

A LANDOWNER'S GUIDE TO

# *Sustainable* **Forests**

*the future is growing*



Arkansas Sustainable Forestry Initiative  
Implementation Committee  
Little Rock, Arkansas  
Summer 2019





## To the Forest Landowners of Arkansas ...

*Sustainable Forests, The Future is Growing*, contains basic guidelines developed to help you wisely manage your forest resource. Listed on the inside back cover are organizations and agencies you may contact for information and technical assistance as well as for referrals to practicing forestry professionals who can assist in making management decisions. Many of these organizations also have publications addressing a wide range of forestry-related topics. You are encouraged to contact them for advice and questions on sustainable forest management.

For questions regarding forest activities relative to standards of the Sustainable Forestry Initiative (SFI), please visit us online at [www.sfiprogram.org](http://www.sfiprogram.org).

To communicate concerns about specific sites, contact the Arkansas Forestry Association at **501-374-2441**.

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The mockingbird is the official state bird of Arkansas. Designated as such in 1929, the mockingbird has extraordinary vocal abilities — they can sing up to 200 songs, including the songs of other birds, insect and amphibian sounds, and even an occasional mechanical noise.



**LEARN MORE**  
[www.sfiprogram.org](http://www.sfiprogram.org)

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# The Sustainable Forestry Initiative®

The SFI Standard is based on principles and measures promoting sustainable forest management and considers all forest values.

## The Future Is Growing

The future of Arkansas's forests and shared quality of life depend on strengthening the vital links between healthy forests, responsible wood fiber purchasing, and sustainable communities. The SFI Program was launched in 1994 as one of the U.S. forest sector's contributions to the vision of sustainable development established by the 1992 United Nations Conference on Environment and Development. Its original principles and implementation guidelines began in 1995, and it evolved as the first SFI national standard backed by third-party audits in 1998.

Today, SFI Inc. is an independent, non-profit organization responsible for maintaining, overseeing and improving a sustainable forestry certification program that is internationally recognized and is the largest single forest standard in the world. The SFI Standards are based on principles and measures that promote sustainable forest management and consider all forest values. It includes unique fiber sourcing requirements to promote responsible forest management on all forest lands in North America. SFI certification also extends to the market. When consumers see the SFI label on a product, they can be confident they are buying wood or paper from responsible sources — whether it is reams of paper, packaging or two-by-fours.

The following SFI Principles apply to the SFI Forest Management Standard

and SFI Fiber Sourcing Standard. SFI participating companies commit to and promote the principles.

- Practice sustainable forestry to meet the needs of the present without compromising the ability of future generations to meet their own needs.
  - Provide for regeneration, and protect forest and soil productivity, to protect forests from undesirable levels of wild-fire, pests, disease, invasive exotic plants and animals and other damaging agents.
  - Conform with best management practices to protect water bodies and riparian zones.
  - Manage forests in ways that protect and promote biological diversity, including animal and plant species, wildlife habitats, and ecological or natural community types.
  - Manage the visual impacts of forest operations, and provide recreational opportunities for the public.
  - Manage lands that are ecologically, geologically or culturally important in a manner that takes into account their unique qualities.
  - Use and promote sustainable forestry practices among other landowners that are both scientifically credible and economically, environmentally and socially responsible.
  - Comply with applicable federal, provincial, state, and local forestry and related environmental laws, statutes, and regulations.
- Support advances in sustainable forest management through forestry research, science and technology.
  - Improve the practice of sustainable forestry through training and education programs.
  - Broaden the practice of sustainable forestry on all lands through community involvement, socially responsible practices and through recognition and respect of indigenous people's rights and traditional forest-related knowledge.
  - Broaden the understanding of forest certification to the SFI Standards by documenting certification audits and making findings publicly available.
  - Continually improve the practice of forest management, and monitor, measure and report performance in achieving the commitment to sustainable forestry.
  - Avoid wood from illegally logged forests when procuring fiber outside of North America, and avoid sourcing fiber from countries without effective social laws.

“At SFI we choose the path we do because we know how vital it is, how important it is. We are in the business of building sustainable communities...and building a better future for us all.”

— *Mark Rodgers, President and CEO, Habitat for Humanity Canada and SFI Board Chair*





# Arkansas Forests Are Your Future

**F**amily forest owners own 56 percent of all privately held land in Arkansas. In fact, over 80 percent of the state's 19 million acres of forestland is owned by either family forest owners or private forest industry and private forest investment firms. That means the management decisions of non-industrial landowners play an important role in providing clean water, aesthetic benefits, wildlife habitat, recreation and much more — including

important forest products needed in a growing economy.

Countless people around the world depend daily on the products from property belonging to you and other forest landowners. This resource drives Arkansas's forest products industry, which has a \$6.4 billion annual economic impact on the state and produces more than 45,000 jobs directly or indirectly.

