Attract More Wildlife

THROUGH TIMBER MANAGEMENT

The 18.5 million acres of forestland in Mississippi are valuable lands that produce many renewable natural resource benefits, including timber, recreation, watershed, erosion protection, and wildlife.

Unfortunately, too many landowners are unaware of the many values their forestlands can provide them. For example, many people believe that unmanaged "natural" forests are best for game. Consequently, the average acre of Mississippi forestland produces less than its timber potential. Properly managed forests not only yield greater amounts of wood products, but they can provide high-quality habitat for many of the state's most valuable wildlife species.

Always consider timber management and wildlife management together. In fact, many landowners today receive additional income from recreational leases as a result of their more diverse timber and wildlife management programs.

Timber companies have leased lands for hunting and related recreational access for many years, but only recently have private landowners begun to make money on the wildlife values their forestlands can produce. Managing forestlands for wildlife can be financially rewarding and personally satisfying.

Where To Start?

A common reason for unmanaged forestland is the landowner's idea that it is too costly to begin a forest management program. The essential first steps are planning and making decisions to keep costs low.

Professional help is as near as your telephone and is often free. Many agencies, such as the Mississippi Forestry Commission, stand ready to help you identify your management goals and to help you plan activities to reach those goals. Timber companies and private consultants also offer these services. In this phase, you will write a management plan that states your goals for the property and a schedule of management practices you will need to help you meet them.

Once you recognize the need to put the plan into action, the practices you use can be whatever you desire or can afford. For example, if turkeys are a management objective, you will need to provide forest openings for nesting and brood-rearing habitat. You can do this by harvesting small areas, making fire lanes and access roads, or improving and maintaining existing forest openings. See the end of this publication for a list of professional contacts.

Wildlife Needs

Many of Mississippi's wildlife species depend on the forest to live. Some, such as deer, turkeys, and squirrels, spend most of their lives in the forest. All wildlife have four basic needs: food, water, space, and cover. Generally speaking, wildlife will prosper in an area with many habitat types. A diverse forest habitat combines different timber types, age classes, and stand conditions in one area.

Some forest habitats already provide the diversity; but if your forestland does not, you can supply it in many ways, often with only minor efforts. Even-aged timber

Mississippi State University Extension Service

management can provide diversity by locating different age stands of pine close to one another. For example, research has shown that properly managed clear-cut areas close to young and mature pine timber stands provide excellent quail habitat for a few years.

However, when developing a wildlife management program, it is important to look closely at nearby properties and consider how they will influence your wildlife program. This is a key element of forest stewardship and is especially true when managing small ownerships. For example, in a turkey management program it would be pointless to create openings in a small forest that is next to an existing excellent opening, such as an unimproved pasture.

Management Techniques

For many years foresters and wildlife managers have noted the value of forest openings for wildlife. Timber harvesting creates openings that may be large, as with clear-cutting, or small, as with selective harvests. Other disturbances, such as prescribed burning, can greatly improve wildlife habitat for many species and benefit timber production. By combining forest management practices in a management plan, you can aid wildlife while producing and improving valuable timber crops.

Cutting Methods for Regeneration

Forest regeneration cutting is the removal of all trees from an area to allow a new forest to grow. In clear-cutting, all trees are harvested at the same time, whereas in seed tree and shelterwood harvests, many high-quality trees are kept until the forest reestablishes naturally. These cutting techniques are used to harvest marketable crops of timber and to create the best environment for young trees to grow. Following a regeneration harvest, many sun-loving plants begin to grow in the opening. Animals like to eat these tasty, nutritious plants, and many of the plants make large amounts of fruit and seed for wildlife food.

Many landowners are concerned with the negative impacts of regeneration harvests on wildlife. However, negative effects can be reduced if you will consider the size, shape, and distribution of harvested areas in the harvest plan. Small (20 to 100 acres), irregularly shaped regeneration cuts next to larger stands of different ages will provide a diverse habitat for many wildlife species. You can use these methods to regenerate pine and hardwood stands.

Improvement Cuttings

During the natural development of a forest, young trees compete for all elements needed for growth. Some species or individual trees compete better than others and become dominant in the forest. The dominant trees in an even-aged forest are large and fast growing.

