

# Manage Your Forest with Diversity in Mind

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For many people, forest management usually means uniformity. Driving down the interstate in Alabama people see thousands of acres of uniform, even-aged pine stands and relate this to forest management. It does require a significant amount of forest management knowledge and skill to establish, maintain, protect, and ultimately harvest an even-age pine stand. However, for the average Alabama private landowner of 100 acres, a uniform even-age pine stand may not be the best management decision. The old adage “Don’t put all your eggs in one basket” could apply here.

## Forest Diversity for Health

Let us consider forest diversity from a forest health perspective. Generally speaking, the more diverse a forest is, the less likely it will suffer significant losses due to insect and disease. Alabama experienced one of the worst Southern pine beetle (SPB) epidemics on record this past year. In 2000, Alabama had 24,465 SPB spots that killed 1,438,100 pine trees.

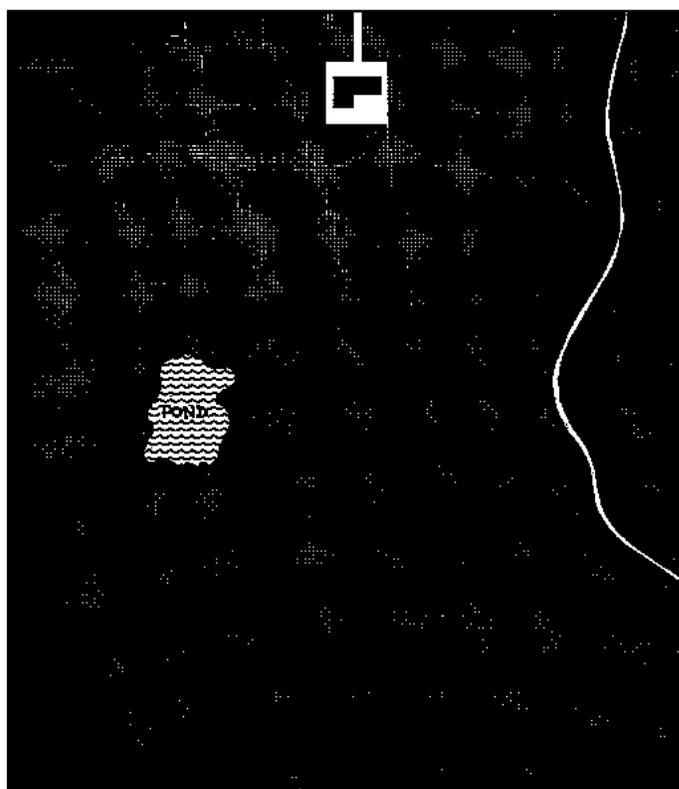
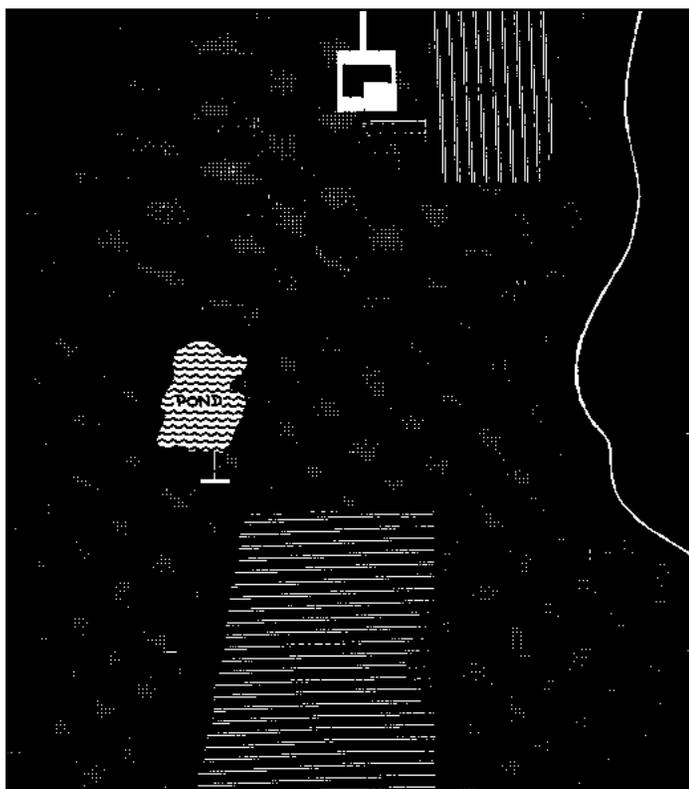
One of the limiting factors with most insect populations is

the available food supply. That food source for the Southern pine beetle is obviously pine trees, especially those stands that are stressed or low-vigor (example: a pine stand that has not been thinned). An SPB spot will not, however, spread into a hardwood stand.