The health of Arkansas's forests affects

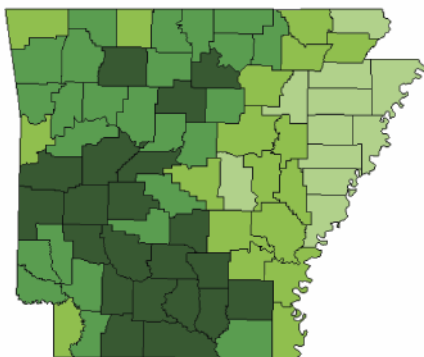
family members and friends. Landowners should be proud of their forests, not just for the impact it has on the economy of the state but for other values as well. The public is increasingly coming to realize the value of forests for such dividends as fish and wildlife, water quality, recreation, and tranquility. Careful planning by landowners like you, who care about conserving the forest for future generations, provides numerous forest benefits.

## Who Owns Arkansas's Forests?

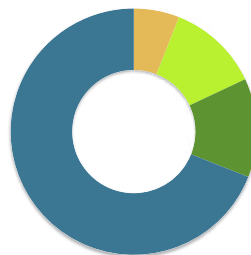
56% of Arkansas is covered in forest

### Percent of County in Forest

- 0.0-24.9
- 25.0-49.9
- 50.0-74.9
- 75.0-100

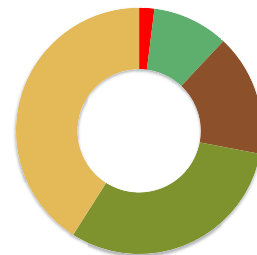


Source: Forest Inventory and Analysis Data, 2018



### Areas of Ownership of the Forest

- Other Public 6%
- Forest Industry 12%
- National Forest 13%
- Private Landowners 69%



### Areas of Forestland by Forest Type

- Cedar 2%
- Oak-Pine 10%
- Bottom Land Hardwood 16%
- Pine 31%
- Oak-Hickory 41%



# Forest Management Planning

The first step toward successful, profitable and sustainable forest management is defining your objectives. Will it be timber, wildlife habitat, hunting, recreation, aesthetics or historical value? Most likely, it will be a combination of objectives. The best way to meet your long-term goals and objectives is through a forest management plan. There are many components to a forest management plan, including taking inventory of your forest resources and property, harvesting and regeneration, water quality considerations, invasive plants and animals, identification of endangered or threatened species and protecting special places on your property. The basic ingredients needed for preparing a sound forest management plan follow.

## Identify Specific Management Objectives and Goals

Begin by asking yourself these questions:

- Why do I own forestland?
- What do I want from my land?
- What other things should I be considering?

Forestland may be managed for multiple uses. While you should prioritize which are most important to you and your family, you do not have to choose one objective at the exclusion of another. However, if recreation is to be a primary objective, you may have to be satisfied with less income from timber. While you may not attempt to manage a single acre of forestland for all objectives, it is possible to manage one or more tracts of land to meet multiple objectives.

## Inventory Forest Resources and Property

In order to manage property, you must first determine what you have. An inventory is key to evaluating and adopting planning alternatives for your property. In the inventory, identify existing forest

resources and related values such as timber, wildlife habitat and streams. Also, identify invasive species which could negatively affect your timber and wildlife values. Mark on your property map forest stands and significant wildlife habitats, landform features (including roads and streams), species or communities of concern (i.e., threatened or endangered) as well as historically or culturally unique areas.

## Evaluate Management Objective Alternatives and Tradeoffs

Important to your management plan's evaluation process is identification of the tradeoffs that may be required if you are attempting to achieve several management objectives concurrently. Begin by listing each objective along with its benefits, cost to implement, and how it would impact others under consideration. While it is hard to put monetary values on factors like aesthetics and biodiversity, there is no doubt they each have a value to you and society. In addition, you should give strong consideration to securing the future of your woods to ensure your

“To waste, to destroy, our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them amplified and developed.”

—Theodore Roosevelt,  
*Message to Congress,*  
*December 3, 1907*



The American Tree Farm System provides tools and information to help Tree Farmers and woodland owners keep forests healthy and productive. Learn more about Tree Farm, the sign of good forest stewardship, at [www.treefarmssystem.org](http://www.treefarmssystem.org). Family forest certification is also available through the American Tree Farm system.