The purpose of improvement cuttings is to remove small, slow-growing trees in favor of fast-growing, high-quality crop trees. Foresters use improvement cuttings to upgrade the quality of a forest by harvesting crooked, diseased, insect-damaged, and slow-growing trees. Such harvesting creates space for crop trees to grow and allows more sunlight to reach the forest floor. The light aids the growth of many low-growing plants valuable for wildlife.

These wildlife benefits do not last, however, because in a few years the remaining trees will close the forest canopy again and shade out many of the forage plants that were established after the harvest. Later improvement cuts can be made to help wildlife and increase the stand's timber value.

Remember, though, that some wildlife species need "den trees" for nesting and shelter. Therefore, when getting ready for improvement cuttings, it is wise to mark and keep several good den trees per acre. Den trees are food-producing species, such as oak, hickory, blackgum, beech, or persimmon. These will be useful to many wildlife species without a large decrease in timber production.

Prescribed Burning

Controlled fire is a useful tool in pine timber management. Pine trees taller than 20 feet will tolerate low-intensity fires that will top-kill small hardwood stems. Foresters use prescribed burning to control hardwood competition in pine stands. When fire is combined with thinning (improvement cutting), it increases the wildlife habitat value of pine plantations.

Hardwood stems sprout from the roots after prescribed burning, increasing the food supply for wildlife. Thinning increases sunlight and allows other forage plants to become established. The result is an increase in available food for deer, turkey, rabbits, and quail.

This improved environment is temporary. In 3 or 4 years the sprouting hardwood stems will be too tall to be valuable for food, and most forage plants will be shaded out as the forest canopy closes again. Repeat prescribed burning and thinning in pine stands from time to time to benefit deer, turkey, rabbit, and quail populations.

Prescribed burning is a valuable technique for wildlife and forest management, but you must use it properly and at the right time. Contact a forester and plan a prescribed burning program to meet your specific land management goals. Remember, fire can destroy a forest if used carelessly. Wisely used, however, prescribed burning is an effective, low-cost management tool that benefits both timber and wildlife resources.

Forest Herbicides

In recent years, forest herbicides have become a valuable forest management tool. Today's forest herbicides are safe and economical to use in a forest management program. They are used in site preparation, stand improvement, vegetation control, and wildlife habitat improvement. Herbicides often are used in southern pine timber management.

Compounds have been developed that can be applied over the top of southern pines to control unwanted vegetation without hurting the pines. This has given new management possibilities. Forest herbicides also can help in managing hardwood stands.

Firebreaks and Access Roads

The foundation of a good forest management plan is a complete network of firebreaks and access roads. Foresters recommend these to landowners for forest protection, but because fire lanes and roads are openings, they also are important areas for wildlife.

Turkey, quail, and other wildlife will use fire lanes and roads for feeding, nesting, and brood-rearing, while deer will be attracted to them for food. Establishment of favorite wildlife foods, such as orchard grass and clover or other perennials, in fire lanes and along roadsides will improve wildlife benefits in these areas. Entry to roads and fire lanes, however, must be controlled with gates or chains so wildlife can use them safely.

An Example

Mr. Anderson works for a manufacturing company in a small city and in the next county has 85 acres of forestland he inherited from his grandfather. He wants to make some income from the timber but doesn't want to sell any trees for fear of ruining his hunting opportunities. Turkey and white-tailed deer are his preferred species, but hunting gray squirrels is important, too.

His land has a 20-acre stand of young hardwood sawtimber along a stream on the east boundary and 45 acres of 25-year-old oak-pine timber. The remaining 20 acres are a 15-year-old pine plantation that has never been managed.

Mr. Anderson consulted a forester and developed a management plan to establish a few roads and firebreaks to provide access and fire protection for his property. These will also serve as wildlife openings, valuable for turkey brood-rearing areas, and as a food source for deer and rabbits.

An improvement cut in the hardwood stand that favors oak will help acorn production, and the oak crop trees will increase in size and value. He will take care to mark and leave several den trees per acre for gray squirrels.

He plans to thin the pine plantation for pulpwood to remove the poorest trees so more valuable trees will have space for further development. When the thinning is finished, he will use prescribed burning every third year to maintain the deer food supply and to provide areas for turkey nesting and brood rearing. He will do prescribed burning in late winter (February or March) to avoid turkey-nesting season. He also plans to thin his plantation again as soon as is practical, probably 6 to 8 years after the first thinning.

