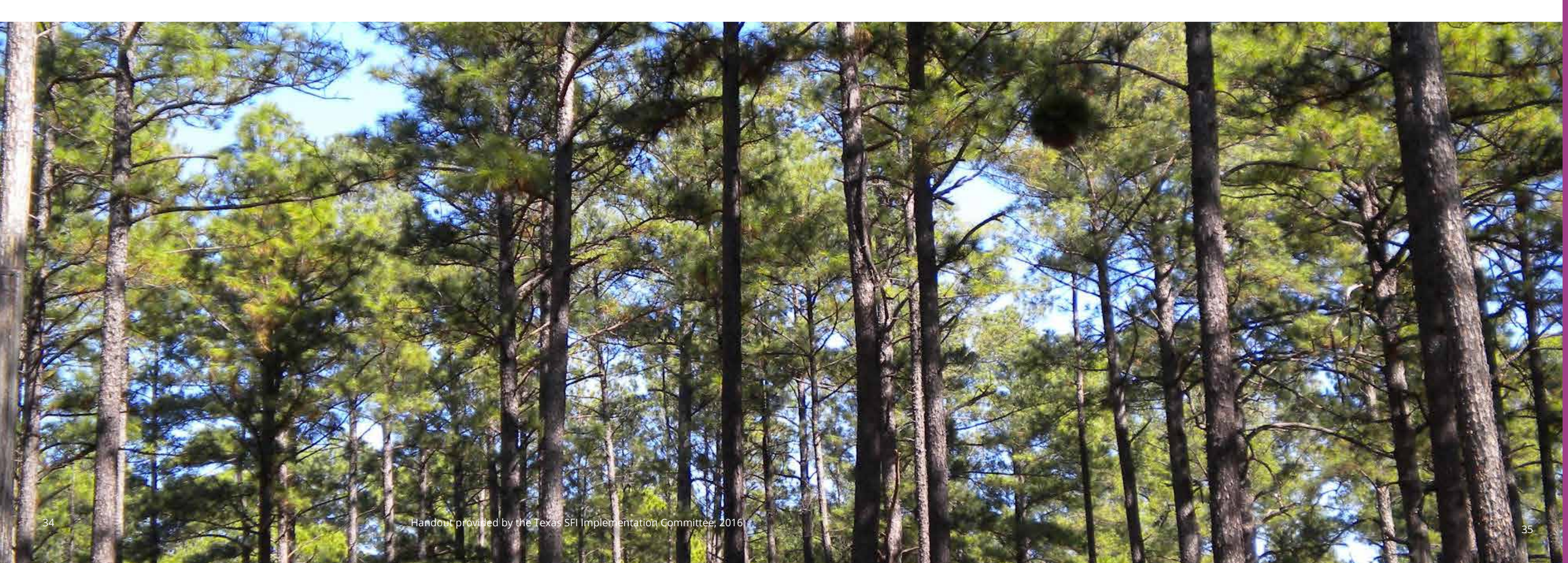
It is important to use a certified prescribe burn manager to improve fire safety and reduce smoke management issues. An acceptable burning plan should first be formulated with appropriate documentation prior to conducting the burn. This plan should detail all information regarding the planned prescribed 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.

http://txforestservice.tamu.edu/ProtectYourWildlands/

CONCLUSION

TREES ARE A RENEWABLE RESOURCE PROVIDING MORE THAN 5,000 PRODUCTS WE USE DAILY

Want More Information?
For more information, call Texas Forestry Association at:
936-632-TREE or 1-866-TXTREES,
email tfa@texasforestry.org or visit the
TFA website at www.texasforestry.org.
Additional resources are available through the Texas A&M Forest Service website at http://txforestservice.tamu.edu or by calling the local Texas A&M Forest Service office in your area.



NOTES

TEXAS FORESTRY ASSOCIATION

Texas Forestry Association

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SFI IMPLEMENTATION COMMITTEE

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TEXAS

SFI-01145

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