## Things to Consider When Marketing Your Timber

- Decide what your goals and objectives are for your forestland.
- Have an active management plan including reforestation. Well-planned timber sales can reduce regeneration costs and environmental impacts.
- Use qualified resource professionals. (See inside back cover for Sources of Technical Assistance) Under Arkansas state law, only professional foresters registered with the state of Arkansas or foresters under the direct supervision of registered foresters may give forest management advice, such as reforestation, cultural practices or thinning, and harvesting practices. Most loggers complete the ARKPRO Logger program which develops the skills and knowledge of participants in areas like forest management and silviculture.
- Have a thorough, written contract or timber deed that spells out all of the terms, agreements, payment schedules, etc. If yours is a pay-as-cut sale, require a regular schedule of receiving payments and scale tickets (such as weekly). Visit sites the buyer has harvested and is harvesting if you are not familiar with their work.
- Learn about Arkansas Forestry Best Management Practices for Water Quality Protection (BMPs) [www.aad.arkansas.gov/best-management-practices-water-quality](http://www.aad.arkansas.gov/best-management-practices-water-quality) that describe ways to protect the site and reduce soil erosion during logging operations. Include BMPs in your timber sale contract. Landowners are ultimately responsible for voluntary BMP compliance.
- Inform adjoining landowners of any proposed timber sales to make certain that boundary and access road locations are acceptable. Have your property lines well marked and properly maintained. Any interior sale boundary should also be clearly established.

Download a copy of the Arkansas Forestry Commission's brochure titled "Selling Your Timber" at [www.agriculture.arkansas.gov](http://www.agriculture.arkansas.gov).

legacy with the land continues. If you want to pass along your well-managed lands intact and within your family, consider starting an estate and succession planning journey.

These steps will help you gain valuable insight into the preparation of your final forest management plan.



## Prepare Final Management Plan

You should now be ready to prepare — in writing — your final forest management plan. Be sure to include a timetable of forest management activities along with itemized expenses and income anticipated in achieving your planned objectives. Your plan should also leave room for future modifications to meet changes in objectives, financial needs or in the resource itself.

## Implement the Plan

No plan can be considered complete until it is put into action. If you have properly researched your options, you are now ready to take that important last step along the trail to sustainable forest management. If you wish to have your plan reviewed by a forestry professional,

check the agencies listed on the inside back cover for referrals. Note: many government financial assistance program applications require a similar, though less detailed management plan.

## Threatened, Endangered or Imperiled — What Does It All Mean?

If you own or work with forestland, you have probably heard of threatened or endangered species. You may have heard of some new classifications like imperiled or critically imperiled species. These can be specific plant or animal species or whole communities that are ranked as imperiled nationally, regionally or locally. The common denominator for these rankings is a loss of habitat locally and/or internationally.

The more familiar threatened and endangered classifications have their origins from the Endangered Species Act (ESA). The term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range. The term "threatened species" means any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Once listed, a species is afforded the full range of protections including prohibitions on killing, harming or otherwise "taking" a species.

It is important to note that threatened and endangered species can thrive in managed forests. In fact, active management is necessary for the survival of some species. It is up to landowners to take the steps necessary to identify and conserve

## LEARN MORE: Threatened & Endangered Species

To learn more, access the species and communities listed by these organizations by visiting the following web sites:

- The U.S. Fish and Wildlife Service [www.fws.gov/endangered/listing/](http://www.fws.gov/endangered/listing/)
- Nature Serve [www.natureserve.org/explorer/](http://www.natureserve.org/explorer/)
- The Arkansas Natural Heritage Commission [www.naturalheritage.com](http://www.naturalheritage.com)
- The Arkansas Game & Fish Commission [www.AGFC.com](http://www.AGFC.com)
- The Nature Conservancy [www.tnc.org](http://www.tnc.org)



the habitat that these species need. Being able to recognize habitat characteristics can be as important or even more important than being able to identify the threatened or endangered plant or animal. As an example, in Arkansas, many landowners are familiar with the red-cockaded woodpecker. This endangered species' cavity tree is identifiable by the sap surrounding the entrance hole. While the entrance hole can be easily seen in the forest, the bird itself can be quite elusive. Seek expert advice from a trained wildlife biologist if you have any questions.

There are also non-governmental organizations that have developed their own classifications for plants, wildlife and communities. NatureServe's global conservation status is one example and includes rankings of critically imperiled (G1), imperiled (G2), and vulnerable (G3). The Arkansas Natural Heritage Commission is linked to the NatureServe program and classifies species and communities within Arkansas.

## Maintaining Biological Diversity

Among other benefits, maintaining biological diversity is another means of enhancing wildlife habitats on your land. Landowners can influence compositional and structural diversity on their property through management choices. Techniques landowners can use to ensure biodiversity involve maintaining:

- A mix of species — both flora and fauna
- A distribution of age classes within and between stands
- Maintaining elements for wildlife, such as snags, stumps, den/nest trees, and mast trees
- Forests with Exceptional Conservation Value (FECV)
- Special sites and other unique stand features such as snags, low-value trees, seeps, etc.

All of these techniques contribute to greater diversity on the landscape level.

