

Why Protect Your Pine Forest?

Natural and planted pine forests are valuable assets. They provide watershed protection, wildlife habitats, recreational benefits and financial returns. They are worth caring for and protecting. Compared to most hardwoods, pines mature quickly. They can live for more than 100 years, but seldom do. Advancing years, environmental stress, root disease and bark beetle infestations often overtake pine trees before they reach age 50. Fortunately, they grow up fast and become commercially valuable long before that. Without proper care, however, pine trees can be destroyed by insects while the forest is still young.

When pine trees grow close together and become big enough for their branches and roots to touch, they begin to compete for light, water and nutrients. Before long, this competition starts to limit growth and vigor. Thick, slow-growing pines are more likely to be attacked and killed by bark beetles. Well-spaced stands are more attractive and also support more wildlife.

Bark Beetles

There are many native insects that attack pine trees. By far, the most destructive species is the southern pine beetle. There has been an outbreak of southern pine beetle somewhere in Virginia about once a decade for as long as records existed. Each outbreak kills up to several million dollars' worth of timber, alters wildlife habitats, reduces recreational values, and creates fire hazards. In addition to southern pine beetle, there are other bark beetles, such as turpentine beetles and engraver beetles, which, while less aggressive than the southern pine beetle, can cause widespread pine mortality under certain circumstances.

Bark beetles are very small insects that feed beneath the bark and kill trees quickly. They stay under the bark except when flying from one tree to another, so controlling them with insecticide is generally not possible in a forest setting. The most common and practical action is to remove and process dying trees while the beetles are still inside. A professional forester can help you do this effectively.

The older, more closely spaced, and slower growing the pines, the more likely they are to be infested and killed by bark beetles. Furthermore, during southern pine beetle outbreaks, infestations can spread much more rapidly when trees are closer together. Unmanaged stands often get infested before they reach age 20. The best way to prevent this is to plan and take action to keep your forest healthy. Stands that are well cared for can remain healthy to age 50 or longer.



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Farmville Region Office:

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PROTECT YOUR PINE FOREST

Bark Beetle Prevention and Cost-Share Options for Virginia's Landowners

Virginia Department of Forestry
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Cost-Sharing Pre-Commercial Thinning

The greatest combined benefits are gained when pine trees are grown to maturity and then harvested to begin a new forest. Plantings of superior, nursery-grown pine seedlings will produce the greatest financial returns in the shortest time, but natural stands are also valuable. The best way to keep pine trees healthy is to give them all the sunlight they can use. This means thinning the forest periodically so that each pine has room to expand its branches and roots. With plenty of light and space, they will continue to grow well and remain resistant to bark beetles.

Natural pines sometimes seed in so thickly that they begin competing with each other right away. In this case, it is helpful to reduce the number of trees to just a few hundred per acre (called pre-commercial thinning). Thinning can often be put off in well-spaced planted stands until the cut trees are large enough to sell as pulpwood (commercial thinning), but in some locations even these stands can quickly become overstocked due to natural pines seeding in.

Because landowners incur a considerable cost at conducting a pre-commercial thinning, they are rarely done

without incentives. To encourage the management of healthy pine forests, **the Virginia Department of Forestry provides cost-share dollars to support 60% of the costs of a pre-commercial thinning job, with a maximum of \$10,000 allowable per landowner per year.** This program, called the Southern Pine Beetle Prevention and Restoration Program, began in 2003 and is supported by the USDA Forest Service, Forest Health Protection. **Landowners with pine stands that require a pre-commercial thinning are encouraged to contact their local forester (see back of this brochure) for more information on the program and application procedures.**

After thinning, pines will extend their branches and roots over a period of years until they fill up the available space again. In the meantime, sunlight reaches the ground and supports the growth of vegetation that improves wildlife habitats. By the time pine stands are ready for a second thinning, they have become attractive, diverse, and commercially valuable.

A second thinning is necessary if they are to remain healthy and resistant to bark beetles. At this point, a professional forester can help decide if your objectives are best met by trying to keep the trees healthy or by starting a new forest. Trees large enough to be sawn into lumber can be 10 times or more as valuable as trees only large enough for pulpwood.



Longleaf pine ecosystems were once dominant in many areas of the Southeast before European colonization of North America. These fire-adapted, biologically diverse environments became very rare due to early exploitation of the resource, fire suppression, and favoring of the faster-growing loblolly pine for timber production.

However, longleaf pine is better adapted than loblolly to the dry, sandy soils often found in southeastern Virginia. Compared to other pine species, longleaf is also much more resistant to attacks by the southern pine beetle and other bark beetles. For these reasons, as well as for restoring some of the original biodiversity and aesthetic appeal that was lost with the disappearance of this habitat, there is great interest throughout the South in restoring longleaf pine in selected areas.

Due to its resistance to the southern pine beetle, cost-share money under the Southern Pine Beetle Prevention Program is available to landowners interested in establishing longleaf pine. **Funds will support 60% of the costs associated with site preparation, planting, and burning as necessary (with a maximum of \$10,000 per landowner per year) during the first five years of stand establishment** to produce a healthy, viable stand of longleaf pine. Longleaf pine timber is of high quality compared to loblolly pine, although it takes considerably longer to mature and is more difficult to establish. **Landowners in southeastern Virginia who are interested in longleaf pine for its wood quality, uniqueness, and conservation value are encouraged to contact their local forester for more information on restoring this species.**

Cost-Sharing Longleaf Pine Restoration



For More Information

For more information on how the Virginia Department of Forestry can help you, call your local VDOF office or visit the agency Web site at www.dof.virginia.gov.