Landowners can eliminate the food supply from a growing insect population with changes in forest type. Forest stands can differ in various ways: naturally regenerated vs. artificially regenerated, hardwood vs. pine, mature vs. young, over-stocked vs. under-stocked, uneven-aged vs. even-aged, and by species. A landowner can reduce losses due to insect and disease attacks by purposely managing for diversity.

A good way to create natural forest type changes that can aid in reducing the spread of insect populations is by leaving wide streamside management zones or SMZs. A streamside management zone is a strip of land immediately adjacent to a stream where soils, organic matter and vegetation are managed to protect the physical, chemical and biological integrity of surface water adjacent to and downstream from the forestry operation.

*The property on the left is much more diversified, especially if one is managing for species such as quail.*



## Forest Diversity for Wildlife

Diversity is very important if wildlife management is an objective. The three basic things wild animals need to survive are food, water, and cover. Habitat needs vary depending on which animal is being managed and, therefore, so should the management. In his article, "Enhancing Wildlife Habitat," Wildlife Biologist David Nelson of the Alabama Department of Conservation says, "**The single most important objective of timber management practices used to enhance wildlife habitat is to provide a diversity of habitat types.**"

A diversity of cover types with plenty of edges is advantageous if deer hunting is an objective. Edge is the transition zone between two different plant communities. The most prevalent is between a forest and an open field.

The wild turkey and the gray squirrel prefer mature hardwoods, preferably oaks. The bobwhite quail needs fairly open land with a combination of fields in row crops, pasture, and fencerows. Generally speaking, the best forest habitats for the widest possible range of wildlife are those that:

1. Contain both bottomland and upland sites
2. Contain both pine and hardwood timber types
3. Differ in age classes from newly regenerated to mature timber
4. Are thinned on a regular bases
5. Are prescribed burned at regular intervals (if predominately pine)



*Silvopasture combines trees with forage and livestock production. The trees are managed for high quality sawlogs at the same time an annual income is generated for livestock grazing.*

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## Forest Diversity for Specialty Markets

Species diversity can be an asset when marketing timber. Timber markets, to say the least, are difficult to predict. Relying on one species or product can be a risky proposition.

A growing interest with many landowners is the specialty wood products market. Specialty wood products are nontraditional items from the forest. These products range from baskets, bat houses, and banjos to walking sticks, wreaths, witch hazel bark and everything in between.

A web site has been developed to help landowners list their product or products for sale. The web site lists hundreds of specialty products being marketed and sold: [http://www.sfp.forprod.vt.edu/special\\_fp.htm](http://www.sfp.forprod.vt.edu/special_fp.htm).

## Forest Diversity for Agroforestry

Agroforestry is an intensive land management system that optimizes the benefits from the biological interactions created when trees and/or shrubs are deliberately combined with crops and/or animals.

The benefits created by agroforestry practices are both economic and environmental. Agroforestry can increase farm profitability in several ways:

1. By combining farming and forestry the total output per unit area of tree/crop/livestock combinations is greater than any single component alone.
2. By protecting crops and livestock from the damaging effects of wind so they can be more productive (mainly in western states).
3. By introducing new products to add to the financial diversity and flexibility of the farming enterprise.



*Thinning not only provides income but can improve the forest health of the stand.*

Agroforestry helps to conserve and protect natural resources by mitigating non-point source pollution, controlling soil erosion, and creating wildlife habitat. The benefits of agroforestry add up to a substantial improvement of the economic and resource sustainability of agriculture.

The Southern Agroforestry Conference was held in Huntsville in October 1998. Agroforestry practices have been experimented in the south and have proven to be successful. For more information contact the USDA National Agroforestry Center (NAC), East Campus-UNL, Lincoln, Nebraska 68583-0822. Phone: 402-437-5178; web site: [www.unl.edu/nac](http://www.unl.edu/nac).

## Conclusion

In conclusion, managing your forest for diversity can help prevent future problems and create future opportunities. There is certainly nothing wrong—environmentally or economically—with an even-age single species forest management approach. There will always be a place for commercial forest production in Alabama. However, a landowner owning a small tract may want to consider a more diverse approach.

*Illustrations on page 18 courtesy of the Alabama Cooperative Extension System.*