## Characteristics of Special Sites

Your land may hold sites that have ecological, geological, cultural or historical



American Burying Beetle



Red-cockaded Woodpecker

significance that should be protected for future generations. Such sites may include cemeteries, waterfalls, Indian mounds, unusual plant communities or habitats. By preserving these special sites, you can enhance the biodiversity of your property for all who enjoy it including humans, plants and animals while ensuring these sites will not disappear from the landscape. Your resource professionals can assist you in identifying and protecting these special sites.

Some examples of non-forested sites that you may want to consider protecting as special sites are caves, seepage slopes, rock outcrops, riparian areas, water bodies (creeks, rivers, pools and ponds), natural openings in the forest such as prairies, glades and dry sandhills. These sensitive sites harbor many aquatic and terrestrial species. Temporary pools that fill up with water in

the spring are especially important features that contain rare, threatened and endangered species. All of these areas are important and their protection is easy to incorporate into a forest management plan.

## Forests of Exceptional Conservation Value

Forests of Exceptional Conservation Value (FECV) are defined as forests with viable occurrences of critically imperiled and/or imperiled species and ecological communities. Critically imperiled species (often referred to as G1) are at very high risk of extinction due to extreme rarity (five or fewer occurrences or populations), very steep population declines, or other factors. Imperiled species (often referred to as G2) are at high risk of extinction due to very restricted range, very few populations (20 or fewer occurrences), steep declines, or other factors.

As a landowner, you serve as a steward to the trees as well as to other plants and animals on your land. Being a good steward involves having knowledge about your forests. Assessing areas for Forests of Exceptional Conservation Value and then managing these areas in a way that will not damage the value is important for the success of these forest types. If you think certain plant or animal species on your land indicate that you may have a FECV, contact a forestry professional (see agencies listed on the inside back cover) for further review.

## Invasive Exotic Plants and Animals

Invasive exotic plants and animals are those that are found outside their native range. These plants can potentially have negative ecological, financial and social impacts. Invasive species pose a threat to the survival and reproduction of native species and can decrease forest productivity, complicate forest management and degrade biodiversity, wildlife habitat and the visual value of your forest.

Invasive species are typically able to thrive due to geographic and climatic conditions being similar to those of their native range and to the absence of predators





Forest Tent Caterpillar



Pine Engraver Beetle



Feral Hogs



and diseases from their native habitats. To effectively control invasive species you must first know how to identify them and their impacts. There are hundreds — maybe even thousands of invasive species across the U.S. Information about some of the more common ones in Arkansas can be found at [www.uaex.edu/environment-nature/ar-invasives/](http://www.uaex.edu/environment-nature/ar-invasives/).

## Invasive Species Control Measures

An integrated pest management program is the best approach to control invasive species and involves the following:

- Preventing introduction
- Detecting early and responding rapidly
- Surveilling, controlling, and managing
- Rehabilitating and restoring
- Maintaining forest health and vigor
- Using resource professionals

Preventing the introduction of non-native species is by far the most effective and economical control measure, therefore you should have an effective, ongoing surveillance program in place. If an invasive species should get established, the second most important control measure is a rapid response to prevent spread and eradicate the unwelcome competitor. Depending on the invasive species and particular circumstances, control measures can involve one or a combination of methods — mechanical (e.g., hand-picking,



Cogongrass Rhizome



traps, tillage), biological (e.g., promoting beneficial predators), chemical (e.g., pesticides, herbicides). Following this, it may be beneficial to establish and/or release fast-growing native plants that can out compete any surviving invasive plants while preventing soil erosion.

Maintaining a healthy forest through sound forest management practices will increase your forest's ability to combat invasive species. Contact a resource professional to assist you in learning more about invasive species, their identification and control.

### Reduction of Wildfire Risk

Active forest management improves forest health by not only reducing the risk associated with insects and disease but also with wildfire risk.

Tree density, understory species composition, accumulation of dead fuels/litter layer, lack of well-established firebreaks, and arson all contribute to damaging wildfires. By utilizing prescribed burns, landowners safely apply a natural process, ensure ecosystem health, and reduce wildfire risk.

In Arkansas, the Arkansas Forestry Commission protects Arkansas's forests, and those who enjoy them from wildland fire and natural hazards while promoting rural and urban forest health, stewardship, development and conservation for all generations of Arkansans.

To report a wildfire or before conducting a prescribed burn, you should contact the Arkansas Forestry Commission Dispatch Center.