Mr. Anderson decided to manage the oak-pine for pine timber production, since his hardwood bottomland is a good source of mast for wildlife. However, on 1 acre near the pine plantation, he decided to keep some large oak and hickory trees as another food source.

The remaining oak-pine stand needed an improvement cut to remove the large hardwood trees and the inferior pines. After the harvest, he will use prescribed burning on this stand at the same time as the pine plantation, except for the wildlife food area previously marked.

As a result of this management plan, Mr. Anderson will receive extra income from his forestland and can expect more profits from future harvests. The forest he has created will increase in value each year, while providing high-quality habitat for deer, turkey, rabbits, and squirrels.

Forest management improves the forest environment for people, animals, and trees. Your forestland is valuable for the wildlife, timber, and other products and benefits produced there. Forest management will add to your pleasure and satisfaction from forest ownership as it increases your income.

Glossary

Age class - A group of trees about the same age, such as a 20-year or 7-year age class.

Clear-cutting - A harvesting and regeneration method that removes all the trees (regardless of size) on an area. Clear-cutting is often used with sun-loving species, such as pine. Clear-cutting produces an even-aged forest.

Crop tree - A tree identified to be grown to maturity and for final harvest. It is usually selected based on its location relative to other trees, quality, and species.

Den tree - Usually a mature tree used by wildlife as a home. Den trees are used by animals that need cavities to reproduce, such as woodpeckers, raccoons, and squirrels.

Even-aged timber - A forest of trees about the same age (usually within 10 years). An even-aged forest may be a natural or an artificially regenerated stand.

Firebreak (fire lane) - A natural or man-made corridor used to prevent the spread of fire. Firebreaks are created by the removal of trees, brush, and other vegetation.

Forest canopy - The layer of tree crowns in a forest.

Habitat - The natural environment of a specific plant or animal. An area containing all the necessary resources for the plant or animal to live, grow, and reproduce.

Management Plan - A written plan identifying short- and long-term management goals for timber and wildlife maintenance on a certain property.

Mast - The fruit of forest trees and plants (e.g., acorns, hickory and beech nuts, persimmons, and berries).

Plantation - An artificially forested area established by planting or direct seeding. It is usually made up of a single species.

Prescribed burning program - The consistent, periodic use of prescribed burning to achieve a management goal. A prescribed burning program may require burning every 3 years.

Pulpwood - Wood cut primarily to be converted into wood pulp to make paper or other wood-fiber products.

Renewable natural resources - Resources that can be restored over time through regeneration and improved management. Examples include forests, wildlife, water, and soil.

Sawtimber - Trees large enough to be sawed into lumber.

Seed tree harvest - Removing all trees from an area, except for 5 to 10 carefully selected seed trees. The seed trees are left to provide seeds to establish a new forest and are then harvested at a later time.

Selective harvest - Harvesting individually marked trees or small groups of trees based on their physical conditions or degree of maturity.

Shelterwood harvest - Removing trees on the harvest area by a series of two or more cuttings, so new seedlings can grow in the protection of older trees.

Stand - A group of trees with similar characteristics, such as a pine or hardwood stand or a sawtimber-size stand.

Thinning - Cutting in an immature stand to reduce the number of trees per acre. The remaining trees will grow faster and produce higher quality wood.

Timber type - A description of the main tree species in the forest, such as the oak-pine type or the slash-longleaf pine type.

Contacts

- ***Mississippi Forestry Commission*** - See telephone listing for county forester.
- ***Mississippi Department of Wildlife, Fisheries & Parks*** - P.O. Box 451, Jackson, MS 39205.
- ***Mississippi State University Extension Service*** - Contact your county Extension agent.
- ***Natural Resources Conservation Service*** - Contact local district conservationist.
- ***Private Consultants*** - Listings are available through the Mississippi Forestry Commission or Mississippi State University Extension Service.
- ***Board of Registration for Foresters*** - Roster available, Box 9681, Mississippi State, MS 39762.
- ***Forest Industry Landowner Assistance Programs*** - Contact nearest office of desired firm.

Revised by **Robert A. Daniels**, Ph.D., Extension Professor, and **James E. Miller**, Extension Outreach Research Scientist, retired

Publication 1446
Extension Service of Mississippi State University, cooperating with U.S. Department of Agriculture. Published in furtherance of Acts of Congress, May 8 and June 30, 1914. VANCE H. WATSON, Interim Director (POD 08-05)