**To report a wildfire:** 1-800-468-8834

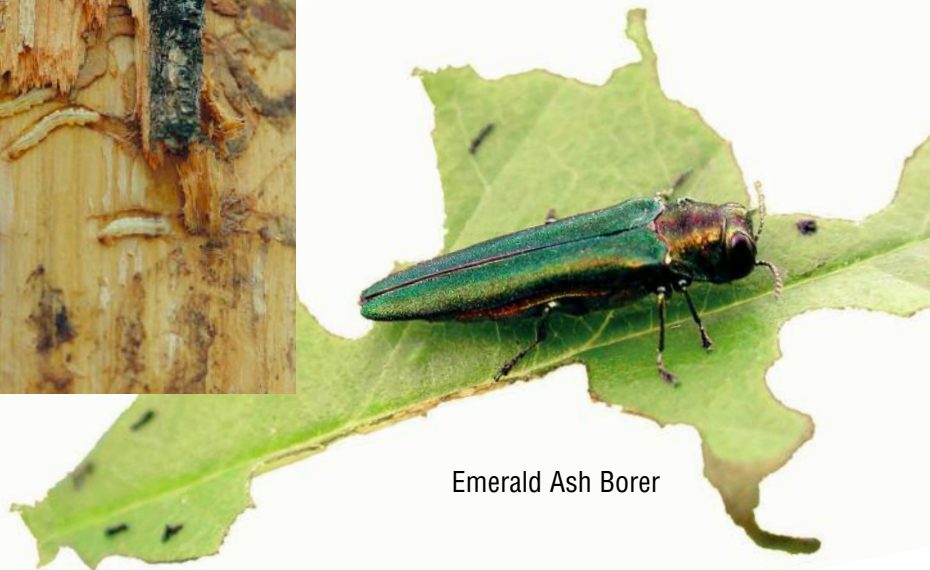
**To report prescribed burns:** 1-800-830-8015

### Forestry Aesthetics

Appearance, a significant characteristic of forests and forestry operations, may not always be aesthetically pleasing to everyone. These operations often lead to misconceptions of sustainability and leave negative opinions with many of the landowners and the nearby community.



Emerald Ash Borer Larvae



Emerald Ash Borer

As a landowner there are a few things you can do to lessen the visual impact of these operations and improve the image of forest management.

#### Considerations During Harvesting

Avoid the appearance of large clearcuts that are visible from urban areas and major travel routes by using buffers, natural terrain changes, or leaving areas of unharvested trees between clearcut areas. Buffer widths can vary depending on the amount of traffic. On thinning harvests, avoid clearcut rows leading directly to travel routes lessening the visual impact of the

operation. Logging slash should be placed away from visible areas. Dispose of all trash and litter properly.

#### Intermediate Considerations

For mechanical site preparation, follow land contours and minimize the size and number of piles and windrows. When preparing for prescribed burning, notify adjoining residents prior to the burn. Monitor weather conditions and possible smoke impacts closely before, during and after the burn utilizing times of good smoke dispersal. Also, use road signs that notify the public to be cautious of smoke hazards.

### LEARN MORE: How to Identify Wildfire Threats

The Southern Wildfire Risk Assessment Portal, nicknamed SouthWRAP, allows users in Arkansas and 12 other southern states to identify wildfire threats based on landscape characteristics, historical fire occurrence, weather conditions, and terrain. Additional resources are available to help implement wildfire prevention practices. For more information, visit [www.southernwildfirerisk.com](http://www.southernwildfirerisk.com).

For more information on invasive species, visit:

- Arkansas Forestry Commission [www.aad.arkansas.gov](http://www.aad.arkansas.gov)
- Arkansas State Plant Board [www.aad.arkansas.gov](http://www.aad.arkansas.gov)
- Center for Invasive Species [www.invasive.org](http://www.invasive.org)
- U.S. Forest Service [www.fs.fed.us/foresthealth/management/fhm-invasives.shtml](http://www.fs.fed.us/foresthealth/management/fhm-invasives.shtml)





# Arkansas Best Management Practices



Arkansas is fortunate to have vast, healthy, diverse and productive forests. These forests are a tremendous asset to our environment and economy, providing wood products, recreation and wildlife habitat. Forest processes maintain clean water. Sound management of forests is compatible with these values.

In a cooperative effort with the Arkansas Department of Environmental Quality and the Arkansas Forestry Commission, the Arkansas timber and forest products community has developed and endorsed Voluntary Best Management Practices (BMPs), a set of guidelines aimed at reducing water pollution caused by forest operations.

Implementing Best Management

Practices (BMPs) is an effective way to protect forest water quality. The Arkansas Forestry Commission is the lead agency in Arkansas in establishing, interpreting, monitoring, and updating forestry BMPs. The purpose of the BMP guidelines is to help forest landowners and forestry practitioners understand what BMPs are, why BMPs are important and how to implement BMPs.

With the exception of certain federally mandated guidelines for wetlands, forestry BMPs are voluntary. However, the Clean Water Act of 1987 mandates that forest operations be conducted to avoid any negative impact on water quality. In other words, while neither landowner, logger nor forester can be required to follow state BMPs, should a Clean Water Act





violation be committed, all can be held responsible. Adhering to BMPs substantially reduces the impact of forest operations on the environment. Under the Clean Water Act, all landowners are required to follow 15 of the Best Management Practices in "jurisdictional" wetland areas. If you are not sure whether your land meets the requirements for being classified as a wetland, contact the USDA Natural Resources Conservation Service or the U.S. Army Corps of Engineers.

Protection of the forest resource (lakes, streams and other waterways) is always a concern of the responsible forest landowner. Certain harvesting and related forestry activities (e.g., stream crossings, logging roads, skid trails and logging decks) can pollute nearby streams with soil, silt and wood debris. In a properly managed forest, sediment is effectively filtered thus producing clean water.

You and your logger can make sure you protect the resources on your land by observing Arkansas best management practices for water quality.

### **Streamside Management Zones**

A Streamside Management Zone, or SMZ, is an area adjacent to a body of water where either no harvesting takes place or a limited amount of timber is removed and disturbance to the soil and ground cover is minimized. Some landowners refer to SMZs as "buffer" or "filter" strips. SMZs play a key role in reducing sedimentation by providing natural filters which keep soil and other potential pollutants from the streams. SMZs help maintain constant water temperatures by preventing full sunlight from reaching the water's surface. Additionally, they provide wildlife habitat corridors.

### **Stream Crossings**

Crossing of streams by roads and skid trails constitutes, potentially, a major source of water pollution and wherever possible should be avoided. Further, stream crossings cause a break in the tree

canopy and the filtration strip provided by your Streamside Management Zone. When a stream must be crossed whether by bridge, culvert or fords, take care to stabilize the stream banks. To minimize travel distance from one side of the stream to the other, make sure roads and skid trails are at right angles to the stream bank.







## Logging Roads

Logging roads are another potential source of water pollution. Proper road planning will minimize stream pollution, cut maintenance costs and reduce the amount of land taken out of production. Good road design will divert water from the roadway and disperse it into adjacent vegetation, thus reducing soil movement and erosion. You should build your roads at least 50 feet from any flowing stream.

## Timber Harvesting

Properly planned, your timber can be harvested using methods that minimize the impact on water quality. Through planning you can ensure that road construction in the harvested area is kept to a minimum, reasonable skid distances are maintained, and logging decks are properly located. Design your logging decks small and situate them in areas where they cannot adversely impact water quality. Keep in mind also that slope is a critical factor in locating deck sites.

Skidding of trees also requires planning. Plan your skid trails so as to minimize soil displacement, compaction and rutting and to avoid disturbing natural drainage sites. Never use stream channels as skid trails. On steep slopes, at occasional breaks in the grade, construct water turnout ditches or buffers to slow the flow of water and disperse sediment.

## Forest Biomass Utilization

In some areas, demand for renewable energy sources continues to grow. Landowners should weigh the benefits and costs of bioenergy production from their forestland. One such consideration is residue harvesting following a sawtimber/pulpwood harvest.

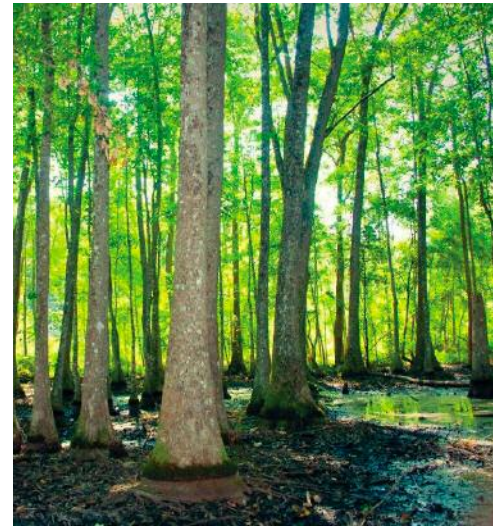
Possible benefits of biomass utilization following harvests or through other operations include:

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

Landowners should work closely with their resource professionals to ensure that this type of harvest is right for their property and that the activities follow BMPs.

## Reforestation

Reforestation by planting must be carried out in such a way as to avoid displacement of forest litter and topsoil



and to reduce soil compaction, erosion and sedimentation. Mechanical site preparation techniques, such as drum chopping, bedding, disking, shearing, and windrowing, involve moving harvesting debris as a method of improving the odds of the reforestation's success. However, avoid employing these techniques on slopes greater than 25% and in Streamside Management Zones.

While chemical site preparation is an acceptable and common practice, herbicides should not be aerially or broadcast sprayed into Streamside Management Zones nor allowed to run off into water surfaces.





# Reforestation & Afforestation

In planning for the future, you should consider both reforestation and afforestation as a means to enhance the productivity of your land. Reforestation is the restocking of a forest after loss of trees through harvesting, wildfire or other means by planting or natural regeneration. Afforestation is the establishment of a forest or stand in an area where the preceding vegetation or land use was not forest (e.g., pasture, crop land, etc.). Over the years if your objectives for your land change from agriculture or other activities, think about planting these lands to improve your future income, decrease the potential for erosion, and to improve wildlife habitat and biodiversity.

All forested land should be replanted or otherwise managed to ensure the replacement of the desired species. It

is that simple; however, selecting the method of reforestation can be complicated. Planning for reforestation prior to timber harvesting can help landowners identify and meet multiple management objectives.

In developing your forest management plan, study the various methods of reforestation and site preparation available, your desired tree species, wildlife and topography and how they can be manipulated or modified to meet specific objectives. Working with a professional forester at this point can help provide a key to successful reforestation.

Here are three sources of tree regeneration, any combination of which may be used on the same property for reforestation:

**Advanced natural regeneration** comes from pine and/or hardwood existing as

seedlings, saplings or hardwood sprouts in the forest understory prior to harvesting;

**Regeneration after harvest** can result from seeds in place prior to the harvest, hardwood sprouts from cut trees, and /or seeds from uncut trees remaining in the harvest area or which have blown in from nearby trees;

**Artificial regeneration** is the planting of pine or hardwood seedlings. Artificial regeneration can also be used to change the species of your forest to a composition more compatible with your overall management objectives.

You may use all three sources of tree regeneration if you adopt an **even-aged** management system to reforest. Using artificial regeneration for **uneven-aged** management is not generally recommended.



## Uneven-Aged Management for Hardwood

Most hardwood forests can be reforested following uneven-aged management systems, which result in forests growing trees widely ranging in age and size. This type of management is compatible with tree species that can regenerate under the shade of a forest canopy such as oak and hickory.

Uneven-aged management is more labor intensive than even-aged and



requires intensive planning. However, on the positive side, it can provide regular income without interruption for reforestation. This system also permits you to maintain a timber reserve to take advantage of increasing wood prices or as a source of quick income.

Since uneven-aged management depends on advanced natural regeneration and regeneration after harvest to perpetuate your forests, harvesting operations must be conducted with care. For example, do not remove all the valuable trees leaving only the lesser quality timber to regenerate. Also, be careful not to damage the trees left in your uneven-aged forest. Retaining the services of a professional forester to select the trees to be cut will help ensure a quality harvest.

## Even-Aged Hardwood and Mixed Stands Management

Clearcutting a hardwood or mixed pine-hardwood stand will result in an even-aged forest. Often, clearcutting can be beneficial particularly to correct past mismanagement or to help a forest recover from insect damage and disease. Also, clearcutting can be used to produce large plots of young forest habitat required by some wildlife.

Clearcutting small sections of your

forest will protect its long-term environmental and economic values. This system of management relies on advanced natural regeneration and regeneration after harvest for reforestation.

## Even-Aged Natural Pine Management

In nature, pine regenerates best on bare mineral soil as is often found following significant disturbances (e.g., from clearcuts, fires, damaging storms). We imitate these disturbances through forest management activities. One such procedure is the seed-tree cut, an even-aged management practice that calls for leaving quality seed-producing trees randomly spaced in the harvested area where fallout of the seeds they produce germinate to

regenerate a forest. To do this effectively, you should employ the services of a professional forester.

## Even-Aged Planted Pine Management

Southern pine, particularly loblolly, is the principal commercial tree in the South. It is common practice to regenerate stands of southern pine through various planting techniques, which will result in an even-aged forest. Proper site preparation prior to artificial (i.e., planting seedlings) regeneration calls for reducing vegetation which competes for sunlight, moisture and nutrients and eases the task of tree planting.

### Advantages of this technique include:

- Greater control over the number and distribution of your seedlings
- Better seedling survival
- Improved tree genetics, which enables a tree farmer to grow a bigger tree in a shorter period of time (now 15-29 years vs. 30-40 years several decades ago). Genetically improved trees are also more disease resistant.

### Disadvantages of this technique include:

- Higher initial costs of land preparation for planting
- Cost to purchase seedlings
- Actual planting expense

Before making a decision to go with a planted pine approach, ask yourself, "Is it compatible with my other forest management objectives?" Here, again, a professional forester can help you sort out your priorities and options.



# Our Forests...

## *Our Future*

By adopting the Sustainable Forestry Initiative program, SFI program participants have formally committed to a forest management concept that ensures sustaining Arkansas's forests from one generation to another. Now, we are inviting you, the family forest private landowner, to join us in this endeavor.

Do not be overwhelmed by the challenge of developing your first forest management plan. It is your key to success. The most effective plan will require complex management decisions. For example, in deciding when to harvest timber, you should understand the financial and biological ramifications of this inherently long investment cycle. Your plan should also contain a strategy for reforestation. Arriving at the best decision does not come easy even for industrial forest owners with trained forestry professionals on their staffs.

As a family forest landowner, keep in mind that your trained forestry professional

is no further away than your telephone and the organizations listed on the inside back cover.

The Arkansas Sustainable Forestry Initiative (SFI) State Implementation Committee promotes the practice of sustainable forestry through public education and outreach efforts across the state. Practicing sustainable forestry on your land means you are able to meet the needs of the present without compromising the ability of future generations to meet their own needs. It integrates reforestation, growing, nurturing and harvesting of trees while protecting soil, water quality, wildlife and plant habitat as well as aesthetics for today and in the future.

In this regard, it is an objective of the Sustainable Forestry Initiative program to support conservation of working forests through voluntary market-based incentive programs, such as current use taxation, reasonable estate taxation, conservation

easements, Forest Legacy, and more.

Thank you for doing your part to sustain the benefits of our forests for future generations.

*Looking for a  
good place  
to start?*

Contact:  
**Arkansas Tree Farm Program**  
501-374-2441  
[jjohnson@arkforests.org](mailto:jjohnson@arkforests.org)





*Does This Sign Look Familiar?*



It should,  
because it is  
now recognized  
by customers  
around the world  
as a source  
of certified  
sustainable fiber.

### Arkansas Tree Farm Program

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.

You have worked hard on your property growing your forest and improving the wildlife. Join the American Tree Farm system and:

- Get forest management help,
- Keep updated on top forest issues with Arkansas's Tree Farm Committee newsletter,
- Be a part of the solution to meet the global demand for sustainable fiber by growing Tree Farm-certified wood.

**Show your commitment to the land:** Join the American Tree Farm System and over 90,000 other landowners and display your sign of sustainable forestry with pride!

To join the American Tree Farm System, contact  
Arkansas Tree Farm Program at (501) 374-2441 or  
email [jjohnson@arkforests.org](mailto:jjohnson@arkforests.org).



## Sources of Technical Assistance & Information – Forestry & Natural Resource Organizations

**Arkansas Association of Conservation Districts**  
[www.aracd.org](http://www.aracd.org)

**Arkansas Department of Agriculture**  
[www.aad.arkansas.gov](http://www.aad.arkansas.gov)  
Arkansas Forestry Commission  
Arkansas State Plant Board

**Arkansas Department of Environmental Quality**  
[www.adeq.state.ar.us](http://www.adeq.state.ar.us)

**Arkansas Game & Fish Commission**  
[www.AGFC.com](http://www.AGFC.com)

**Arkansas Forestry Association**  
[www.arkforests.org](http://www.arkforests.org)

**Arkansas Historic Preservation Program**  
[www.arkansaspreservation.com](http://www.arkansaspreservation.com)

**Arkansas Natural Heritage Commission**  
[www.naturalheritage.com](http://www.naturalheritage.com)

**Arkansas Natural Resources Commission**  
[www.anrc.arkansas.gov](http://www.anrc.arkansas.gov)

**Arkansas State Board of Registration for Foresters**  
[www.arkansas.gov/abof](http://www.arkansas.gov/abof)

**Arkansas Timber Producers Association**  
[www.arkloggers.com](http://www.arkloggers.com)

**Arkansas Tree Farm Program**  
[www.arkforests.org/treefarm](http://www.arkforests.org/treefarm)

**Arkansas Wildlife Federation**  
[www.arwild.org](http://www.arwild.org)

**Association of Consulting Foresters of America, Inc.**  
[www.acf-foresters.org](http://www.acf-foresters.org)

**National Association of State Foresters**  
[www.stateforesters.org](http://www.stateforesters.org)

**NatureServe**  
[www.natureserve.org](http://www.natureserve.org)

**Sustainable Forestry Initiative**  
[www.sfiprogram.org](http://www.sfiprogram.org)

**The Nature Conservancy of Arkansas**  
[www.tnc.org](http://www.tnc.org)

**University of Arkansas Monticello College of Forestry, Agriculture and Natural Resources**  
[www.uamont.edu](http://www.uamont.edu)

**Arkansas Forest Resources Center**  
[www.afrc.uamont.edu](http://www.afrc.uamont.edu)

**University of Arkansas Department of Agriculture Cooperative Extension Service**  
[www.uaex.edu](http://www.uaex.edu)

**US Army Corps of Engineers**  
[www.usace.army.mil](http://www.usace.army.mil)

**USDA Forest Service**  
[www.fs.fed.us](http://www.fs.fed.us)

**USDA Natural Resources Conservation Service**  
[www.nrcs.usda.gov](http://www.nrcs.usda.gov)

**US Fish & Wildlife Service**  
[www.fws.gov](http://www.fws.gov)



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SFI-01115